

VITA

I. NAME OF FACULTY MEMBER

Donald C. Beitz

DEPARTMENT AFFILIATIONS

Animal Science and
Biochemistry, Biophysics and
Molecular Biology

II. RANK

Distinguished Professor of Agriculture

III. EDUCATION

B.S. Agricultural Science, University of Illinois, 1962

M.S. Dairy Science, University of Illinois, 1963

Ph.D. Dairy Nutrition & Biochemistry, Michigan State Univ., 1967

IV. PROFESSIONAL ACADEMIC EXPERIENCE

1967-present Conducting research (66.7% of time) and teaching biochemistry classes (33.3% of time) in the Departments of Animal Science and of Biochemistry, Biophysics and Molecular Biology at Iowa State University

1963-67 Conducted research and assisted with teaching of dairy science classes in a Ph.D. degree program in the Departments of Dairy Science and of Biochemistry at Michigan State University

1962-63 Conducted research toward M.S. degree in Dairy Science Department at University of Illinois-Urbana

V. ISU PERSONNEL RECORD

1989-present Charles F. Curtiss Distinguished Professor of Agriculture

1977-present Professor of Animal Science and Biochemistry, Departments of Animal Science and Biochemistry-Biophysics, College of Agriculture, Iowa State University

1973-1977 Associate Professor of Animal Science and Biochemistry, Departments of Animal Science and of Biochemistry-Biophysics, College of Agriculture, Iowa State University

1967-1973 Assistant Professor of Animal Science and Biochemistry, Departments of Animal Science and of Biochemistry-Biophysics, College of Agriculture, Iowa State University

VI. PROFESSIONAL ACTIVITIES

Alpha Zeta

Member (1960-)
Faculty Advisor (1983-86; 2016-)

American Association for Advancement of Science

Member (1965-)
Member of Electorate Nominating Committee (2002-05; Chair, 2004)
Representative from American Dairy Science Association (2005-)

American Dairy Science Association

Member (1964-)
Member of the ADSA Foundation (1992-)
Membership Chairman of Iowa (1973-75)
Chairman of Women's Program for annual meeting at Iowa State Univ. (1977)
Selection Committee for American Cyanamid Award (1988-91)
Member of Resolution Committee of Production Division (1989-92)
Judge at Regional Undergraduate Paper Presentation Contest (1990)
Judge at National Undergraduate Paper Presentation Contest (1988, 1990, 1991)
Council Member of Production Division (1990-93; Chair 1993)
Member of Research Committee (1990-93, Chair 1992-93)
Member of Ad Hoc Committee for Special Program at 1994 annual meeting
Organizer of the ISU Social at annual meeting (1984-)
Chair of National Needs for Dairy Committee (1993-95)
Representative to CAST Board of Directors (1995-99)
Member of Steering Committee of FAIR 2002 (1996-00)
Member of Nomination Committee of Production Division (1997-00)
Member of Steering Committee of Discover Conferences (1997-98)
Member of Planning and Budget Committee of ADSA Centennial (2001-06)
Member of International Dairy Production Award Committee (2000-02; Chair 2003)
Chair of Symposium on Companion Animal Nutrition at annual meeting (2003)
Member of Board of Directors (2004-07)
Member of Pioneers Committee of Board of Directors (2005-06)
Member of Fellows Award Committee (2006-07; Chair, 2008)
Member of Animal Physiology Award Committee (2008; Chair, 2009)
Member AFIA Award Committee (2009)
Member of Internal Affairs Committee (2006-07; Chair, 2007-08)
Member of Finance Committee (2007-11)
Vice President (2007-08)
President (2008-09)
Past President (2009-10)
Past Past President (2010-11)
Chair of JAM Opening and Closing Sessions ad hoc committee (2009-12)
Member of Elanco Award for Excellence Committee (2014; Chair, 2015, 2017)

Member of Award of Honor Committee (2014; Chair, 2015-17)
Member of Distinguished Service Award Committee (Chair, 2015-17)
Member of Zoetis Physiology Award Committee (2017-18)
Organized Symposium on Milk and Human Health at annual meeting (2017)
Organized Symposium on New Views on Milk and Human Health at annual meeting (2018)
Member of Zinpro Award for Excellence in Dairy Science Selection Committee (2018-20)

American Diabetes Association - Iowa Affiliate

Member (1983-89)

American Heart Association - Iowa Affiliate

Member (1975-1995)
Board of Directors (1979-81)
Board of Directors of Story County Chapter (1982-83)
Research Proposal Review Committee (1975-83)

American Society for Nutrition (formerly American Institute of Nutrition and American Society for Nutritional Science)

Member (1974-)
Editorial Board for J. Nutrition (1983-88)
Chairman of Technical Sessions at Annual Meeting (1975, 1982, 1985, 1987)
Iowa State University Reporter to *News and Notes* (1978-2016)
Organized the 1980 Ruminant Nutrition Conference
Experimental Animal Nutrition Committee (1980-83; Chair, 1982-83)
Member of Nominating Committee (1984; 1993)
Review Committee of Foremost-McKesson Awardees (1983)
Chairman of minisymposium (1989; 2000)
Editor for proceedings of Ruminant Nutrition Symposium (1991)
Representative to FAIR 95 (1991-92)
Member of Graduate Education Committee (1991-94; chair, 1994-95)
Organizer of ISU Nutritionists' Social at annual meeting (1974-)
Councilor (1994-96)
Editor, Supplement to Journal of Nutrition (1996)
Member of Conrad Elvehjem Award Jury (1997)
Member of Graduate Student Research Awards Committee (1997-98; 2002-03; 2004-05; 2006-07; 2009)
Treasurer (1998-02)
Member of Mead Johnson Award Jury (1998)
Member of LSRO Advisory Committee (2000-01)
Member of the Publication Management Committee (1999-02)
Chair of the Financial Committee (1999-02)
Chair of Bio Serv Award Committee (2002)
Juror on Bio Serv Award Committee (2004)
Member of the Dannon Mentorship Award Committee (2005-06, 2017, 2018; Chair 2006)
Chair of the Excellence in Nutrition Education Award (2005)
Member of Strategic Planning Oversight Committee (2007-11)

Member of History Committee (2010-11; Chair 2010-14, Past Chair 2015)
Member of Senior Investigator—Educator & Mentor Awards nominating panel (2014)
Representative to CAST (2012-13)

American Meat Science Association

Member (1991-2017)
Member of Meat Biochemistry Committee (1992-95)
Member of Program Committee (Muscle Growth Biology) (1995-96)
Member of Achievement Award Selection Committee (2002-05)
Member of Research Needs Assessment Committee (2005-08)

American Oil Chemists' Society

Co-Chaired a Scientific Session on Dietary Proteins in Health and
Disease at Annual Meeting (1990)

American Poultry Science Association

Chairman of Spouses' program for annual meeting at Iowa State University (1985)

American Society of Animal Science

Member (1971-)
Member of the ASAS Foundation (1993-)
Editorial Board of Journal of Animal Science (1980-83; 1987-90)
Development and Conduct of Academic Quadrathlon (1976-82)
Committee on Teaching and Extension (1977-78; Chaired symposium at
1978 joint mtg. w/ADSA)
Ad Hoc Committee on Video Production (1989-91)
Chair of Spouse's Program for annual meeting at Iowa State University (1990)
Organizer of ISU Social at annual meeting (1984-2017)
Member of Resolutions Committee (1996-99; Chair 1997-98)
Member of Nomination Committee (2000-02)
Task Force for Companion Animals (2003-05)
Chaired Symposium on Companion Animal Nutrition at annual meeting (2003)
Member of Heritage Luncheon Committee (2013)
Member of Review Committee of Animal Science Image Gallery (2014-18)

American Society of Biochemistry and Molecular Biology

Member (1988-)

Ames Community School District

Member of the Science Cabinet (1999-03)

Beta Beta Beta

Honorary Member of ISU Chapter (1998-)
Member of Research Grants Committee (2004-08)
Faculty Advisor (1997-2003)

Business Council of Iowa

Member of Health, Safety, and Product Quality Committee (1989-91)

Comparative Nutrition Society

Member (1996-09)

Council for Agricultural Science and Technology

Member (1977-)

Life Member (2007-)

Chair of Task Force to publish book on “Food Fats and Health” (1989-92)

Chair of Task Force to publish book on “Contribution of Animal Products to Healthful Diets (1991-97)

Member of Board of Directors, ADSA representative (1995-99)

Member of Editorial Committee (1995-00)

Member of Conversations on Change team (1997-00)

Member of Animal Science Work Group (1995-05; chair 1998-99)

Member of Executive Committee (1999-07)

Member of Membership Committee (2001-03)

Member of Education Committee (2003-04)

President Elect (2004-05)

President (2005-06)

Past President (2006-07)

Chair of CAST Alumni Program (2007-11)

Chair of Task Force to publish Special Publication on “Omega-3 Fatty Acids” (2011-18)

Member of Board of Representatives (2012-14)

Member of Video Evaluation Committee (2013-17)

Member of Food Science and Nutrition Committee (2012-)

Member of Board of Representatives (2012-13): ASN representative (2012-13)

Member of Board of Directors (2013-18)

Chair of Membership Committee (2014-2016)

Member of Borlaug CAST Communication Award Committee (2013-17)

Member of Past Presidents Advisory Council (2019-)

Member of Finance Subcommittee of Strategic Plan Committee (2021-)

Council of Scientific Societies Presidents

Member of Executive Committee (2010-11)

Dairy Shrine

Member (1979-)

Federation of American Societies for Food Animal Sciences (FASFAS)

Member (1990-97)

Response Team Member for Diet and Health (1991-97)

Federation of Animal Science Societies (FASS)

Member of Board of Directors (2007-12)
Member of Finance Committee (2007-09)
President Elect (2009-10)
Chair of FASS-AFIA Award Committee (2010)
President (2010-11)
Past President (2011-12)

Intersociety Council

(ADSA, AMSA, ASAS, and PSA)
Chair of Task Force on Diet/Health Issues (1988-90)

Iowa Academy of Science

Member (1984-)
Member of Research Proposal Review Committee of Iowa Science
Foundation (1993-96; 2017-)
Member of Recognition and Awards Committee (2000-05; Chair 2006-08)
Member of Membership Committee (2016- ; Chair 2017-18)

Life Sciences Research Office, Inc. (LSRO)

Member and Treasurer of Board of Directors (2001)
Chair of Board of Directors (2002)
Past Chair of Board of Directors (2003)

Midland United Dairy Industry Association

Judge of Iowa Dairy Princess Contest (1979-80)

Midwest Section, American Chemical Society

Juror for the Spencer Award (1985-89)

Midwest Section of ADSA/ASAS

Member of Teaching Award Committee (2004-08)
Academic Quadrathlon Lab Practical (1986-02)
Member of Teaching Committee (1980-82; Chair 1981-82)

National Academy of Sciences

National Associate Member (2001-)
Member of Research Briefing Panel on Biotechnology in Agriculture
Board on Agriculture (1985)
Member of Committee on Animal Nutrition of Board on Agriculture
(1990-93; chair 1995-98)
Chair of Committee on Nutrient Requirements of Dogs and Cats (2000-06)

North American Limousine Association

Judge for Quadrathlon at the Junior National Limousine Show (1988)

Sigma Xi

Member (1967-)
Executive Committee (1982-92; 2015-)
President (1992-93)
Secretary-Treasurer (2015-)

State FFA Foundation

Judge for Dairy Production Awards (1987)

USDA

NC-91 and later NCR-97 (NCCC210) USDA Regional Technical Committee (1969-90;
1995- ; Secretary 2004, 2015; Chair 1975, 1984, 2005)
Research Grants Peer Review Committee for Human Nutrition (1978-79,
1986-88)
Member of USDA/CSRS Review Team for Univ. of Georgia Dept. of Foods
and Nutrition (1980, 1985)
Research Grants Peer Review Committee for SBIR Program (1988;
Program Director, 1989)
Member of USDA/CSRS Review Team for Cornell Univ. Dept. of Animal Science (1994)
Member of W-181 USDA Regional Technical Committee (1999-09; secretary, 2002;
Chair, 2003)
Member of CSREES/USDA Review Team for Oregon State Univ. Dept. of
Animal Science (2000)
Member of CSREES/USDA Research Review Panel for Animal Growth Program of
NRICGP (2000-02)
Member of NC-185 (NC-1009; NC-1040) USDA Regional Technical Committee (2000- ;
secretary, 2001; chair, 2002)
Member of CSREES/USDA Review Team for West Virginia Univ. Dept. of Animal and
Veterinary Science (2003)
Member of CSREES/USDA Review Team for Univ. of Minnesota Dept. of Animal
Science (2004)
Member of CSREE/USDA Review Team for Kansas State University Dept. of Animal
Science (2006)
Member of National Animal Nutrition Program, NRSP-9 (2012-)
Administrative Advisor of NCCC42 Committee on Swine Nutrition (2018-)

Other

Consultant Editor for *Nutrition Research* (1997-)
Search Committee for Editor-in-Chief of *Nutrition Research* (2004)
Member of Advisory Board for *Nutrition Research* (2005-06)
Chair of Editorial Advisory Board for *Nutrition Research* (2006-)
Member of Iowa Cattlemen's Association (1988-)
Member of research proposal team for Targeted Excellence at Kansas State University (2008)
Member of the Executive Provisional Advisory Committee of the Diet and Health Initiative

at the University of Connecticut (2011-14)
Member of University of Illinois Alumni Association (1962-)
Member of Round Barn Society at University of Illinois (2012-)
Member of Michigan State University Alumni Association (1967-)
Member of Iowa State University Alumni Association (1967-)
Member of site visit review team for Industrial Research Chair at the University of Guelph (2016)
Member of Science Dialogue Mapping Session (Dairy and CV Disease; 2017)

VII. AWARDS AND HONORS

Undergraduate:

Phi Eta Sigma (1959)
Alpha Zeta (1960)
Gamma Sigma Delta (1961)
Outstanding Senior in College of Agriculture (1962)

Graduate:

Sigma Xi (1964)
Ralston Purina Fellowship (1963-65)
NIH Fellowship (1965-67)

Professional:

Phi Kappa Phi (1972)
Walnut Grove Award for Excellence (1980)
Kiwanian of the Year (1983-84; 1993-94)
Nutrition Research Award, American Feed Industry Association
American Dairy Science Association (1985)
Academic Advising Award by Iowa State University Student Alumni Association (1988)
Margaret Ellen White Faculty Award at Iowa State University (1989)
Charles F. Curtiss Distinguished Professorship in Agriculture at Iowa State University (1989)
Veishea Professor of the Year (1989)
Cardinal Key, Iowa State University (1990)
Fellow of American Association of the Advancement of Science (1990)
Outstanding Advisor in College of Agriculture by Alpha Zeta Agriculture Honor Society at ISU (1990)
Award of Merit from College of Agriculture Alumni Association, University of Illinois (1990)
Iowa Legislative Award for Teaching Excellence (1990)
Outstanding Teacher in College of Agriculture at ISU (1990)
Honorary Member of Phi Zeta, Honor Society of Veterinary Medicine (1991)
Iowa State Board of Regents Award for Faculty Excellence (1992)
American Cyanamid Award, American Dairy Science Association (1992)
Alumni Award of Merit of ISU Chapter of Gamma Sigma Delta (1995)
Outstanding Alumnus Award, Stewardson-Strasburg High School (1995)

Mentoring and Advising Award for Honors Program at Iowa State University (1996)
 College of Agriculture Outstanding Advisor Award (1997)
 Distinguished Achievement in Agriculture Award of Merit of Gamma Sigma Delta (1999)
 VEISHEA Professor of the Year in College of Agriculture (2001)
 Fellow, American Dairy Science Association (2001)
 Fellow, American Society of Animal Science (2001)
 National Associate Member in National Academy of Sciences (2001)
 College of Agriculture Outstanding Achievement in Research Award (2002)
 Otto and Opal Hill Lecturer, Penn State University (2003)
 William P. Switzer Award of College of Veterinary Medicine, Iowa State University (2003)
 Team Award of College of Agriculture, Iowa State University (2004)
 Award for Excellence in Honors Teaching, Iowa State University (2004)
 The Dannon Institute Mentorship Award of American Society for Nutritional Science (2005)
 Robert W. Parks Honors Program Award (2005)
 Fellow, American Society for Nutrition (2006)
 Champion Award of ISU Program for Women in Science and Engineering (2007)
 Pfizer Animal Health Physiology Award of American Dairy Science Association (2007)
 Distance Education Award (10+ semesters), College of Agriculture and Life Sciences, Iowa State University (2008)
 Distance Education Award (20+ semesters), College of Agriculture and Life Sciences, Iowa State University (2009)
 Good Nabor Alumnus Award, Nabor House Fraternity (2010)
 Morrison Award of American Society of Animal Science (2010)
 Most Cited Paper in *Animal Genetics* in 2008 (2010)
 Fellow, Iowa Academy of Science (2011)
 Award of Honor of American Dairy Science Association (2011)
 Elanco Award for Excellence in Dairy Science (2012)
 Distinguished Scientist of Iowa Academy of Science (2014)
 Iowa State University Pomerantz Award (2015)
 Hall of Fame Award, Department of Animal Science (2017)
 Inspiration Award, ISU Alumni Association (2017)
 CAST President's Award (2017)
 50-Year Award at 25-Year Club at Iowa State University (2018)
 Distinguished Fellow of Iowa Academy of Sciences (2019)
 Dean's Citation for Extraordinary Contributions to the College of Agriculture and Life Sciences at Iowa State University (2019)

VIII. RESPONSIBILITIES

A. TEACHING AND ACADEMIC ADVISING

| Term | Year | Course No. | Course Title | Enrollment |
|--------|------|------------|-------------------------|------------|
| Winter | 1968 | BB 305 | Physiological Chemistry | 94 |
| Spring | 1968 | BB 301 | Survey of Biochemistry | 111 |
| Winter | 1969 | BB 305 | Physiological Chemistry | 86 |
| Spring | 1969 | BB 490 | Biochemistry | 49 |
| Winter | 1970 | BB 305 | Physiological Chemistry | 98 |

| | | | | |
|--------|-------|------------|---|-----|
| Spring | 1970 | BB 406 | Biochemistry | 66 |
| Winter | 1971 | BB 305 | Physiological Biochemistry | 98 |
| Spring | 1971 | BB 406 | Biochemistry | 87 |
| Winter | 1972 | BB 305 | Physiological Chemistry | 89 |
| Spring | 1972 | BB 406 | Biochemistry | 86 |
| Winter | 1973 | BB 305 | Physiological Chemistry | 115 |
| Spring | 1973 | BB 406 | Biochemistry | 79 |
| Spring | 1973* | BB 590 | Special Topics (BB 610; 1/2 of Course) | 27 |
| Winter | 1974 | BB 305 | Physiological Chemistry | 113 |
| Spring | 1974 | BB 406 | Biochemistry | 70 |
| Fall | 1974 | BB 601X | Biochemistry of Hormone Action (1/2 of Course) | 14 |
| Winter | 1975 | BB 305 | Physiological Chemistry | 127 |
| Winter | 1975 | AN SCI 603 | Seminar in Animal Nutrition (grader) | ~25 |
| Spring | 1975 | BB 406 | Biochemistry | 106 |
| Summer | 1975 | FN 590C | Gastro. Micro. and Mamm. Nutr. | 66 |
| Winter | 1976 | BB 305 | Physiological Chemistry | 141 |
| Winter | 1976 | AN SCI 603 | Seminar in Animal Nutrition (grader) | 25 |
| Spring | 1976 | BB 406 | Biochemistry | 98 |
| Fall | 1976 | BB 610 | Biochemistry of Hormones (½ of Course) | 28 |
| Fall | 1976 | BB 681B | Advanced Seminar | 25 |
| Winter | 1977 | BB 305 | Physiological Chemistry | 160 |
| Winter | 1977 | AN SCI 603 | Seminar in Animal Nutrition (grader) | 25 |
| Spring | 1977 | BB 406 | Biochemistry | 104 |
| Spring | 1977 | AN SCI 519 | Advanced Ruminant Nutrition (1 lecture) | 20 |
| Winter | 1978 | BB 305 | Physiological Chemistry | 153 |
| Winter | 1978 | AN SCI 603 | Seminar in Animal Nutrition (grader) | 25 |
| Spring | 1978 | AN SCI 519 | Advanced Ruminant Nutrition (1 lecture) | 20 |
| Spring | 1978 | BB 406 | Biochemistry | 98 |
| Fall | 1978 | BB 610 | Biochemistry of Hormones (1/2 of Course) | 23 |
| Fall | 1978 | BB 490 | Evaluation of Grant Proposals | 6 |
| Winter | 1979 | BB 305 | Physiological Chemistry | 144 |
| Winter | 1979 | AN SCI 603 | Seminar in Animal Nutrition (grader) | 25 |
| Spring | 1979 | BB 406 | Biochemistry | 84 |
| Spring | 1979 | BB 503 | General Biochemistry (4 lectures) | 20 |
| Summer | 1979 | FN 590C | Prot. Met. in Health and Disease | 128 |
| Winter | 1980 | BB 681B | Advanced Seminar (1/2 of Course) | 25 |
| Winter | 1980 | BB 305 | Physiological Chemistry | 134 |
| Spring | 1980 | AN SCI 603 | Seminar in Animal Nutrition (grader) | 25 |
| Spring | 1980 | BB 503 | General Biochemistry (4 lectures) | 20 |
| Spring | 1980 | BB 406 | Biochemistry | 114 |
| Summer | 1980 | FN 590C | Animal Products in Human Nutrition | 100 |
| Fall | 1980 | BB 610 | Biochemistry of Hormones (1/2 of course) | 33 |
| Winter | 1981 | BB 305 | Physiological Chemistry | 135 |
| Spring | 1981 | BB 406 | Biochemistry | 118 |
| Spring | 1981 | BB 503 | General Biochemistry (4 lectures) | 20 |
| Fall | 1981 | BB 420 | Physiological Chemistry (1/2 of course) | 130 |
| Spring | 1982 | BB 503 | General Biochemistry (4 lectures) | 20 |
| Spring | 1982 | BB 406 | Biochemistry | 133 |
| Fall | 1982 | BB 420 | Physiological Chemistry (1/2 of course) | 141 |
| Fall | 1982 | AN SCI 618 | Vitamin and Hormones (5 lectures) | 10 |
| Spring | 1983 | BB 502 | General Biochemistry (4 lectures) | 15 |
| Spring | 1983 | BB 645 | Metabolic Reg. and Hormone Action (1/3 of course) | 20 |
| Fall | 1983 | BB 682 | Advanced Seminar (1/2 of course) | 25 |
| Fall | 1983 | BB 420 | Physiological Chemistry (1/2 of course) | 151 |

| | | | | |
|--------|-------|------------|---|-----|
| Fall | 1983 | AN SCI 603 | Seminar in Animal Nutrition (grader) | 25 |
| Spring | 1984 | BB 502 | General Biochemistry (1/3 of course) | 15 |
| Fall | 1984 | BB 420 | Physiological Chemistry (1/2 of course) | 144 |
| Spring | 1985 | BB 502 | General Biochemistry (1/3 of course) | 17 |
| Spring | 1985 | BB 645 | Metabolic Reg. and Hormone Action (1/3 of course) | 15 |
| Summer | 1985 | FN 500C | Lipid Metabolism in Health and Disease | 50 |
| Fall | 1985 | BB 420 | Physiological Chemistry (1/2 of course) | 127 |
| Spring | 1986 | BB 502 | General Biochemistry (1/3 of course) | 23 |
| Spring | 1986* | AG ST 112X | Agricultural Biotechnology Colloquium | 10 |
| Summer | 1986 | FN 590A | Dietary Fiber in Human and Animal Nutrition | 85 |
| Fall | 1986* | UST 321F | Animals as Food | 15 |
| Fall | 1986 | BB 420 | Physiological Chemistry (2/3 of course) | 115 |
| Fall | 1986 | AN SCI 603 | Seminar in Animal Nutrition (grader) | 33 |
| Spring | 1987 | AG ST 112X | Agricultural Biotechnology Colloquium | 11 |
| Spring | 1987 | BB 502 | General Biochemistry (1/3 of course) | 17 |
| Spring | 1987 | BB 645 | Met. Reg. and Hormone Action (1/3 of course) | 12 |
| Fall | 1987 | BB 420 | Physiological Chemistry (2/3 of course) | 104 |
| Fall | 1987 | UST 321H | Animals as Food | 11 |
| Spring | 1988 | BB 502 | General Biochemistry (1/3 of course) | 23 |
| Spring | 1988 | AG ST 112 | Agricultural Biotechnology Colloquium | 10 |
| Spring | 1988 | AN SCI 603 | Seminar in Animal Nutrition (grader) | 41 |
| Fall | 1988 | BB 420 | Physiological Chemistry (2/3 of Course) | 73 |
| Fall | 1988 | AN SCI 318 | Fundamentals of Nutrition (2 lectures) | 40 |
| Spring | 1989 | BB 502 | General Biochemistry (1/3 of Course) | 11 |
| Spring | 1989 | AG ST 112 | Agricultural Biotechnology Colloquium | 9 |
| Spring | 1989 | BB 645 | Met. Reg. and Hormone Action (1/3 of course) | 16 |
| Spring | 1989 | BB 490 | Evaluation of Grant Proposals | 9 |
| Summer | 1989 | FN 593D | Molecular Biology and Nutrition: Metabolic Patterning | 65 |
| Fall | 1989 | BB 420 | Physiological Chemistry (2/3 of course) | 79 |
| Fall | 1989 | AN SCI 603 | Seminar in Animal Nutrition (grader) | 41 |
| Spring | 1990 | BB 502 | General Biochemistry (1/3 of course) | 22 |
| Spring | 1990 | AG ST 112 | Agricultural Biotechnology Colloquium | 10 |
| Spring | 1990 | AN SCI 603 | Seminar in Animal Nutrition (grader) | 3 |
| Spring | 1990 | AG ST 112 | Agricultural Biotechnology Colloquium | 10 |
| Summer | 1990 | FN 593D | Mitochondria | 96 |
| Fall | 1990 | BB 420 | Physiological Chemistry | 89 |
| Spring | 1991 | AG ST 112 | Agricultural Biotechnology Colloquium | |
| Spring | 1991 | BB 645 | Metabolic Regulation and Hormone Action (1/3 of course) | 17 |
| Spring | 1991 | BB 405 | Biochemistry (2/3 of course) | 132 |
| Spring | 1991 | AN SCI 318 | Fundamentals of Nutrition (1 lecture) | 50 |
| Spring | 1991 | VPP 350 | Comparative Veterinary Physiology (2 lectures) | 105 |
| Summer | 1991 | FN 590D | Diet and Cancer | 84 |
| Fall | 1991 | BB 420 | Physiological Chemistry | 113 |
| Fall | 1991* | U ST 321C | Genetic Manipulation of Animals | 18 |
| Fall | 1991 | AN SCI 603 | Animal Nutrition Seminar (Coordinator) | 48 |
| Spring | 1992 | AG ST 112 | Agricultural Biotechnology Colloquium | 12 |
| Spring | 1992 | BB 405 | Biochemistry | 152 |
| Spring | 1992 | AN SCI 603 | Animal Nutrition Seminar (Grader) | 48 |
| Spring | 1992 | VPP 350 | Comparative Veterinary Physiology (1 lecture) | 102 |
| Summer | 1992 | FN 593D | Nutrient Metabolism | 72 |
| Fall | 1992 | BB 420 | Physiological Chemistry | 113 |
| Fall | 1992 | U ST 321K | Genetic Manipulation of Animals | 15 |
| Spring | 1993 | BB 405 | Biochemistry | 123 |
| Spring | 1993 | AGEDS 112 | Agricultural Biotechnology Colloquium | 10 |

| | | | | |
|--------|------|------------|---|-----|
| Spring | 1993 | VPP 350 | Comparative Veterinary Physiology (1 lecture) | 104 |
| Fall | 1993 | BB 420 | Physiological Chemistry (2/3 of course) | 100 |
| Fall | 1993 | U ST 321G | Genetic Manipulation of Animals | 9 |
| Fall | 1993 | AN SCI 318 | Fundamentals of Nutrition (1 lecture) | 35 |
| Fall | 1993 | AN SCI 508 | Biotechnology in Agriculture (1 lecture) | 30 |
| Spring | 1994 | BB 405 | Biochemistry (2/3 of course) | 117 |
| Spring | 1994 | AGEDS 112 | Agricultural Biotechnology Colloquium | 11 |
| Spring | 1994 | AN SCI 603 | Animal Nutrition Seminar (Grader) | 33 |
| Fall | 1994 | BB 420 | Physiological Chemistry (2/3 of course) | 108 |
| Spring | 1995 | BB 645 | Hormones and Growth Factors (1/3 of course) | 12 |
| Spring | 1995 | BB 405 | Biochemistry (2/3 of course) | 114 |
| Spring | 1995 | AGEDS 112 | Agricultural Biotechnology Colloquium | 13 |
| Summer | 1995 | FSHN 500C | Use of Metabolic Modifiers (coordinator) | 35 |
| Fall | 1995 | BB 420 | Physiological Chemistry (2/3 of course) | 126 |
| Fall | 1995 | U ST 321F | Genetic Manipulation of Animals | 13 |
| Fall | 1995 | AN SCI 603 | Animal Nutrition Seminar | 32 |
| Spring | 1996 | AN SCI 500 | Animal Science Orientation (1 lecture) | 31 |
| Spring | 1996 | AGEDS 112 | Agricultural Biotechnology Colloquium | 14 |
| Spring | 1996 | BB 405 | Biochemistry (2/3 of course) | 114 |
| Summer | 1996 | FSHN 500D | Alcohol and Human Health | 48 |
| Summer | 1996 | BB 405 | Biochemistry (via Distance Learning) | 12 |
| Fall | 1996 | AN SCI 603 | Animal Nutrition Seminar (Grader) | 28 |
| Fall | 1996 | BB 420 | Physiological Chemistry (2/3 of course) | 130 |
| Spring | 1997 | BB 405 | Biochemistry (2/3 of course) | 141 |
| Spring | 1997 | BB 405 | Biochemistry (via Distance Learning) | 4 |
| Spring | 1997 | AGEDS 112 | Agricultural Biotechnology Colloquium | 8 |
| Spring | 1997 | AN SCI 500 | Animal Science Orientation (1 lecture) | 17 |
| Spring | 1997 | AN SCI 493 | Dairy Nutrition Workshop (1 lecture) | 35 |
| Summer | 1997 | FSHN 500E | Energy Regulation | 37 |
| Fall | 1997 | U ST 321E | Genetic Manipulation of Animals | 15 |
| Fall | 1997 | AN SCI 603 | Animal Nutrition Seminar (Grader) | 34 |
| Fall | 1997 | BB 420 | Physiological Chemistry (2/3 of course) | 124 |
| Spring | 1998 | BB 405 | Biochemistry (2/3 of course) | 131 |
| Spring | 1998 | AGEDS 112 | Agricultural Biotechnology Colloquium | 10 |
| Spring | 1998 | AN SCI 500 | Animal Science Orientation (1 lecture) | 15 |
| Spring | 1998 | BBMB 405DL | Biochemistry II | 8 |
| Summer | 1998 | FSHN 500F | Nutrition and Immunity | 55 |
| Fall | 1998 | BB 420 | Physiological Chemistry (2/3 of course) | 134 |
| Fall | 1998 | U ST 321D | Spicy Topics in Nutrition | 15 |
| Spring | 1999 | AN SCI 603 | Animal Nutrition Seminar (coordinator) | 33 |
| Spring | 1999 | AGEDS 112 | Agricultural Biotechnology Colloquium | 12 |
| Spring | 1999 | BBMB 405 | Biochemistry (2/3 of course) | 119 |
| Spring | 1999 | BBMB 405DL | Biochemistry II (2/3 of course) | 6 |
| Spring | 1999 | AN SCI 500 | Animal Science Orientation (1 lecture) | 23 |
| Summer | 1999 | FSHN 500G | Regulation of Gene Expression | 38 |
| Fall | 1999 | BBMB 420 | Physiological Chemistry (2/3 of course) | 109 |
| Spring | 2000 | AGEDS 112 | Agricultural Biotechnology Colloquium | 8 |
| Spring | 2000 | BBMB 405 | Biochemistry (2/3 of course) | 134 |
| Spring | 2000 | BBMB 405DL | Biochemistry II (2/3 of course) | 9 |
| Spring | 2000 | AN SCI 500 | Animal Science Orientation (1 lecture) | 18 |
| Fall | 2000 | BBMB 420 | Physiological Chemistry (2/3 of course) | 114 |
| Fall | 2000 | U ST 321V | Does Your Body Care What You Eat? | 16 |
| Spring | 2001 | BBMB 405 | Biochemistry II (2/3 of course) | 129 |
| Spring | 2001 | AGEDS 112 | Agricultural Biotechnology Colloquium | 11 |

| | | | | |
|--------|------|------------|---|-----|
| Spring | 2001 | AN SCI 603 | Animal Nutrition Seminar (coordinator) | 20 |
| Spring | 2001 | BBMB 405DL | Biochemistry II (2/3 of course) | 7 |
| Summer | 2001 | BBMB 593 | Retinoids/Carotenoids | 13 |
| Fall | 2001 | BBMB 420 | Physiological Chemistry (2/3 of course) | 115 |
| Fall | 2001 | U St 321Q | Does Your Body Care What You Eat? | 12 |
| Spring | 2002 | BBMB 405 | Biochemistry II | 109 |
| Spring | 2002 | AGEDS 112 | Agricultural Biotechnology Colloquium | 12 |
| Spring | 2002 | BBMB 405DL | Biochemistry II (2/3 of course) | 8 |
| Summer | 2002 | FSHN 500M | Oxidative Stress | 49 |
| Fall | 2002 | HON 321L | Does Your Body Care What You Eat? | 14 |
| Fall | 2002 | BBMB 420 | Physiological Chemistry (2/3 of course) | 119 |
| Fall | 2002 | BBMB 405DL | Biochemistry II | 5 |
| Spring | 2003 | BBMB 405 | Biochemistry II | 129 |
| Spring | 2003 | BBMB 405DL | Biochemistry II | 6 |
| Spring | 2003 | AGEDS 112 | Agriculture Biotechnology Colloquium | 8 |
| Summer | 2003 | FSHN 500N | Molecular Nutrition of Trace Elements | 27 |
| Fall | 2003 | HON 321D | Does Your Body Care What You Eat? | 14 |
| Fall | 2003 | ANS 603 | Animal Nutrition Seminar | 18 |
| Fall | 2003 | BBMB 420 | Physiological Chemistry | 119 |
| Fall | 2003 | BBMB 405DL | Biochemistry II | 6 |
| Spring | 2004 | BBMB 405 | Biochemistry II | 121 |
| Spring | 2004 | BBMB 405DL | Biochemistry II | 10 |
| Spring | 2004 | AGEDS 112 | Agricultural Biotechnology Colloquium | 8 |
| Summer | 2004 | FSHN 500O | Global Food Needs | 49 |
| Fall | 2004 | HON 321C | Does Your Body Care What You Eat? | 13 |
| Fall | 2004 | BBMB 420 | Physiological Chemistry | 121 |
| Fall | 2004 | BBMB 405DL | Biochemistry II | 16 |
| Spring | 2005 | BBMB 405 | Biochemistry II | 119 |
| Spring | 2005 | BBMB 405DL | Biochemistry II | 9 |
| Spring | 2005 | AGEDS 112 | Agricultural Biotechnology Colloquium | 7 |
| Summer | 2005 | FSHN 500 P | Nutrigenomics | 35 |
| Summer | 2005 | BBMB 405DL | Biochemistry II | 5 |
| Fall | 2005 | BBMB 420 | Physiological Chemistry | 136 |
| Fall | 2005 | HON 323C | Does Your Body Care What You Eat? | 12 |
| Fall | 2005 | ANS 603 | Animal Nutrition Seminar (coordinator) | 21 |
| Fall | 2005 | BBMB 405DL | Biochemistry II | 7 |
| Spring | 2006 | BBMB 405 | Biochemistry II (2/3 of course) | 109 |
| Spring | 2006 | BBMB 405DL | Biochemistry II | 5 |
| Spring | 2006 | AGEDS 112 | Agricultural Biotechnology Colloquium | 7 |
| Summer | 2006 | BBMB 405DL | Biochemistry II | 5 |
| Fall | 2006 | BBMB 420 | Physiological Chemistry | 129 |
| Fall | 2006 | BBMB 405DL | Biochemistry II | 12 |
| Fall | 2006 | HON 321T | Does Your Body Care What You Eat? | 15 |
| Spring | 2007 | BBMB 405 | Biochemistry II | 115 |
| Spring | 2007 | BBMB 405DL | Biochemistry II | 8 |
| Spring | 2007 | AGEDS 112 | Agricultural Biotechnology Colloquium | 8 |
| Summer | 2007 | FSHN 500R | Nutrition and Cardiovascular Disease | 35 |
| Summer | 2007 | BBMB 405XC | Biochemistry II | 18 |
| Fall | 2007 | BBMB 420 | Physiological Chemistry | 132 |
| Fall | 2007 | BBMB 405XC | Biochemistry II | 18 |
| Fall | 2007 | HON 321V | Does Your Body Care What You Eat? | 13 |
| Spring | 2008 | BBMB 405 | Biochemistry II | 98 |
| Spring | 2008 | BBMB 405XC | Biochemistry II | 7 |
| Spring | 2008 | AGEDS 112 | Agricultural Biotechnology Colloquium | 13 |

| | | | |
|-------------|------------|--|-----|
| Summer 2008 | BBMB 405XC | Biochemistry II | 27 |
| Fall 2008 | BBMB 405XC | Biochemistry II | 6 |
| Fall 2008 | NUTRS 505 | Diet and Human Health Issues | 28 |
| Fall 2008 | BBMB 420 | Physiological Chemistry | 134 |
| Fall 2008 | HON 321B | Does Your Body Care What You Eat? | 15 |
| Fall 2008 | ANS 603 | Animal Nutrition Seminar | 12 |
| Spring 2009 | BBMB 405 | Biochemistry II | 99 |
| Spring 2009 | BBMB 405XC | Biochemistry II | 21 |
| Spring 2009 | AGEDS 112 | Agricultural Biotechnology Colloquium | 21 |
| Summer 2009 | NUTRS 505 | Protein Metabolism | 35 |
| Summer 2009 | BBMB 405XC | Biochemistry II | 11 |
| Fall 2009 | BBMB 420 | Physiological Chemistry | 27 |
| Fall 2009 | BBMB 405XC | Biochemistry II | 21 |
| Fall 2009 | HON 321B | Does Your Body Care What You Eat? | 15 |
| Fall 2009 | ANS 603 | Animal Nutrition Seminar | 20 |
| Spring 2010 | AGEDS 112 | Agricultural Biotechnology Colloquium | 11 |
| Spring 2010 | BBMB 405 | Biochemistry II | 85 |
| Spring 2010 | BBMB 405XC | Biochemistry II | 26 |
| Summer 2010 | BBMB 405XC | Biochemistry II | 21 |
| Summer 2010 | NUTRS 505 | Nutrition, Microbiota, and Inflammatory States | 31 |
| Fall 2010 | BBMB 405XC | Biochemistry II | 24 |
| Fall 2010 | BBMB 420 | Physiological Chemistry | 20 |
| Fall 2010 | HON 321B | Does Your Body Care What You Eat? | 17 |
| Spring 2011 | BBMB 420XW | Physiological Chemistry | 7 |
| Spring 2011 | AGEDS 112 | Agricultural Biotechnology Colloquium | 12 |
| Spring 2011 | BBMB 405 | Biochemistry II | 85 |
| Spring 2011 | BBMB 405XW | Biochemistry II | 25 |
| Summer 2011 | BBMB 420XW | Physiological Chemistry | 1 |
| Summer 2011 | BBMB 405XW | Biochemistry II | 17 |
| Summer 2011 | NUTRS 505 | Molecular Endocrinology | 35 |
| Fall 2011 | BBMB 420 | Physiological Chemistry | 15 |
| Fall 2011 | BBMB 405XW | Biochemistry II | 12 |
| Fall 2011 | HON 321B | Does Your Body Care What You Eat? | 15 |
| Spring 2012 | BBMB 405 | Biochemistry II | 116 |
| Spring 2012 | BBMB 405XW | Biochemistry II | 25 |
| Spring 2012 | AGEDS 112 | Agricultural Biotechnology Colloquium | 15 |
| Spring 2012 | BBMB 420XW | Physiological Chemistry | 8 |
| Summer 2012 | BBMB 405XW | Biochemistry II | 13 |
| Fall 2012 | BBMB 420 | Physiological Chemistry | 7 |
| Fall 2012 | BBMB 405XW | Biochemistry II | 20 |
| Fall 2012 | HON 321D | Does Your Body Care What You Eat? | 15 |
| Fall 2012 | ANS 603 | Animal Nutrition Seminar | 17 |
| Spring 2013 | BBMB 405 | Biochemistry II | 96 |
| Spring 2013 | BBMB 405XW | Biochemistry II | 24 |
| Spring 2013 | BBMB 420XW | Physiological Chemistry | 3 |
| Spring 2013 | AGEDS 112 | Agricultural Biotechnology Colloquium | 13 |
| Summer 2013 | BBMB 405XW | Biochemistry II | 22 |
| Summer 2013 | NUTRS 505 | Proteins in Health and Performance | 35 |
| Fall 2013 | BBMB 405XW | Biochemistry II | 21 |
| Fall 2013 | BBMB 420 | Physiological Chemistry | 9 |
| Fall 2013 | HON 321B | Does Your Body Care What You Eat? | 15 |
| Spring 2014 | BBMB 405 | Biochemistry II | 99 |
| Spring 2014 | BBMB 405XW | Biochemistry II | 27 |
| Spring 2014 | BBMB 420XW | Physiological Chemistry | 10 |

| | | | | |
|--------|------|------------|--|-----|
| Spring | 2014 | AGEDS 112 | Agricultural Biotechnology Colloquium | 14 |
| Summer | 2014 | BBMB 405XW | Biochemistry II | 26 |
| Summer | 2014 | NUTRS 505B | The Microbiome in Nutrition, Health, and Disease | 33 |
| Fall | 2014 | BBMB 420 | Physiological Chemistry | 5 |
| Fall | 2014 | BBMB 405XW | Biochemistry II | 28 |
| Fall | 2014 | HON 321A | Does Your Body Care What You Eat? | 16 |
| Spring | 2015 | BBMB 405 | Biochemistry II | 109 |
| Spring | 2015 | AGEDS 112 | Agricultural Biotechnology Colloquium | 11 |
| Spring | 2015 | BBMB 405XW | Biochemistry II | 44 |
| Spring | 2015 | BBMB 420XW | Physiological Chemistry | 9 |
| Summer | 2015 | NUTRS 505 | Dietary Fiber | 23 |
| Summer | 2015 | BBMB 405XW | Biochemistry II | 27 |
| Fall | 2015 | BBMB 420 | Physiological Chemistry | 7 |
| Fall | 2015 | BBMB 405XW | Biochemistry II | 29 |
| Fall | 2015 | HON 321A | Does Your Body Care What You Eat? | 16 |
| Spring | 2016 | BBMB 405 | Biochemistry II | 106 |
| Spring | 2016 | BBMB 405XW | Biochemistry II | 32 |
| Spring | 2016 | AGEDS 112 | Agricultural Biotechnology Colloquium | 10 |
| Spring | 2016 | BBMB 420XW | Mammalian Biochemistry | 3 |
| Summer | 2016 | BBMB 405XW | Biochemistry II | 16 |
| Fall | 2016 | ANS 603 | Animal Nutrition Seminar | 23 |
| Fall | 2016 | BBMB 420 | Mammalian Biochemistry | 10 |
| Fall | 2016 | BBMB 405XW | Biochemistry II | 30 |
| Fall | 2016 | HON 321A | Does Your Body Care What You Eat? | 16 |
| Spring | 2017 | BBMB 405XW | Biochemistry II | 37 |
| Spring | 2017 | BBMB 420XW | Mammalian Biochemistry | 12 |
| Spring | 2017 | BBMB 405 | Biochemistry II | 118 |
| Spring | 2017 | AGEDS 112 | Agricultural Biotechnology Colloquium | 15 |
| Summer | 2017 | BBMB 405XW | Biochemistry II | 35 |
| Fall | 2017 | BBMB 405XW | Biochemistry II | 29 |
| Fall | 2017 | BBMB 420 | Mammalian Biochemistry | 10 |
| Fall | 2017 | HON 321A | Does Your Body Care What You Eat? | 16 |
| Spring | 2018 | BBMB 405XW | Biochemistry II | 34 |
| Spring | 2018 | BBMB 420XW | Mammalian Biochemistry | 6 |
| Spring | 2018 | BBMB 405 | Biochemistry II | 117 |
| Spring | 2018 | AGEDS 112 | Agricultural Biotechnology Colloquium | 8 |
| Summer | 2018 | BBMB 405XW | Biochemistry II | 37 |
| Summer | 2018 | NUTRS 505 | Science Policy in an Age of Public Conflict | 22 |
| Fall | 2018 | BBMB 405XW | Biochemistry II | 40 |
| Fall | 2018 | BBMB 420 | Mammalian Biochemistry | 12 |
| Fall | 2018 | HON 321A | Does Your Body Care What You Eat? | 16 |
| Spring | 2019 | BBMB 405XW | Biochemistry II | 41 |
| Spring | 2019 | BBMB 420XW | Mammalian Biochemistry | 11 |
| Spring | 2019 | BBMB 405 | Biochemistry II | 116 |
| Spring | 2019 | AGEDS 112 | Agricultural Biotechnology Colloquium | 8 |
| Summer | 2019 | BBMB 405XW | Biochemistry II | 26 |
| Fall | 2019 | BBMB 405XW | Biochemistry II | 18 |
| Fall | 2019 | BBMB 420 | Mammalian Biochemistry | 16 |
| Fall | 2019 | HON 321C | Does Your Body Care What You Eat? | 17 |
| Fall | 2019 | AGRON 498 | Cooperative Education | 1 |
| Spring | 2020 | BBMB 405XW | Biochemistry II | 22 |
| Spring | 2020 | BBMB 420XW | Mammalian Biochemistry | 5 |
| Spring | 2020 | BBMB 405 | Biochemistry II | 110 |
| Spring | 2020 | AGEDS 112 | Agricultural Biotechnology Colloquium | 10 |

| | | | | |
|--------|------|------------|-----------------------------------|----|
| Summer | 2020 | BBMB 405XW | Biochemistry II | 31 |
| Fall | 2020 | BBMB 405XW | Biochemistry II | 19 |
| Fall | 2020 | HON 321 | Does Your Body Care What You Eat? | 17 |

** New courses that I developed.*

In addition to these formal courses, at least 50 students have completed credits in BB 499, which is Undergraduate Research and 63 students have completed credit in U ST 290H, which is Freshman Mentor Programs for Freshman Honor Students.

I am currently the coordinator for the Biochemistry-CALS (formerly Agricultural Biochemistry) Curriculum for undergraduates. One hundred sixty six students have received B.S. degrees, the first being awarded in 1982. As of September 1, 2020, I am advisor for 31 undergraduate students who will graduate with a major in biochemistry-CALS or agricultural biochemistry.

I serve as faculty advisor for Beta Sigma Psi social fraternity (1994-).

I serve as faculty advisor for Alpha Zeta Agricultural Honor Soc. (1983-86; 2016-).

I served as faculty advisor for Lutheran Student Fellowship (1992-08).

I served as faculty advisor for Beta Beta Beta, biology honor society (1997-03).

I serve as faculty advisor for Pre-Vet Club (2005-10; 2015-).

I have participated in these special educational programs:

FRESHMAN MENTOR PROGRAM OF HONORS PROGRAM

| Student | Year | Major | Project |
|--------------------|------|-----------|------------------------|
| Michelle Wells | 1990 | Ag. Bio. | Mitochondria |
| Tara Woods | 1990 | Ag. Bio. | Mitochondria |
| Andrea Falk | 1991 | Ag. Bio. | Mitochondria |
| Nupur Ghoshal | 1992 | Gen. | Mitochondria |
| Elizabeth Jennings | 1992 | Ag. Micro | Reductase |
| Jennifer Puls | 1993 | Dy. Sci. | Mitochondria |
| Kersten McDaniel | 1993 | Gen. | PSS |
| Betsy Swanson | 1994 | Biol. | Mitochondria |
| Tammy Haselkorn | 1995 | Ag. Bio. | Desaturase |
| Angela Hvitved | 1996 | Biochem. | Mitochondria |
| Timothy Baker | 1996 | Ag. Bio. | Desaturase |
| Abby Reida | 1997 | Biochem. | Desaturase |
| Angela McCleary | 1998 | Ag. Bio. | Milk Protein |
| Sara Orley | 1998 | P. Eng. | Milk Protein |
| Susan Dienen | 2001 | El. Ed. | Bile Acids |
| Abby Guard | 2001 | Ag. Bio. | Fatty Liver |
| Brian Steussy | 2002 | Bioch. | Fat Deposition |
| Erin Brown | 2002 | Gen. | Fat Deposition |
| Kathlene Kennedy | 2003 | Biochem. | Fatty Acid Composition |
| Chris Groth | 2004 | Ag. Bio. | Ghrelin |

| | | | |
|-------------------|------|------------|------------------------------|
| Caleb Grote | 2004 | Ag. Bio. | Ghrelin |
| Renaë Lensing | 2004 | Ag. Bio. | Phytase |
| Katie Korn | 2004 | Gen. | Fat Deposition |
| Leigh Cumpston | 2005 | Engr. | Ghrelin |
| Lee Beck | 2005 | Ag. Bio. | Vitamin D/tenderness |
| Clark Richardson | 2005 | Ag. Bio. | Fatty Acid Composition |
| Gabe Johnson | 2005 | Biochem. | Fatty Acyl Desaturase |
| Sarah Graham | 2006 | An. Sci. | Tenderness |
| Jeffrey Messerly | 2006 | Bioch. | Ghrelin |
| Trisha Grevengoed | 2006 | An. Sci. | Lactation |
| Tara Miller | 2006 | An. Sci. | Johne's Disease |
| Mallory Breuker | 2006 | An. Sci. | CLA for Humans |
| Chelsy Kemmet | 2006 | Biol. | Lipid Analysis |
| Maria Fabiosa | 2007 | Chem. Eng. | CLA for Humans |
| Dane Goede | 2007 | Biochem. | Fatty Liver in Rats |
| Michelle Johnson | 2007 | Biochem. | Fatty Acid Composition/Beef |
| Sara Linn | 2007 | Ag. Bio. | Fatty Acid Composition/Dairy |
| Elizabeth Yugo | 2008 | An. Sci. | Fatty Liver |
| Allison Doll | 2008 | Ag. Bio. | Obesity |
| Kari Naaktgeboren | 2008 | An. Sci. | Fatty Acid |
| Yasi Rodriguez | 2008 | An. Sci. | Vitamin D |
| Senyo Whyte | 2009 | Biol. | Oxidative Stress |
| Eric Parrott | 2009 | Ag. Bio. | Vitamin D |
| Lauren Ingebrand | 2009 | Food Sci. | Healthy Beef |
| Anne Pralle | 2009 | Biochem. | Johne's Disease |
| Celene Oglesbee | 2009 | An. Sci. | Healthy Beef |
| Stephanie Blaser | 2010 | Food Sci. | Fatty Yeast |
| Courtney Blomme | 2010 | Nutr. Sci. | Vitamin D Metabolism |
| Jared Graham | 2010 | An. Sci. | Hydrogen Sulfide Synthesis |
| Adam Guenther | 2011 | An. Sci. | Milk Fatty Acids |
| Sarah Van Tol | 2011 | An. Ecol. | Hydrogen Sulfide Synthesis |
| Carolyn Clark | 2012 | Ag. Bio. | Dairy Feed Efficiency |
| Andrienne Freeman | 2012 | Ag. Bio. | Milk Stability |
| Michelle Ries | 2013 | Diet. | Pork Composition |
| Kimberly Strait | 2013 | An. Sci. | Feed Efficiency |
| Neil Vezeau | 2013 | An. Sci. | Adipose Cellularity |
| Jayne Wiarda | 2014 | Genetics | Calf Nutrition |
| Lily Cooper | 2014 | An. Sci. | Vitamin D Metabolism |
| Rebecca Lair | 2015 | Biol. | Vitamin D Metabolism |
| Thadeus Beekman | 2015 | Food Sci. | DDGS and Cheese Quality |
| Evan McCoy | 2015 | Food Sci. | DDGS and Cheese Quality |
| Emily Manthei | 2016 | Biol. | DDGS and Cheese Quality |
| Cole Wesselman | 2016 | Biol. | Gut Health |
| Alyssa Dougherty | 2017 | Dietetics | Vitamin D |
| Grace Cline | 2017 | Biochem. | Pork Composition |

INTERNS IN WOMEN IN SCIENCE AND ENGINEERING PROGRAM

| Name | Address/Major | Year | Project |
|-------------------------|----------------------------|------|---------------------------|
| Leah Whigham | Ames H.S. | 1988 | Mitochondria |
| Andrea Falk | St. Ansgar H.S. | 1989 | Mitochondria |
| Lisa Molin | Ag Bio/Agron 3 at ISU | 1989 | Cholesterol Reductase |
| Kim Moore | Council Bluffs H.S. | 1990 | Mitochondria |
| Jennifer Belyea | Univ. of MO-Columbia | 1990 | Mitochondria |
| Sylvia Jiminez-Talavera | Zool 3 at ISU | 1992 | Redesigning Milk Fat |
| Anne Shoemaker | An Sci 1 at ISU | 1992 | Redesigning Pork |
| Melody Brown | Biol 3 at Taylor Univ. | 1996 | Leptin |
| Anne Lewis | Biol 2 at U. of N. Iowa | 2001 | Fatty Liver |
| Elizabeth Dunham | GMG H.S., Garwin | 2002 | CLA |
| Ashley Roper | PreVet at Penn State Univ. | 2003 | Beef Fatty Acids; Ghrelin |
| Amanda Kreuder | An Sci 3 | 2003 | Beef Fatty Acids; Ghrelin |
| Alana McNutt | An Sci 3 | 2004 | Beef Fatty Acids |
| Laura Baseler | An Sci 3 | 2005 | Beef Tenderness |
| Gayle Johnson | Chem 2 | 2005 | Fatty Liver |
| Kristine Onken | Nutr Sci | 2006 | Sweetener |
| Kristin Noack | Bioch | 2006 | Beef Fatty Acids |
| Emily Frandson | An Sci 4 | 2007 | Milk Fatty Acids |
| Amanda Elsbernd | An Sci 3 | 2008 | Beef Fatty Acids |

CY-TAG MENTORSHIP FOR SUMMER (3-wk period)

| Name | Address | Year | Project |
|----------------|-------------------|------|-----------|
| Sara Wolke | | 1990 | Pork Chop |
| Erica Dahl | | 1990 | Ketosis |
| April Franklin | Nesco High School | 1992 | Ketosis |
| Neil Vasan | PA | 1998 | Milk Fat |
| Bill Stark | IA | 1999 | Pork Chop |

McNAIR INTERN

| Name | Address | Year | Project |
|----------------|----------------------|------|-------------|
| Christy Brewer | U. Wisc.-River Falls | 2001 | Fatty Liver |

NSF SUMMER INTERNS

| Name | Address | Year | Project |
|---------------|---------------------------|------|---------------------|
| Keith Seidel | Graceland College, IA | 1990 | Milk Fever |
| Tyrell Carr | Elizabeth City St. U., NC | 1999 | CLA |
| Anita Johnson | Marshall Univ., MN | 2000 | Ketosis/Fatty Liver |

HOWARD HUGHES INTERNS

| Name | Status | Year | Project |
|----------------------|-------------------------|------|-----------------------|
| Stacy Goodman | Stanwood, IA | 1993 | Redesigning Milk Fat |
| Elizabeth A. Swanson | Biol 1 | 1994 | Mitochondrial DNA |
| Jessica L. Adam | Biol 2 | 1995 | Pork Composition |
| Mary Kinner | H.S. Sr, Des Moines, IA | 1995 | Pork Chop |
| Todd Sleep | Gen 3 | 1996 | Leptin |
| Allison Hakes | Biol 4 | 1997 | Cholesterol Reductase |

COLLEGE OF AGRICULTURE INTERNS

| Name | Status | Year | Project |
|-----------------|-------------------------|------|-----------------|
| Marat Ibatullin | Ag. Econ. Agr. U., Kiev | 2003 | Meat Exposition |
| Liz Edwards | An Sci, Purdue U. | 2003 | Fatty Liver |

MINORITY STUDENT INTERNS/George Washington Carver Scholars

| Name | Address | Year | Project |
|--------------------|--------------------------------|------|----------------------------------|
| Robert Warren | Kenwood Academy Chicago, IL | 1993 | Cholesterol Reductase |
| Jason Campbell | Boone, IA | 1995 | Bile Acids |
| Karen Kendrick | Normal, AL | 1997 | Emu Oil and Meat |
| Jennifer Hart | Tuskegee Univ. | 2001 | Fatty Liver |
| Raheema Kamal | Tuskegee Univ. | 2002 | Ghrelin and Growth |
| Ramona Dickey | Ft. Valley State Univ. | 2002 | Fatty Acids in Beef |
| Kevin Loo | Duke Univ. | 2004 | Cholesterol Reductase |
| Chris Baudy* | Tuskegee Univ. | 2006 | CLA in Foods |
| Shante Mathes* | N. Carolina A&T | 2008 | Obesity |
| Joshlyn Bryant** | Prairie View A&M | 2008 | Johne's Disease |
| Shante Mathes* | N. Carolina A&T | 2009 | Healthfulness of Beef |
| Shante Mathes* | N. Carolina A&T | 2010 | Glutathione and H ₂ S |
| Kalyanna Williams* | Tuskegee Univ. | 2012 | Adipose Tissue Cellularity |
| Jacinda Dunn* | Univ. of Tenn. | 2013 | Pork Composition |
| Jonathan Howard* | Ala. A&M Univ. | 2014 | Pork Composition |
| Elisha Graham* | N. Carolina A&T | 2015 | Pork Composition |

*George Washington Carver Intern

**AGEP (Alliance for Graduate Education and Professoriate) Intern

WORK-STUDY ASSISTANTSHIPS FOR UNDERGRADUATES

| Name | Status | Year | Project |
|----------------|----------------|---------|-----------------------|
| Lisa Molin | Ag Bio/Agron 4 | 1989-90 | Cholesterol Reductase |
| Arlie Penner | An Sci 4 | 1990-91 | Cholesterol |
| Susan Batt | An Sci 2-4 | 1992-94 | Cholesterol |
| Jeffery Hunter | Chem Eng 4 | 1994-95 | Bypass Fat |
| Jessica Adam | Zool 4 | 1994-95 | Lipids |

| | | | |
|----------------------|---------------|---------|--------------------------|
| Nancy Belsley | An Sci 3 | 1996-97 | Pork Chop |
| Seth Kirchner | An Sci 3 | 1998-00 | Pork Chop |
| Corie England | An Sci 4 | 1998-99 | Pork Chop |
| Jessica Loucks | An Sci 4 | 1999 | Pork Chop |
| Barry Bradford | An Sci/Ag Bio | 2000-02 | Fatty Liver/Ketosis |
| Erik Wayne | Ch E 3, 4 | 2001-03 | Fatty Liver/Ketosis |
| Nathan Meyer | Dy Sci 4 | 2002-03 | Fatty Liver/Ketosis |
| Pamela Knake | An Sci 2 | 2003-04 | Fatty Acids in Beef |
| Adam Krull | Dy Sci 2 | 2003 | Fatty Liver/Ketosis |
| Caleb Grote | Ag Bio 3 | 2005-07 | Pork Chop |
| Katie Korn | An Sci 2 | 2005-08 | Beef Tenderness/Milk Fat |
| Trisha Grevengoed | An Sci 3 | 2007 | Beef Composition |
| Katie Majerus | An Sci 3 | 2008-10 | Beef Healthfulness |
| Danielle Alexander | Dietetics 3 | 2009-10 | Carnitine |
| Angela Reth-Pokorney | An Sci 4 | 2009-10 | Beef Composition |
| Melissa Lind | An Sci 3 | 2009-10 | Pork Chop |
| Elizabeth Yugo | An Sci 3 | 2009-10 | Pork Chop |
| Kari Naaktgeboren | An Sci 3 | 2010 | Beef Composition |
| Brenna Gorton | An Sci 4 | 2011-13 | Food Composition |
| Norah Nguyen | Bioch 4 | 2011-12 | Food Composition |
| Carmen Bustos | Bioch 4 | 2012-13 | Pork Composition |

MERCK VETERINARY SCHOLARS

| Name | Status | Year | Project |
|---------------------|--------|------|-----------------------|
| Lisa A. Hingtgen | VM II | 1993 | Cholesterol Reductase |
| Bryan K. Wulfekuhle | VM II | 1994 | Mitochondrial DNA |
| Kendra Kimberley | VM II | 1995 | Mitochondrial DNA |
| Rita Brown | VM II | 1996 | Mitochondrial DNA |
| Julie Hahn | VM II | 2000 | Fatty Liver |
| Jed Overmann | VM II | 2001 | Fatty Liver |
| Jennifer Dykstra | VM III | 2002 | Fatty Liver |

HONORS STUDENTS*

| Name | Major | Year Completed | Project |
|------------------|--------|----------------|-------------------------|
| Steven Fehr | Ag Bio | 1989 | Porcine Stress Syndrome |
| Travis Knight | Ag Bio | 1989 | Lipoprotein |
| Stephen Johnston | Ag Bio | 1990 | mtDNA |
| Megan Raffety | Ag Bio | 1990 | Cholesterol Reductase |
| Kim Buhman | Ag Bio | 1992 | Cholesterol Reductase |
| Kevin Fehr | Ag Bio | 1992 | Cholesterol Reductase |
| Shawn Dawson | Ag Bio | 1993 | Lipoprotein |
| Susan Batt | An Sci | 1994 | Cholesterol Reductase |
| Andrea Falk | Ag Bio | 1994 | mtDNA |

| | | | |
|-----------------|------------|---------|------------------------------|
| Nupur Ghoshal | Gen | 1995 | mtDNA |
| Amy Eldridge | Biol/Span | 1997 | Cholesterol Reductase |
| Betsy Kabele | Zool | 1997 | Cholesterol Reductase |
| Betsy Swanson | Biol/Mus | 1997 | mtDNA |
| Allison Hakes | Biol | 1998 | Cholesterol Reductase |
| Tim Baker | Ag Bio | 1999 | Mayo Clinic |
| Jason Cogdill | Ag Bio | 2000 | Milk Calcium |
| Angela McCleary | Ag Bio | 2001 | Conjugated Linoleic Acid |
| Barry Bradford | Ag Bio | 2002 | Acute Phase Proteins |
| Alissa Ross | Ag Bio | 2002 | Bone Strength |
| Amanda Crabtree | Ag Bio | 2002 | Horse Health |
| Julie Riggert | Biol | 2002 | Leptin |
| Arlene Lee | Ag Bio | 2003 | Plant Breeding |
| Amanda Kreuder | An Sci | 2004 | Ghrelin/Growth |
| Marisa McClure | Bioch | 2005 | Product from Wagyu Fat |
| Melissa Fox | Nutr. Sci. | 2005 | World Food Prize |
| Bryan Steussy | Bioch | 2005 | Cholesterol Reductase |
| Chris Groth | Ag Bio | 2005 | Cardiac Cell Phosphorylation |
| Andy Brown | Ag Bio | 2006 | TNF- α and Lipolysis |
| Caleb Grote | Ag Bio | 2007 | Ghrelin and Related Hormones |
| Emily Arentson | Ag Bio | 2007 | Nutrition in Ghana |
| Katie Korn | Micro | 2008 | Beef Composition |
| Allison Hannen | Ag Bio | 2009 | Prion Diseases |
| Alyona Avdonina | An Sci | 2010 | Fatty Liver |
| Jackie Fertig | Biol | 2010-11 | Johne's Disease |
| Kayla Hultquist | An Sci | 2013 | Beef Composition |
| Jane Wiarda | An Sci | 2015 | Immunobiology |
| Minden Huntrods | An Sci | 2018 | Food Composition |

CDFIN Interns

| Name | Major | Year Completed | Project |
|------------------------|----------|----------------|------------------|
| Emily Arentson | Ag Bio 2 | 2005 | Ghrelin/Growth |
| Portia Allen | An Sci 4 | 2006 | Diet/Health |
| Amy Rohlring (U of IA) | Bioch 4 | 2007 | Milk Fatty Acids |

*Record begins in 1989.

B. RESEARCH AND ARTISTIC CREATIVITY

1. Summary of Recent Research:

Dr. Beitz's recent research activities include the etiology and prevention of ketosis in dairy cows, role of animal-derived foods, other dietary ingredients, and a cholesterol reductase-containing microbe on cholesterol homeostasis in animals and humans, and nutritional and genetic control of milk and meat animal composition. Dr. Beitz's research program is related to the biochemistry and

physiology of nutrition and is conducted partly as a joint effort with animal and human nutritionists.

Study of the etiology and prevention of fatty liver and ketosis has been a major emphasis of Beitz's research program. The technology to use glucagon to treat and prevent fatty liver and ketosis in peripartal dairy cattle was developed.

A second project involved studies of using a probiotic to prevent and treat Johne's disease.

A third major project is designed to evaluate the role of specific regulators of fat deposition in beef cattle and of milk fat synthesis by dairy cattle. Nutritional and genetic impacts on milk and meat composition with emphasis on fatty acids and the subsequent eating qualities of dairy and meat products were evaluated. Role of oxidative stress in fat deposition of animals was studied.

A fourth major project is the technology to use a cholesterol reductase-containing microbe to decrease blood cholesterol. Role of bile acids and lecithins on absorption of lipids was studied.

A fifth project is a study of dietary and chemical control of production of greenhouse gases (*e.g.*, CH₄ and H₂S) by livestock and the feeding of distillers dried grains with solubles on flavor and stability of milk and its products.

Dr. Beitz had collaborative projects with scientists at the National Animal Disease Center and the College of Veterinary Medicine on milk fever, vitamin D metabolism, nutritional immunology, and etiology and prevention of Johne's disease.

2. Graduate Students Whom I Have Advised:

| Name | Thesis Title | Year Graduated | Degree Granted |
|------------------|---|----------------|----------------|
| J. W. Peters | Glycolic acid metabolism in lactating and nonlactating goats | 1970 | M.S. |
| N. M. Al-Shathir | Lipogenesis in adipose tissue and liver of beef and dairy cattle | 1971 | M.S. |
| R. O. McCracken* | Glucose absorption and metabolism in <i>Haematoloechus medioplexus</i> (Trematoda: Haematoloechiidae) | 1972 | Ph.D. |
| M. A. Pothoven | Lipogenesis in adipose tissue of cattle at different weights and its adaptation to fasting | 1972 | M.S. |
| J. R. Thompson | Ultrastructural and biochemical characteristics of milk protein synthesis | 1972 | M.S. |
| M. E. Phillips | A nephelometric procedure for the determination of total milk fat and | 1973 | M.S. |

| | | | |
|--------------------------|--|------|-------|
| | protein concentrations | | |
| K. A. Dougherty | The effect of dietary cholesterol on the lipid composition of plasma lipoproteins in goats | 1973 | M.S. |
| M. A. Pothoven | Effects of diet, age, fasting, and refeeding on lipogenesis in bovine adipose tissue | 1974 | Ph.D. |
| A. J. Wheeler | Animal acupuncture: mapping and anesthesia | 1975 | M.S. |
| N. M. Evans-DiMarco | Gluconeogenesis from lactate in liver of stress-susceptible and stress-resistant pigs | 1975 | M.S. |
| G. U. Liepa | Cholesterol and fatty acid synthesis in ruminating and nonruminating goats | 1976 | Ph.D. |
| S. A. Meyer/Wuerzberger* | The effect of dietary selenium on the subcellular distribution of glutathione peroxidase in the liver and some accessory sex organs of the rat | 1977 | M.S. |
| T. J. Lintner* | Physiological and dietary factors that influence calcium homeostasis during the peripartal period in dairy cattle | 1977 | M.S. |
| D. L. Crandall* | Effect of exercise and dietary poly-unsaturated fat upon prevention of L-isoproterenol-induced myocardial infarction | 1979 | Ph.D. |
| N. M. E. DiMarco | Hormonal and dietary regulation of lipolysis in bovine adipose tissue | 1979 | Ph.D. |
| M. L. Trankina* | The effects of an organophosphate, ronnel, on growth in male weaning rats | 1979 | M.S. |
| K. G. Custer | Effect of feeding ronnel to lactating rats on pup growth | 1979 | M.S. |
| G. W. Whitehurst | Lipogenesis in adipose tissue of cattle | 1980 | Ph.D. |
| J. W. Carter* | Studies on purification and characterization of surface tubules of Fowlpox virus | 1980 | M.S. |
| H. B. Green* | Vitamin D metabolite concentrations | 1980 | M.S. |

| | | | |
|-------------------|--|------|-------|
| | in plasma of Jersey cows fed a prepartum low-calcium diet | | |
| G. L. Baldner* | Lipogenesis in the liver and adipose tissue of the prairie vole, <i>Microtus ochrogaster</i> | 1981 | M.S. |
| T. S. Kichura* | Relationships between dietary phosphorus and calcium in vitamin D metabolism and incidence of parturient paresis in Jersey cows | 1981 | M.S. |
| M. L. Trankina | Effects of organophosphate pesticides on lipogenesis in adipose tissue and skeletal muscle of steers | 1982 | Ph.D. |
| J.L. Sommerfeldt* | Vitamin D ₂ and vitamin D ₃ metabolism in ruminants and by rumen microbes | 1982 | Ph.D. |
| E. D. Torok* | Effects of substrates and hormones on fatty acid synthesis by the ruminant mammary gland | 1982 | M.S. |
| C. M. McDermott* | Effects of dietary vitamin D ₃ on concentrations of vitamin D ₃ and its metabolites and associated minerals in plasma and milk of dairy cows | 1982 | M.S. |
| D. C. Rule | Use of full-fat soybeans as a source of rumen bypass polyunsaturated fatty acids | 1984 | Ph.D. |
| L. S. Walsh* | Mechanisms of cholesterol transport, uptake and tissue distribution in miniature pigs fed two proteins and two fats | 1984 | Ph.D. |
| M. G. Erlander | Brain amine concentrations in stress-susceptible and stress-resistant pigs: strain and brain regional differences and effects of levodopa supplementation | 1984 | M.S. |
| M. J. VandeHaar* | Effect of dietary calcium and phosphorus on vitamin D metabolism in pregnant and lactating rats | 1984 | M.S. |
| B. B. Shank* | Relationship of mitochondrial functions | 1985 | M.S. |

| | | | |
|-------------------|---|------|-------|
| | to milk production in lines of mice genetically divergent for milk production | | |
| Y. H. Ko | Effects of dietary soybean and beef proteins on blood plasma lipid composition and plasma low-density lipoprotein clearance | 1985 | M.S. |
| L. A. Woollett* | Effects of dietary beef tallow and soy oil on glucose and cholesterol homeostasis | 1986 | Ph.D. |
| G. B. Shank* | Effect of type of dietary fat and protein on cholesterol and lipid metabolism of pigs | 1986 | Ph.D. |
| D. P. Malone | Neurochemical aspects of the porcine stress syndrome | 1986 | M.S. |
| M. J. Woltanski* | Effect of beef vs. soy protein on LDL-cholesterol uptake and tissue composition in young pigs | 1986 | M.S. |
| D. A. Hoy* | Comparative kinetics of the turnover rates of vitamin D ₂ and vitamin D ₃ and their metabolites in chick plasma | 1986 | M.S. |
| J. A. Johnson | Effects of dietary beef and soy proteins on blood plasma lipid composition, LDL-cholesterol clearance and uptake, and tissue deposition in young pigs | 1987 | M.S. |
| N. J. Koszewski* | Identification of vitamin D ₂ metabolites and age-related differences in the 1,25-dihydroxyvitamin D ₃ receptor in male Fischer 344 rats | 1988 | Ph.D. |
| F.G.E. Hustmeyer* | Effects of 1,25-dihydroxyvitamin D ₃ and parathyroid hormone on bovine monocyte-mediated bone degradation and mitogen-induced lymphocyte DNA synthesis | 1988 | Ph.D. |
| M. J. VandeHaar* | Milk production and energy metabolism in ruminants fed 2-ketoisocaproate | 1988 | Ph.D. |
| M. K. Foley | Influence of dietary calcium and vitamin D ₃ on composition of | 1988 | M.S. |

| | | | |
|----------------|---|------|-------|
| | plasma lipids in young pigs | | |
| S. T. Galloway | Influence of dietary calcium and vitamin D ₃ on cholesterol deposition in tissues and conversion into biliary bile acids in young pigs | 1989 | Ph.D. |
| G. L. Lindberg | Nucleotide sequence heterogeneity in bovine mitochondrial DNA | 1989 | Ph.D. |
| M. J. Beckman* | The effect of hypervitaminosis D ₂ and D ₃ on the metabolism and receptor regulation of vitamin D | 1989 | M.S. |
| R. Banisadr* | Oxidative stress and porcine stress syndrome | 1989 | M.S. |
| C. M. Koehler | Nucleotide sequence heterogeneity among and within maternal lineages of Holstein mitochondrial DNA | 1989 | M.S. |
| H. Chou | Influence of dietary calcium and vitamin D ₃ on plasma cholesterol clearance in young pigs | 1989 | M.S. |
| T. D. Faidley* | Effect of dietary fat source on lipoprotein composition and plasma lipid concentration | 1989 | M.S. |
| X. Chen | Fecal bile acid excretion and plasma cholesterol uptake by tissue in growing pigs as affected by dietary calcium and vitamin D ₃ | 1990 | M.S. |
| C. M. Luhman* | Lipid composition of bile, tissues, and postprandial lipoproteins in pigs as affected by dietary fat source | 1990 | Ph.D. |
| S. D. Johnston | Sequence heterogeneity of bovine mitochondrial ribosomal RNA genes | 1991 | M.S. |
| D. Ren* | Mechanism of cholesterol reduction to coprostanol by cholesterol reductase | 1991 | M.S. |
| K. B. Atkins* | Effect of 1,10-phenanthroline on DNA binding of 1,25-dihydroxyvitamin D receptors and characterization and | 1991 | Ph.D. |

| | | | |
|----------------|--|------|-------|
| | regulation of retinoic acid receptors in rat osteosarcoma cells | | |
| S. Moorthi* | Studies on the role of expression of phosphoenolpyruvate carboxykinase gene in the development of bovine lactation ketosis | 1992 | Ph.D. |
| T.D. Faidley | Kinetics of the disappearance of lipoprotein cholesteryl esters in pigs as affected by dietary fat source | 1993 | Ph.D. |
| J.A. Johnson* | Age, gender and diet effects on genes regulated by 1,25-dihydroxyvitamin D ₃ | 1993 | Ph.D. |
| J.D. Baumover* | Influence of diet composition and training on energy utilization by greyhound skeletal muscle | 1993 | Ph.D. |
| M.J. Beckman* | Tissue-specific regulation of 1,25- dihydroxyvitamin D action in the target tissues of rats | 1993 | Ph.D. |
| R.K. Smith | Nucleotide sequence variations in the displacement-loop region of bovine mitochondrial DNA | 1993 | M.S. |
| U.A. Madden* | Use of <i>Eubacterium coprostanoligenes</i> to decrease plasma cholesterol concentration in hypercholesterolemic rabbits and the cholesterol content of fermented meats | 1995 | Ph.D. |
| L. Li | Characterization and application of a novel cholesterol-reducing anaerobe, <i>Eubacterium coprostanoligenes</i> ATCC 51222 | 1995 | Ph.D. |
| J. Wu* | Sequence variation characteristics of D-loop rRNA, tRNA, and polypeptide coding regions of bovine mitochondrial DNA | 1995 | Ph.D. |
| A.R. Hippen* | Influence of saturation of dietary fat supplements on production and composition of milk from dairy cows | 1996 | M.S. |
| M. Cao* | Cloning and sequencing of bovine Ca ²⁺ -dependent adenosine triphosphatase | 1996 | M.S. |

| | | | |
|-------------------|--|------|-------|
| X. Wang | Effect of age and feeding on cholesterol 27-hydroxylase in pigs | 1996 | M.S. |
| C.P. Nizzi | Effect of stress condition, gender, and dietary dl- α -tocopheryl acetate on fatty acid composition and catecholamines in five selected brain regions of pigs | 1997 | M.S. |
| A.D. Penner | Redesigning pork by type and amount of dietary fat for better human nutrition | 1997 | M.S. |
| A.R. Hippen* | Metabolic responses of dairy cows with fatty liver to treatment with glucagon | 1997 | Ph.D. |
| L. M. Beckerbauer | Influence of two different dietary fats on the composition of emu oil and meat | 1998 | M.S. |
| T.J. Knight | Fatty acid modification of cells in culture by overexpression of exogenous desaturases | 1998 | Ph.D. |
| J.W. Stewart* | Lipid metabolism in women fed pork that contains a high content of polyunsaturated fat | 1998 | M.S. |
| B.N. Ametaj* | Study of immune response and uptake of lipid-soluble vitamins by dairy cattle | 1999 | Ph.D. |
| D.R. Zimmerman* | 1,25-Dihydroxyvitamin D ₂ catabolism | 1999 | M.S. |
| Y. Huang | Feeding to increase availability of CLA 2000 for absorption from the intestine of sheep and to increase CLA content in milk | 2000 | M.S. |
| S. Prapong* | Expression of bovine mammary gland Ca ²⁺ ATPases | 2000 | Ph.D. |
| I. Karantzeni | Effects of dietary CLA on fatty acid composition of egg yolks and Δ^9 -, Δ^6 -, and Δ^5 - desaturase activities of liver of laying hens | 2000 | M.S. |
| F. Liu | Hypocholesterolemic effect of orally administered <i>Eubacterium coprostanoligenes</i> in cynomolgus monkeys | 2000 | M.S. |
| M. Foote | The use of vitamin D ₃ and its metabolites to improve beef tenderness | 2001 | M.S. |

| | | | |
|------------------|---|------|-------|
| W. Zhang* | Hypocholesterolemic effect of Shea nut oil extract in hamsters | 2002 | M.S. |
| G. Bobe* | Metabolic responses of lactating dairy cows to exogenous glucagon | 2002 | Ph.D. |
| K.M. Carnagey* | Dietary triacylglycerol digestion and absorption and bile acid status in neonatal piglets: A model for preterm human infants | 2003 | M.S. |
| R.A. Nafikov | Prevention of fatty liver development in transition dairy cows by subcutaneous glucagon injections | 2004 | M.S. |
| M.R. Foote* | Effects of age and feeding rate on immune responses in neonatal dairy calves | 2005 | Ph.D. |
| K.M. Carnagey | Use of 25-hydroxyvitamin D ₃ and vitamin E and manipulation of dietary calcium to improve tenderness of beef | 2006 | Ph.D. |
| L.J. Gereszek* | Effects of dietary conjugated linoleic acid on European corn borer survival, growth, fatty acid composition, and fecundity | 2007 | M.S. |
| A. Qu* | Implications of the interactions between genetic background and dietary phosphorus on porcine muscle | 2007 | Ph.D. |
| M.A. Osman | Acute and chronic metabolic responses of transition dairy cows with fatty liver disease to subcutaneous glucagon injections, oral glycerol, or both | 2007 | M.S. |
| E.W. Karcher* | Evaluation of the host immune response to <i>Mycobacterium avium</i> subsp. <i>paratuberculosis</i> in naturally infected periparturient dairy cows | 2007 | Ph.D. |
| S.M. Moore, Jr.* | The effects of corn hybrid kernel traits on performance in broiler chickens, laying hens, and pigs | 2007 | M.S. |
| S. Zhang | Genetic regulation of healthfulness of beef fatty acid composition | 2007 | Ph.D. |
| W.L. Thomas | Use of Fourier transform infrared (FTIR) spectroscopy to determine the health-promoting index (HPI) of cow's milk | 2008 | M.S. |

| | | | |
|------------------|--|------|-------|
| A.W. Brown | A diet naturally enriched with conjugated linoleic acid from beef and dairy products from pasture-fed cattle resulted in no measured health benefits when compared with a similar commercial diet in healthy women | 2008 | M.S. |
| G. Mao | Effect of mitochondrially targeted vitamin E on oxidative stress and obesity development in C57BL/6 mice | 2009 | M.S. |
| P.S. Allen | The effect of drugs and nutraceuticals on the prevention and treatment of nonalcoholic fatty liver disease using rats as a model for humans | 2010 | M.S. |
| M.M. Bohan-Brown | Effects of macronutrients and caloric content of the diet on circulating concentrations of ghrelin and other hormones involved in energy metabolism | 2010 | Ph.D. |
| Q. (Grace) Duan | Genetic polymorphisms in bovine ferroportin are associated with beef iron content | 2010 | M.S. |
| R.A. Nafikov | Genetic regulation of bovine milk fatty acid composition: Improving the healthfulness of milk through selection | 2010 | Ph.D. |
| C.D. Nelson* | Vitamin D signaling in the bovine immune system | 2010 | Ph.D. |
| A.A. Abuzaid | Variation of carnitine concentration in Angus beef | 2010 | M.S. |
| N. Mehyar | Effects of glucagon, glycerol, and glucagon plus glycerol on gluconeogenesis, lipogenesis, and lipolysis in periparturient Holstein cows | 2011 | M.S. |
| Q. Liu | Concentrations of creatine, creatinine, carnosine, and anserine in bovine longissimus muscle and their correlations with carcass and palatability traits | 2011 | M.S. |
| M. Osman | Modification of the animal immune system by feeding probiotics | 2011 | Ph.D. |
| L. Bradner | Optimization of methods for culturing <i>Mycobacterium avium</i> subsp. <i>paratuberculosis</i> from bovine milk and colostrum and application to samples collected from naturally infected dairy cows | 2012 | M.S. |
| L. Krueger | A characterization of health, immunity, and intestinal | 2015 | M.S. |

microbial colonization in neonate Holstein calves fed pasteurized whole milk and challenged with *Mycobacterium avium* subsp. *Paratuberculosis*

| | | | |
|--------------|---|------|-------|
| E. Testroet | Impact of nutrition of food animals on quality of animal products | 2017 | Ph.D. |
| C. Reynolds* | Vitamin D metabolites and their intestinal responses | 2019 | Ph.D. |

**Co-major professor*

C. EXTENSION (no budgeted time)

My extension activities are in the form of invitations to make oral presentations at a variety of on- and off-campus activities.

D. INTERNATIONAL ACTIVITIES

1988 - Korea

Gave these presentations:

“Application of biotechnology in plant and animal sciences” to Dept. of Food and Nutrition at Yonsei University, Seoul, Korea.

“Ketosis and milk fever in dairy cows and applications of biotechnology to animal agriculture” to Dept. of Animal Science, Seoul National University, Suwon, Korea.

“Does type of dietary protein influence cholesterolemia?” at a symposium on diet composition, lipid metabolism, and heart disease sponsored by Korea Soybean Society, Seoul, Korea.

1989 - Italy

Gave this presentation:

“Fatty acids in ruminants” to an animal nutrition conference in Florence, Italy.

1989 - France

Gave this presentation:

“Fatty acids in ruminants” to an animal nutrition conference in Paris, France.

1990 - Soviet Union

Gave this presentation:

“Use of biotechnology in the food industry” to Soviet-American Symposium with title of Agrarian Reform in the USSR and Problems of the Transition to the Market Economy in Suzdal, USSR.

Visited research institutes in Kiev and Yalta. Visited collective farm in Vladimir. Participated in market economy discussions in Moscow and Suzdal.

1990 - The Netherlands

Gave this presentation:

“The use of cholesterol reductase in the food industry” at Gist-Brocades in Delft, The Netherlands.

1991 - Japan

Gave this presentation:

“Current developments in transgenic research in domestic farm animals” at symposium with title of Recent Development of Agricultural Biotechnology in the World in Tokyo, Japan.

1991 - Ireland

Gave these presentations:

“Bovine mitochondrial DNA research at Iowa State University” to Dept. of Genetics, Trinity College, Dublin, Ireland.

“Research program of the Nutritional Physiology Group at Iowa State University” to the Grange Research and Development Centre, Dunsany, Ireland.

“An enzymatic method to decrease the cholesterol content of animal products” to the National Food Centre, Castleknock, Dublin, Ireland.

Visited with scientists at Moorepark Research and Development Division, Fermoy, Ireland.

1993 - Australia

Gave an invited presentation on “Impact of biotechnology on production of raw food materials” at the International Congress of Nutrition in Adelaide, Australia.

1994 - Ukraine

Toured research facilities, discussed ongoing research, and presented seminars on “Graduate education at Iowa State University” and “Dietary fats and human health” at Institute for Livestock Breeding in Kharkov. Visited Institute for Pig Breeding in Poltava, Ukrainian State Agricultural University in Kiev, and president of Ukrainian Academy of Agricultural Science in Kiev.

1996 - Japan

Chaired a scientific session and gave this presentation: “Lipogenesis and lipolysis in bovine adipose tissue” at Satellite Symposium of the 8th Animal Science Congress of the Asian-Australasian Association of Animal Production.

2001 - Denmark

Attended the 11th International Conference on Production Animal Diseases in Frederiksen, Denmark. Coauthor of a presentation.

2003 - Thailand

Chaired and presented a talk at an NRC symposium on dog and cat nutrition at the 2003 Waltham Nutrition Symposium in Bangkok, Thailand.

2004 - Serbia

Visited Ivan Jovanovic and his colleagues in the Faculty of Veterinary Medicine in Belgrade and made these two presentations:

“Use of glucagon to prevent fatty liver in dairy cattle” and “Use of stem cells in clinical medicine”.

2004 - Bulgaria

Visited with Albert Krastanov and his colleagues in the University of Food Technologies in Plovdiv and made these two presentations: “Use of a probiotic to decrease blood cholesterol concentrations” and “Use of stem cells in clinical medicine”.

2007 - Germany

Attended the 13th International Conference on Production Animal Diseases in Leipzig, Germany. Author of a presentation.

2012 - China

Taught in a biochemistry class (8 lectures) at China Agricultural University in Beijing, China.

2012 - France

Attended the 8th INRA-Rowett Symposium on Gut Microbiology (Gut microbiology: friend or foe?) in Clermont-Ferrand, France

2018 – Belgium

Invited to speak at Omega-3 Summit 2018, Global Summit on Nutrition, Health, and Human Behaviour – Science, Market, and Policy Update in Brussels, Belgium

Hosting of Visiting Scientists from other countries is listed in Section XII.

E. SERVICE

Animal Science Department

Laboratory Animal Science Committee (1977-82; Chair 1977-79, 1981-82)

Animal Science Quadrathlon Committee (1978-86; Chair 1978-82, 1985-86, 1995-08)

Seminar Committee (1978-80; 1984-85; Chair 1978-81; 1987-88)

Social Committee (1970-71; 1976-77; 1980-82; 1984-85; Chair 1982-83)

Meat Laboratory Use Committee (1981-86)

Distinguished Alumnus Award Committee (Chair 1983)
Faculty Bowling Team (1968-95)
Chuck Wagon Breakfast Committee (1979, 1985, 1986, 1989, 1991)
Local Committee for Midwest ASAS Quadrathlon (1986-02)
Member of Committee on Burroughs Memorial Endowment for Research in
Animal Growth (1988-07)
Committee for Faculty Evaluation (1989-90)
Master of Ceremonies of Banquet for Professional Dairy Management
Seminar (1990)
National Symposium on the Nutrient Requirements of Swine Local Committee (1997-98)
Representative to the Life Science Symposium Committee (1985-92)
Coordinator for weekly meetings for Nutritional Physiology Group
(1974-75, 1976-77, 1982-83, 1984-85, 1986-87, 1988-89, 1990-91, 1993-95, 1996-10)
Personnel Affairs Committee (1991-94)
Member of Animal Molecular Biology Committee (1990-93)
Awards - Recognition Committee (1993-02; Chair 2002-)
Graduate Curriculum Committee (1993-10)
Editor for Nutritional Physiology Group Newsletter (1986-2007)
Member of Steering Committee for USDA Animal Genetics and Biotechnology
Graduate Training Grant (1998-00)
Member of Committee to Evaluate Graduate Curriculum (1998-99)
Member of Art Committee of Dairy Farm (2003-08)
Co-Chair for Think Tank in Animal Agriculture (1999-)
Member of Committee for Building New Dairy Farm (2003-07)
Co-Mentor for Ken Stalder (2005-08)
Kildee Hall Animal Facility (2006-12)
Faculty Advisory Committee (2006-)
Co-Mentor for Howard Tyler (2010-13)
Co-Mentor for Ted Huiatt (2010-15)
Coordinator for Animal Nutrition section (2006-)
Initiated Installation of Defibrillators in Kildee Hall (2011-12)
Chair of Art Committee (2012-)
Member of Farm User Committee (2012-15)
Chair of Dairy Users Group (2012-)

Biochemistry, Biophysics, and Molecular Biology Department

Diagnostic Exams and Graduate Student Evaluation Committee (1976-78)
Faculty Grievance Committee (1976-77; 1983-84)
Courses for Vet. Med. Students Committee (1976-08)
Graduate Student Recruiting Committee (Chair 1979-81)
Department Seminar (1976-77, 1979-80, 1983-84)
Seminar Fund Committee (1981-83)
Committee for USDA Review (1974; Chair 1987)
West-Central States Biochemical Conference Host Committee (Co-Chair
1976, 1983)

Diamond Jubilee Committee (1984-85)
Cumulative Examination Committee (1973-76, 1985; Chair 1975-76; 1987-88)
Chair of Committee for Departmental Retreat (1987)
Member of Steering Committee (1987-89)
Biochemistry-CALS (formerly Agricultural Biochemistry) Curriculum Coordinator (1988-)
Undergraduate Awards Committee (1988-89; Chair 1989-90; 1991-93); Chair (1994-96)
Partnership in Prominence Campaign Liaison (1990)
Graduate Student Evaluation and Teaching and Research Awards (1993-96)
Faculty Awards Committee (Chair 1996-97)
Teaching Development Committee (1996-97)
Awards Committee (faculty and student; Chair 1997-)
Faculty Evaluation Advisory Committee (1997-98)
External Advisory Council Committee (1997-98)
Committee on Private Fund Raising/Alumni Communications (Chair 1998-00)
Member of Biology Curriculum Committee (2002)
Co-Master of Ceremonies of Gala of 50th Anniversary Celebration (2010)
Scholarship Committee (Chair 2005-2011; 2014-)
Executive Committee (2014-)
Distance Learning Certificate Committee (2013-18)
Member of Gary Roewe Faculty Research Award Committee (2016-)

College of Agriculture

Academic Advising Committee (1979-85)
Honors Program Committee (1983-89; Chair 1989-91)
Awards and Scholarships (1985-88)
Biotechnology Scholars Advising Committee (1984-92)
Academic Affairs Committee (1989-02)
Faculty Campaign Committee for Partners in Prominence (1989-91)
University Research Grants Committee (1990)
Station and University Research Grants Reviewer (1990, 1991, almost yearly thereafter)
Distinguished Professor Selection Committee (1990, 2000, 2006, 2007, 2019)
Scholarship for Excellence Committee (1992-00)
Chair of Committee to rank University Professor and Distinguished Professor nominees (1992-94; 1999-02)
Chair of Committee to rank Distinguished Professor nominees (1991, 2005-07; 2013, 2014, 2015, 2018)
Graduate Certificate Program Committee (2009-18)
Advising Academy (2011-)
Assisted with hosting two Ukranian scientists (2019)

College of Veterinary Medicine

Dean's Advisory Committee (1993-95)
Development of a Department of Production Animal Medicine and Services Committee (Chair, 1996-97)
Case Study Course Committee (1998-99)

Ramsey Chair Review Committee (1999)
Healthy Livestock Initiatives Grant Proposal Review Team (1999)
Salsbury Chair Review Committee (2001)

College of Family and Consumer Sciences

Internal Advisory Committee of Center for Designing Foods to Improve Nutrition (1996-97; Chair, 1997)

Faculty Senate

Chair of Committee on Welfare and Development (1998-01)
Member of Faculty Development and Administrative Relations Council (1998-01)
Member of Faculty Senate from BBMB Department (2016-)
Member of CALS Caucus (2016-)
Member of Academic Affairs Committee (2017-)

Graduate College

Biological Science Sub-Committee (1972-75; Chair, 1974-75)
Graduate Research Advisory Committee (1973-76)
College Cabinet (1975-76; 1977-78)
Graduate Council (1976-78; Chair 1977-78)
Margaret Ellen White Advising Awards Committee (1990-91)
PACE Awards Committee (1997-00)
Committee to Review Carver Grants (1999)
Graduate Admissions Committee for Alliance for Graduate Education in the Professoriate (AGEP) and George Washington Carver programs (2004-18)
Diversity Council (2011-15)
Interdisciplinary Graduate Studies Admission Committee (2012-15)

Office of the Registrar

Passport to Success Facilitator for Destination Iowa State (2015-)
Faculty Panel during Orientation (2017-)

Health and Human Performance (now Kinesiology) Department

Committee to Develop a Ph.D. Degree Program (1997)
Promotion and Tenure Committee for Two Candidates (1999; 2001-02)

Interdepartmental Graduate Program for Nutritional Sciences

Advisory Committee (2006-)
Graduate Student Admissions Committee (2006-)

MCDB Interdepartmental Graduate Program

College Faculty Liaison Committee for the Life Sciences Symposium (1988-92)
Faculty Membership Committee (1988-89)
Research Fellowship Committee (1989; Chair, 1990)

Local Arrangements Committee for Life Sciences Symposium (1987-89)
Fund Raising Committee for Life Sciences Symposium (Chair 1989-91)
Graduate Applications Committee (Chair 1991-92)
Graduate Admissions Committee (Chair 2000-01)
Nutrition and Wellness Research Center Member of Operations Committee (Chair 2010-13)

Nutritional Sciences Council

Member (1968-)
Chair (1983-86; 1998-02; 2010-)
Modern Views of Nutrition Seminar (1969-72; Chair 1971-72)
Advisory Committee (1972-78; 1997-00)
Secretary of Council and Advisory Committee (1972-78)
Symposium Committee (Chair 1978-80; 1981-83)
Summer Lectureship Coordinator(1976, 1979, 1985, 1986, 1989-92; 1995-99; 2001-05; 2007-16; 2018)
Historian (1986-)
Committee for Interdepartmental Major in Nutrition (Chair 1987-92; 1996-97)
Committee for Current Issues in Nutrition (1995-98)
Borlaug Lecture Committee (2001-)
Reporter to *Nutrition* Notes of American Society for Nutrition (1995-16)
Chair of Committee for N.L. Jacobson Symposium (2008)
Co-Chair of Committee for Nissen Symposium (2012-13)

Physiology Council

Member (1973-88; 1991-00)
Advisory Committee (1973-76) (1991-95)
Mini-Symposium Committee (Chair 1979-83)
Coordinator of H. Dukes Club (1992-93)

University

Member of the Order of the Knoll (1991-)
Laboratory Animal Facilities Committee (1973-83; Chair 1980-83)
Biotechnology Council (1984-88)
Planning Committee for USDA Nutrition Center (1987-89)
ISU Research Foundation Review Committee (1989)
Committee for Evaluation of Reviews of Life Science Departments (1989)
Committee for Evaluation of University Honors Program (1992-93)
Committee for Diversity at Iowa State University (1993-95)
Chair of Committee for Evaluation of Distinguished Professor nominees (1993-94)
University Strategic Planning Committee (1994)
University Extension Strategic Planning Committee (1995)
Committee for Evaluation of Vice Provost for Extension (1995)
Committee for Evaluation of Biomedical Engineering Program (1996)
Committee for Promotion and Tenure (1996-97)
Committee for Advising and Mentoring (1996-97)

University Honors Committee (1989-91; 1996-97; (Chair 1997-04; 2004-)
Member of Honors Semester Committee of Honors Program (2003-04)
Ad Hoc Grievance Committee (1998)
Committee for Evaluation of Dean of College of Vet. Med. (Chair 1997-98)
Planning Committee for Proposed Honors Building (1999-00)
Advisory Committee for Dean of Agriculture Search (2001)
Member of Task Force on Strategic Effectiveness and Budget Priorities (2001-02)
Member of Review Panel for Faculty Conduct (2003-06; 2007-10)
Member of 150th Anniversary of Iowa State University Planning Committee (2004-05)
Member of Committee to select Undergraduate Employee of the Year (2002-05)
Member of AGEF Faculty Council (2006-10)
Member of National Cyclone Club (1975-)
Member of Committee to Review McDonnell Foundation Preproposal (2008)
Member of Conflict of Interest Committee (2009-11)
Member of Faculty Review Committee (2011-)
Senior Teaching Partner in CELT Teaching Partner Program (2015-16)
Member of Faculty Research Excellence Award Committee (2017-)
Member of Gridiron Club (2017-)

Search Committees

Assistant Professor in Zoology Department (1975)
Head/Chairman of Department of Food and Nutrition (1977-78)
Assistant Professor in Animal Science Department (1980)
Head of Laboratory Animal Resources in College of Vet. Med. (1984)
Assistant Professor in Muscle Biology Section, Dept. of Animal Science (1985)
Assistant Professor in Veterinary Microbiology and Preventive Medicine (1986-87)
Four Assistant Professors in Chemistry (1987-88)
Assistant Professor in Nutritional Physiology Section, Dept. of Animal Science (1988-90)
Head, Department of Food Nutrition (1988-89)
Dean, College of Veterinary Medicine (1988-89; Chair 1992-93)
Assistant Professor of Dairy Nutrition and Management and Dairy and Livestock Mgmt. (1990-91)
Assistant Professor of Systems in Extension and Teaching in Dept. of Animal Science (1990-91)
Assistant Professor of Molecular Biology/Gene Mapping and Identification in
Dept. of Animal Science (1990)
President, Iowa State University (1990-91)
Assistant Professor Dairy Product Research (1991)
Research Chemist at NADC (1992)
Associate Professor of Swine Genetics (1994-97)
Program Assistant II in Honors Program (1997)
Professor, Dept. of Health and Human Performance (1998)
Assistant Professor of Animal Nutrition (1999-01)
Director of Center for Designing Foods to Improve Nutrition (2001-02)
DEO for Department of Animal Science (2001)
Dean for College of Agriculture (2001)
Assistant Director of Honors Program (2002)

Assistant Professor of Poultry Nutrition (2002)
Research Leader of Periparturient Diseases of Dairy Cows Group at NADC (2003)
Dean of College of Family and Consumer Sciences (2003)
Interim Director of Honors Program (2004)
Dean for College of Human Sciences (2005)
Assistant Director of Honors Program (2005)
Dean for College of Agriculture (2005)
Lecturer in Biochemistry (2006)
Assistant Director of Honors Program (2006)
Director of ISU Wellness Center (2006-07)
Assistant Professor of Animal Science (2007-08)
Assistant/Associate Professor of Animal Science (Chair, 2007-08)
Assistant Professor of Human Nutrition (2013-14)
Associate Professor/Professor of Human Nutrition (2013-14)
Associate Professor/Professor of Metagenomics (Animal Science); (2014-15)
Assistant Professor of Ruminant Nutrition (2016)
Chair of Department of Biochemistry, Biophysics, and Molecular Biology (2017)
Faculty Awards Hub Coordinator for Iowa State University (2018)
Chair of Department of Animal Science (2019)

World Food Prize Iowa Youth Institute

Judge of oral presentations (2015-)

Osborn Research Club

Member (1976-)
Steering Committee (1979-83)
Chairman (1988)

Gamma Sigma Delta

Member (1963-)
Liaison Committee (1979-)
Program Committee for the Gamma Sigma Delta Conclave (1988-90)
Chair of Committee for Distinguished Achievement in Agriculture Award (2000-02)
Chair of Awards Committee (2006-)

Phi Kappa Phi

Member (1970-)
Nominating Committee (1976-79)
Ad Hoc Centennial Committee (1996)
Centennial Medallion Recipient (1997)
Representative of College of Agriculture (2002)
At Large Representative (2003)
President Elect (2003-04)
President (2004-05)
Fellowship Committee of National Society (2004-07)

Alpha Zeta

Member (1960-)

Faculty Advisor (1983-86; 2016-)

Army ROTC

Scholarship Committee (1981-85)

Sigma Xi

Member (1964-)

Executive Committee (1989-92)

President Elect (1991-92)

President (1992-93)

Secretary/Treasurer (2014-)

Phi Eta Sigma

Member (1959-)

Phi Zeta

Named Honorary Member (1991)

Member (1991-)

Cardinal Key

Member (1990-)

Beta Beta Beta (Biological Honor Society)

Faculty Advisor (1997-03)

Regional Grants Review Team (2004-08)

Beta Sigma Psi social fraternity

Faculty Advisor (1994-)

Honorary Member (1999)

Lutheran Fellowship of Christian Students

Faculty Advisor (1992-08)

Pre-Vet Club

Faculty Advisor (2006-10; 2014-)

25-Year Club

Secretary (2006-07)

Vice President (2007-08)

President (2008-09)

Past President (2009-10)

Honors Program

Member of College of Agriculture Honors Committee (1970-76; Chair 1977-80)
Member of University Honors Committee (1977-80; Chair 1980-86; At-Large member 1986-)
Member of Awards and Grants Committees (several times)
Liaison for Agricultural Biochemistry/Biochemistry-CALS major (2000-)

Miscellaneous

Chair of Formal Hearing Committee for dismissal of an ISU faculty member (1988-89)
Member of committee to evaluate organization of the ISU Research Foundation (1989)
Member of task force to evaluate responses of life science departments to report on Long-Range Strategic Planning Committee (1989)
Member of a University Grievance Committee (2004, 2005, 2008, 2011, 2013, 2017, 2018-19)
Member/Chair of several committees for post-tenure review of faculty in Departments of Animal Science and of Biochemistry, Biophysics, and Molecular Biology

F. OTHER

None.

IX. PUBLICATIONS

A. Refereed Journal Articles

Beitz, D. C. and C. L. Davis. 1964. Relationship of certain milk fat depressing diets to changes in the proportions of the volatile fatty acids produced in the rumen. *J. Dairy Sci.* 47:1213-1216.

Davis, C. L., R. E. Brown, and D. C. Beitz. 1964. Effect of feeding high-grain restricted-roughage rations with and without bicarbonates on the fat content of milk produced and proportions of volatile fatty acids in the rumen. *J. Dairy Sci.* 47:1217-1219.

Ingle, J., D. C. Beitz, and R. H. Hageman. 1965. Changes in composition during development and maturation of maize seeds. *Plant Physiol.* 40:832-839.

Beitz, D. C., H. W. Mohrenweiser, J. W. Thomas, and W. A. Wood. 1969. Synthesis of milk proteins in a cell-free system isolated from lactating bovine mammary tissue. *Arch. Biochem. Biophys.* 132:210-222.

Saladino, C. F., D. C. Beitz, and R. Getty. 1971. RNA/protein ratios of canine pancreatic microsomes and their subfractions as a function of age. *Exptl. Geront.* 6:359-364.

Peters, J. W., D. C. Beitz, and J. W. Young. 1971. Metabolism of glycolic acid in lactating and nonlactating goats and in a calf. *J. Dairy Sci.* 54:1509-1517.

- Beitz, D. C., W. J. Magat, R. S. Allen, and A. D. McGilliard. 1971. Effect of dietary oleates on lymph lipids in the young bovine. *J. Dairy Sci.* 54:1681-1687.
- Pothoven, M. A. and D. C. Beitz. 1973. Effect of adipose tissue site, animal weight, and long-term fasting on lipogenesis in the bovine. *J. Nutr.* 103:468-475.
- Goings, R. L., N. L. Jacobson, D. C. Beitz, E. T. Littledike, and K. D. Wiggers. 1974. Prevention of parturient paresis by a prepartum, calcium-deficient diet. *J. Dairy Sci.* 57:1184-1188.
- Pothoven, M. A., D. C. Beitz, and A. Zimmerli. 1974. Fatty acid compositions of bovine adipose tissue and of in vitro lipogenesis. *J. Nutr.* 104:430-433.
- Beitz, D. C., D. J. Burkhart, and N. L. Jacobson. 1974. Effects of calcium to phosphorus ratio in the diet of dairy cows on incidence of parturient paresis. *J. Dairy Sci.* 57:49-55.
- Pothoven, M. A. and D. C. Beitz. 1975. Changes in fatty acid synthesis and lipogenic enzymes in adipose tissue from fasted and fasted-refed steers. *J. Nutr.* 105:1055-1061.
- Pothoven, M. A., D. C. Beitz, and J. H. Thornton. 1975. Lipogenesis and lipolysis in adipose tissue of ad libitum and restricted-fed beef cattle during growth. *J. Animal Sci.* 40:957-962.
- DiMarco, N. M., D. C. Beitz, J. W. Young, D. G. Topel, and L. L. Christian. 1976. Gluconeogenesis from lactate in liver of stress-susceptible and stress-resistant pigs. *J. Nutr.* 106:710-716.
- Wheeler, A. J., D. C. Beitz, and C. S. Swift. 1976. Mapping of acupuncture points of the goat. *Amer. J. Acupuncture* 4:57-65.
- Thompson, J. R., D. C. Beitz, and N. L. Jacobson. 1977. Effect of dietary cholesterol and tallow on cholesterol synthesis in the castrated goat. *J. Nutr.* 107:1632-1639.
- Beitz, D. C., M. E. Phillips, and S. H. Eklund. 1977. A nephelometric procedure for determination of fat and protein in milk. *J. Dairy Sci.* 60:701-705.
- Whitehurst, G. B., D. C. Beitz, M. A. Pothoven, W. R. Ellison, and M. H. Crump. 1978. Lactate as a precursor of fatty acids in bovine adipose tissue. *J. Nutr.* 108:1806-1811.
- Liepa, G. U., D. C. Beitz, and J. R. Linder. 1978. Fatty acid synthesis in ruminating and nonruminating goats. *J. Nutr.* 108:1733-1739.
- Linder, J. R. and D. C. Beitz. 1978. Sterol synthesis and CO₂ production from mevalonate in calves. *J. Lipid Res.* 19:836-840.
- Liepa, G. U., D. C. Beitz, and J. R. Linder. 1978. Cholesterol synthesis in ruminating and nonruminating goats. *J. Nutr.* 108:535-543.

- Crandall, D. L., D. R. Griffith, and D. C. Beitz. 1979. Comparative effect of diet and exercise upon caloric intake and serum lipid concentrations in the male rat. *Nutr. Rep. Int.* 19:869-874.
- Darrah, P. S., N. M. DiMarco, D. C. Beitz, and D. G. Topel. 1979. Conversion of alanine, aspartate and lactate to glucose and CO₂ in liver from stress-susceptible and stress-resistant pigs. *J. Nutr.* 109:1464-1468.
- Whitehurst, G. B., D. C. Beitz, D. Cianzio, D. G. Topel, and D. C. Johnson. 1981. Examination of a lognormal distribution equation for describing distributions of diameters of bovine adipocytes. *J. Anim. Sci.* 53:1236-1245.
- Pothoven, M. A., D. C. Beitz, R. L. Hood, and L. L. Christian. 1981. Fatty acid synthesis, lipolysis, and lactate oxidation in adipose tissue from normal and stress-susceptible pigs. *Nutr. Rep. Int.* 24:1037-1041.
- Reinhardt, T. A., J. L. Napoli, R. L. Horst, E. T. Littledike, and D. C. Beitz. 1981. 1,25,26-Trihydroxyvitamin D₃: An in vivo and in vitro metabolite of vitamin D₃. *Biochemistry* 20:6230-6235.
- Darrah, P. S., D. C. Beitz, D. G. Topel, and L. L. Christian. 1981. Blood lactate kinetics in normal and stress-susceptible pigs. *J. Anim. Sci.* 53:1000-1005.
- Horst, R. L., T. A. Reinhardt, D. C. Beitz, and E. T. Littledike. 1981. A sensitive competitive protein binding assay for vitamin D in plasma. *Steroids* 37:581-591.
- Whitehurst, G. B., D. C. Beitz, D. Cianzio, and D. G. Topel. 1981. Fatty acid synthesis from lactate in growing cattle. *J. Nutr.* 111:1454-1461.
- Littledike, E. T., J. W. Young, and D. C. Beitz. 1981. Common metabolic diseases of cattle: ketosis, milk fever, grass tetany, and downer cow complex. *J. Dairy Sci.* 64:1465-1482.
- Crandall, D. L., R. P. Freier, D. R. Griffith, and D. C. Beitz. 1981. Relative role of caloric restriction and exercise training upon susceptibility to isoproterenol-induced myocardial infarction in male rats. *Amer. J. Clin. Nutr.* 34:841-847.
- Green, H. B., R. L. Horst, D. C. Beitz, and E. T. Littledike. 1981. Vitamin D metabolites in plasma of cows fed a prepartum low-calcium diet for prevention of parturient hypocalcemia. *J. Dairy Sci.* 64:217-226.
- Tipton, C. L., T. Tovrea, G. Whitehurst, and D. C. Beitz. 1981. The effect of ophiobolin A on glucose uptake by animal cells. *Nutr. Rep. Int.* 23:723-727.
- Reinhardt, T. A., J. L. Napoli, D. C. Beitz, E. T. Littledike, and R. L. Horst. 1981. A new in vivo metabolite of vitamin D₃: 1,25,26-trihydroxyvitamin D₃. *Bioch. Biophys. Res. Commun.*

99:302-307.

Trankina, M. L., D. C. Beitz, D. R. Griffith, and D. R. Ware. 1981. Effects of an organophosphate, ronnel, on growth of male rats. *Nutr. Rep. Int.* 23:37-42.

DiMarco, N. M., D. C. Beitz, and G. B. Whitehurst. 1981. Effect of fasting on free fatty acids, glycerol, and cholesterol concentrations in blood plasma and lipoprotein lipase activity in adipose tissue of cattle. *J. Animal Sci.* 52:75-82.

Trankina, M. L., D. C. Beitz, and D. R. Ware. 1982. Growth and carcass composition of rat pups from dams fed Dowco[®] 290 and an organophosphate, ronnel. *Nutr. Rep. Int.* 26:591-596.

Sommerfeldt, J. L., J. L. Napoli, E. T. Littledike, D. C. Beitz, and R. L. Horst. 1982. Metabolism of orally administered [3H]-vitamin D₂ and [3H]-vitamin D₃ by dairy calves. In: *Vitamin D: Chemical, Biochemical, and Clinical Endocrinology of Calcium Metabolism.*

Norman, A.W., K. Schaefer, D. V. Herrath, and H. G. Grigoleit, editors. *Proceedings 5th Workshop on Vitamin D*, Williamsburg, VA. Berlin-New York, pp. 23-25.

Reinhardt, T. A., R. L. Horst, E. T. Littledike, and D. C. Beitz. 1982. 1,25-Dihydroxyvitamin D₃ receptor in bovine thymus gland. *Bioch. Biophys. Res. Commun.* 106:1012-1018.

Cianzio, D. S., D. G. Topel, G. B. Whitehurst, D. C. Beitz, and H. L. Self. 1982. Adipose tissue growth in cattle representing two frame sizes: Distribution among depots. *J. Anim. Sci.* 55:305-312.

Dougherty, K. A., D. C. Beitz, M. J. Richard, P. B. Sandry, and N. L. Jacobson. 1982. Effect of dietary cholesterol and tallow on lipid composition of plasma lipoproteins of goats. *Nutr. Rep. Int.* 25:879-886.

Richard, M. J., D. C. Serbus, D. C. Beitz, and N. L. Jacobson. 1982. Effect of type and amount of dietary fat on concentration of cholesterol in blood plasma and tissues of rabbits. *Nutr. Res.* 2:175-183.

Kichura, T. S., R. L. Horst, D. C. Beitz, and E. T. Littledike. 1982. Relationships between prepartal dietary calcium and phosphorus, vitamin D metabolism, and parturient paresis in dairy cows. *J. Nutr.* 112:480-487.

Crandall, D. L., D. R. Griffith, and D. C. Beitz. 1982. Protection against the cardiotoxic effect of isoproterenol-HCl by dietary polyunsaturated fatty acids and exercise. *Toxicol. Appl. Pharmacol.* 62:152-157.

Trankina, M. L., K. G. Custer, D. C. Beitz, D. R. Griffith, and D. R. Ware. 1982. Effects of feeding an organophosphate, ronnel, on lactating rats and pup growth. *Nutr. Rep. Int.* 25:71-74.

Reinhardt, T. A. J. L. Napoli, D. C. Beitz, E. T. Littledike, and R. L. Horst. 1982. 1,24,25-Trihydroxyvitamin D₃: A circulating metabolite in vitamin D₃-treated bovine. *Arch. Bioch. Biophys.* 213:163-168.

- Hood, R. L., M. L. Trankina, D. C. Beitz, and D. J. Best. 1983. Relationship between adipocyte size and lipid synthesis in the Zucker rat. *Nutr. Rep. Int.* 27:791-797.
- Sommerfeldt, J. L., J. L. Napoli, E. T. Littledike, D. C. Beitz, and R. L. Horst. 1983. Metabolism of orally administered [3H]ergocalciferol and [3H]cholecalciferol by dairy calves. *J. Nutr.* 113:2595-2600.
- Meyer, S. A., R. C. Ewan, and D. C. Beitz. 1983. Effect of selenium on the sub-cellular distribution of glutathione peroxidase in rat liver, epididymal fat pad, and seminal vesicle. *J. Nutr.* 223:394-400.
- Woollett, L. A. D. C. Beitz, R. L. Hood, and S. Aprahamian. 1984. An enzymatic assay for activity of lipoprotein lipase. *Anal. Biochem.* 143:25-29.
- Draper, D. D., M. F. Rothschild, D. C. Beitz, and L. L. Christian. 1984. Age- and genotype-dependent differences in catecholamine concentrations in the porcine caudate nucleus. *Exptl. Geront.* 19:377-381.
- Mills, S. E., R. R. Lyle, D. C. Beitz, and J. W. Young. 1984. In vitro hepatic gluconeogenesis during experimental ketosis produced in steers by 1,3-butanediol and phlorizin. *J. Dairy Sci.* 67:2265-2273.
- Lyle, R. R., G. deBoer, S. E. Mills, R. W. Russell, D. C. Beitz, and J. W. Young. 1984. Glucose kinetics, plasma metabolites, and endocrine responses during experimental ketosis in steers. *J. Dairy Sci.* 67:2255-2264.
- Aprahamian, S., M. L. Trankina, and D. C. Beitz. 1984. Effects of two organophosphates, ronnel and Dursban[®], on lipolysis in bovine adipose tissue. *Nutr. Rep. Int.* 29:339-347.
- Baldner, G. L., D. C. Beitz, and R. L. Hood. 1984. Conversion of glucose, acetate, and lactate to CO₂ and fatty acids in liver and adipose tissue of prairie voles (*Microtus ochrogaster*). *Comp. Biochem. Physiol.* 78B:145-150.
- Hove, K., R. L. Horst, E. T. Littledike, and D. C. Beitz. 1984. Infusions of parathyroid hormone in ruminants: Hypercalcemia and reduced 1,25-dihydroxyvitamin D concentrations. *Endocrinology.* 114:897-903.
- Hood, R. L., M. L. Trankina, D. C. Beitz, and D. J. Best. 1984. Insulin responsiveness in non fa/fa and fa/fa Zucker rats: Effects of adipocyte size. *Int. J. Obesity.* 8:31-40.
- Beitz, D.C., J.D. Garlich, E.C. Naber, R.A. Britton, J.C.H. Shih, L.S. Jensen, R.E. Austic, R.L. Prior, and W.G. Bergen. 1984. Guidelines for describing diets for experimental animals. *J. Nutr.* 114:15-16.
- Walsh Hentges, L. S., D. C. Beitz, N. L. Jacobson, and A. D. McGilliard. 1985. Cholesterol transport and uptake in miniature swine fed vegetable and animal fats and proteins. 2. LDL uptake

and cholesterol distribution in tissues. *Lipids* 20:757-764.

Walsh Hentges, L. S., D. C. Beitz, N. L. Jacobson, A. D. McGilliard, and J. J. Veenhuizen. 1985. Cholesterol transport and uptake in miniature swine fed vegetable and animal fats and proteins. 1. Plasma lipoproteins and LDL clearance. *Lipids* 20:735-742.

Erlander, M. G., J. A. Parlaman, D. D. Draper, L. L. Christian, L. C. Murrin, R. F. Pfeiffer, and D. C. Beitz. 1985. Effects of L-dopa supplementation on concentrations of brain catechols, dopamine receptor binding and the incidence of pale, soft, and exudative meat in stress-susceptible pigs. *J. Anim. Sci.* 61:914-923.

Rule, D. C., D. C. Beitz, G. de Boer, R. R. Lyle, A. H. Trenkle, and J. W. Young. 1985. Changes in hormone and metabolite concentrations in plasma of steers during a prolonged fast. *J. Anim. Sci.* 61:868-875.

Baldner, G. L., R. E. Flatt, R. N. Shaw, and D. C. Beitz. 1985. Fatty acid biosynthesis in liver and adipose tissue from dogs. *Comp. Biochem. Physiol.* 82B:153-156.

McDermott, C. M., D. C. Beitz, E. T. Littledike, and R. L. Horst. 1985. Effects of dietary vitamin D3 on concentrations of vitamin D and its metabolites in blood plasma and milk of dairy cows. *J. Dairy Sci.* 68:1959-1967.

Diersen-Schade, D. A., M. J. Richard, D. C. Beitz, and N. L. Jacobson. 1985. Effects of beef, soy, and conventional diets on body composition and plasma lipids of young pigs fed restricted or liberal amounts of diet. *J. Nutr.* 115:1016-1024.

Hood, R. L., D. C. Beitz, and D. C. Johnson. 1985. Inhibition by potential metabolic inhibitors of in vitro adipose tissue lipogenesis. *Comp. Biochem. Physiol.* 81B:667-670.

Beitz, D. C. 1985. Physiological and metabolic systems important to animal growth: An overview. *J. Anim. Sci.* 61(Suppl. 2):1-20.

Cianzio, D. S., D. G. Topel, G. B. Whitehurst, D. C. Beitz, and H. L. Self. 1985. Adipose tissue growth and cellularity: Changes in bovine adipocyte size and number. *J. Anim. Sci.* 60:970-976.

Trankina, M. L., D. C. Beitz, and A. H. Trenkle. 1985. Effects of in vitro ronnel on metabolic activity in subcutaneous adipose tissue and skeletal muscle from steers. *J. Anim. Sci.* 60:652-658.

Hines, T. G., N. L. Jacobson, D. C. Beitz, and E. T. Littledike. 1985. Dietary calcium and vitamin D: Risk factors in the development of atherosclerosis in young goats. *J. Nutr.* 115:167-178.

Diersen-Schade, D. A., M. J. Richard, D. C. Beitz, and N. L. Jacobson. 1986. Plasma, tissue, and fecal cholesterol of young pigs fed restricted or liberal amounts of beef, soy, or conventional diets. *J. Nutr.* 116:2086-2095.

- Rule, D. C., R. N. Arnold, E. J. Hentges, and D. C. Beitz. 1986. Evaluation of urea dilution as a technique for estimating body composition of beef steers in vivo: Validation of published equations and comparison with chemical composition. *J. Anim. Sci.* 63:1935-1948.
- Rule, D. C., L. A. Woollett, L. S. Walsh, and D. C. Beitz. 1986. Lipid metabolism in adipose tissue and lipid concentration in plasma of steers fed extruded soybeans. *Nutr. Rep. Int.* 34:271-285.
- Torok, E. D., D. C. Beitz, D. C. Johnson, G. L. Baldner-Shank, and A. D. McGilliard. 1986. Use of different precursors for lipogenesis in ruminant mammary tissue. *Nutr. Res.* 6:1211-1218.
- Hines, T. G., N. L. Jacobson, D. C. Beitz, and E. T. Littledike. 1986. Effects of dietary calcium, vitamin D3, and corn supplementation on growth performance and mineral metabolism in young goats fed whole milk diets. *J. Dairy Sci.* 69:2868-2876.
- Rule, D. C. and D. C. Beitz. 1986. Fatty acids of adipose tissue, plasma, muscle and duodenal ingesta of steers fed extruded soybeans. *J. Amer. Oil Chem. Soc.* 63:1429-1436.
- Rule, D. C., F. C. Parrish, and D. C. Beitz. 1986. Effects of extruded soybeans on steer growth and sensory characteristics and lipid composition of steaks. *Nutr. Rep. Int.* 33:285-298.
- Hines, T. G., R. L. Horst, E. T. Littledike, D. C. Beitz, and N. L. Jacobson. 1986. Vitamin D3 and D3 metabolites in young goats fed varying amounts of calcium and vitamin D3. *J. Dairy Sci.* 69:385-391.
- Mills, S. E., D. C. Beitz, and J. W. Young. 1986. Evidence for impaired metabolism in liver during induced lactation ketosis of dairy cows. *J. Dairy Sci.* 69:362-370.
- Mills, S. E., D. C. Beitz, and J. W. Young. 1986. Characterization of metabolic changes during a protocol for inducing lactation ketosis in dairy cows. *J. Dairy Sci.* 69:352-361.
- DiMarco, N. M., G. B. Whitehurst, and D. C. Beitz. 1986. Evaluation of prostaglandin E2 as a regulator of lipolysis in bovine adipose tissue. *J. Anim. Sci.* 62:363-369.
- Baldner-Shank, G. L., M. J. Richard, D. C. Beitz, and N. L. Jacobson. 1987. Effect of animal and vegetable fats and proteins on distribution of cholesterol in plasma and organs of young growing pigs. *J. Nutr.* 117:1727-1733.
- Woollett, L. A., G. L. Baldner-Shank, S. Aprahamian, R. L. Engen, and D. C. Beitz. 1987. Adaptation of lipogenesis and lipolysis to dietary ethanol. *Alcoholism: Clin. Exp. Res.* 11:336-339.
- Tipton, C. L., P. C. Leung, J. S. Johnson, R. J. Brooks, and D. C. Beitz. 1987. Cholesterol hydroperoxides inhibit calmodulin and suppress atherogenesis in rabbits. *Biochem. Biophys. Res. Commun.* 146:1166-1172.
- Rule, D. C., D. C. Beitz, and R. L. Hood. 1987. A note on the effect of adipocyte size on in vitro

lipogenesis from acetate and lactate in subcutaneous adipose tissue of large- and small-frame beef steers at 6 months of age. *Anim. Prod.* 44:454-456.

Koszewski, N. J., T. A. Reinhardt, D. C. Beitz, J. L. Napoli, E. G. Baggiolini, M. R. Uskokovic, and R. L. Horst. 1987. Use of transform ¹H NMR in the identification of vitamin D₂ metabolites. *Anal. Biochem.* 162:446-452.

VandeHaar, M. J., P. J. Flakoll, D. C. Beitz, and S. Nissen. 1988. Milk production and composition in cows and goats fed α -ketoisocaproate. *J. Dairy Sci.* 71:3352-3361.

Hustmeyer, F. G., B. J. Nonnecke, D. C. Beitz, R. L. Horst, and T. A. Reinhardt. 1988. 1,25-Dihydroxyvitamin D₃ enhancement of concanavalin A-induced bovine lymphocyte proliferation: Requirement of monocytes. *Biochem. Biophys. Res. Commun.* 152:545-551.

Koszewski, N. J., T. A. Reinhardt, J. L. Napoli, D. C. Beitz, and R. L. Horst. 1988. 24,26-Dihydroxyvitamin D₂: A unique physiological metabolite of vitamin D₂. *Biochemistry* 27:5785-5790.

Brown, D. R., D. C. Beitz, P. G. Detilleux, and P. D. Ekema. 1988. Effects of testosterone on respiratory metabolism and ultrastructure of caprine hepatic mitochondria. *Biochem. Arch.* 4:189-197.

Goff, J. P., R. L. Horst, D. C. Beitz and E. T. Littledike. 1988. Use of 24-F-1,25-dihydroxy-vitamin D₃ to prevent parturient paresis in dairy cows. *J. Dairy Science.* 71:1211-1219.

Diersen-Schade, D. A., G. L. Baldner-Shank, D. C. Rule, M. J. Richard, D. C. Beitz, and N. L. Jacobson. 1988. Lipogenesis in young pigs fed restricted or liberal amounts of beef, soy or conventional diets. *Nutr. Rep. Int.* 37:1009-1020.

Foley, M. K., D. C. Beitz, and J. W. Young. 1988. Dietary protein: Does type influence cholesterolemia? *J. Amer. Oil. Chem. Soc.* 65:173-178.

Brown, D. R., C. M. Koehler, G. L. Lindberg, A. E. Freeman, J. E. Mayfield, A. M. Myers, M. M. Schutz, and D. C. Beitz. 1989. Molecular analysis of cytoplasmic genetic variation in Holstein cows. *J. Anim. Sci.* 67:1926-1932.

Richard, M. J., J. T. Holck, and D. C. Beitz. 1989. Lipogenesis in liver and adipose tissue of the domestic cat (*Felis domestica*). *Comp. Biochem. Physiol.* 93B:561-564.

Johnson, J. A., D. C. Beitz, and N. L. Jacobson. 1989. Effects of dietary beef and soy protein on tissue composition and low density lipoprotein uptake in young pigs. *J. Nutr.* 119:696-705.

Lindberg, G. L., B. B. Shank, M. F. Rothschild, J. E. Mayfield, A. E. Freeman, C. M. Koehler, and D. C. Beitz. 1989. Characteristics of mammary mitochondria in lines of mice genetically divergent for milk production. *J. Dairy Sci.* 72:1175-1181.

- Foley, M. K., S. T. Galloway, C. M. Luhman, T. D. Faidley, and D. C. Beitz. 1990. Influence of dietary calcium and cholecalciferol on composition of plasma lipids in young pigs. *J. Nutr.* 120:45-51.
- Luhman, C. M., S. T. Galloway, and D. C. Beitz. 1990. A simple enzymatic assay for concentration of cholesterol in bile. *Clin. Chem.* 36:331-333.
- Luhman, C. M., B. G. Miller, and D. C. Beitz. 1990. Research Note: The effect of feeding lovastatin and colestipol on production and cholesterol content of eggs. *Poultry Sci.* 69:852-855.
- Beckman, M.J., R.L. Horst, T.A. Reinhardt, and D.C. Beitz. 1990. Up-regulation of the intestinal 1,25-dihydroxyvitamin D receptor during hypervitaminosis: a comparison between vitamin D₂ and vitamin D₃. *Biochem. Biophys. Res. Commun.* 169:910-915.
- Faidley, T.D., C.M. Luhman, S.T. Galloway, M.K. Foley, and D.C. Beitz. 1990. Effect of dietary fat source on lipoprotein composition and plasma lipid concentrations in pigs. *J. Nutr.* 120:1126-1133.
- Koszewski, N. J., T. A. Reinhardt, D. C. Beitz, and R. L. Horst. 1990. Developmental changes in rat kidney 1,25-dihydroxyvitamin D receptor. *Biochem. Biophys. Res. Commun.* 170:65-72.
- Drackley, J. K., D. C. Beitz, and J. W. Young. 1991. Regulation of in vitro palmitate oxidation in liver from dairy cows during early lactation. *J. Dairy Sci.* 74:1884-1892.
- Drackley, J. K., D. C. Beitz, and J. W. Young. 1991. Regulation of in vitro metabolism of palmitate by carnitine and propionate in liver from dairy cows. *J. Dairy Sci.* 74:3014-3024.
- Koehler, C. M., G. L. Lindberg, D. R. Brown, D. C. Beitz, A. E. Freeman, J. E. Mayfield, and A. M. Myers. 1991. Replacement of bovine mitochondrial DNA by a sequence variant within one generation. *Genetics* 129:249-255.
- DiMarco, N. M., D. C. Rule, G. B. Whitehurst, and D. C. Beitz. 1991. Effect of indomethacin, epinephrine, prostaglandin E₂, and insulin on lipolysis in bovine adipose tissue in vitro. *Int. J. Biochem.* 23:1231-1235.
- Faidley, T. D., S. T. Galloway, C. M. Luhman, M. K. Foley, and D. C. Beitz. 1991. A surgical model for studying biliary bile acid and cholesterol metabolism in swine. *Lab. Anim. Sci.* 41:447-450.
- Lindberg, G. L., C. M. Koehler, J. E. Mayfield, A. M. Myers, and D. C. Beitz. 1992. Recovery of mitochondrial DNA from blood leucocytes using detergent lysis. *Biochem. Gen.* 30:27-33.
- Luhman, C. M., T. D. Faidley, and D. C. Beitz. 1992. Postprandial lipoprotein composition in pigs fed diets differing in type and amount of dietary fat. *J. Nutr.* 122:120-127.

- Beitz, D. C. 1992. Hepatic metabolism of organic acids in ruminants: Introduction. *J. Nutr.* 122:830-831.
- Rule, D. C., J. H. Thornton, A. D. McGilliard, and D. C. Beitz. 1992. Effect of adipose tissue site, animal size, and fasting on lipolysis in bovine adipose tissue in vitro. *Int. J. Biochem.* 24:789-793.
- Drackley, J. K., M. J. Richard, D. C. Beitz, and J. W. Young. 1992. Metabolic changes in dairy cows with ketonemia in response to feed restriction and dietary 1,3-butanediol. *J. Dairy Sci.* 75:1622-1634.
- Schutz, M. M., A. E. Freeman, D. C. Beitz, and J. E. Mayfield. 1992. The importance of maternal lineage on milk yield traits of dairy cattle. *J. Dairy Sci.* 75:1331-1341.
- Luhman, C. M. and D. C. Beitz. 1992. Dietary protein and blood cholesterol homeostasis in Dietary Proteins: How they alleviate disease and promote health. Ed. by G. U. Liepa pp. 57-83. American Oil Chemists' Society, Champaign, IL.
- Yang, J. B. and D. C. Beitz. 1992. A fluorometric assay for cholesterol reductase activity. *Anal. Biochem.* 206:246-250.
- Schutz, M. M., A. E. Freeman, G. L. Lindberg, and D. C. Beitz. 1993. Effects of maternal lineages grouped by mitochondrial genotypes on milk yield and composition. *J. Dairy Sci.* 76:621-629.
- Freier, T.A., D.C. Beitz, L. Li, and P.A. Hartman. 1994. Characterization of *Eubacterium coprostanoligenes* sp. nov., a cholesterol-reducing anaerobe. *Int. J. Syst. Bacteriol.* 44:137-142.
- Schutz, M.M., A.E. Freeman, G.L. Lindberg, C.M. Koehler, and D.C. Beitz. 1994. The effect of mitochondrial DNA on milk production and health of dairy cattle. *Livest. Prod. Sci.* 37:283-291.
- Hustmeyer, F.G., D.C. Beitz, J.P. Goff, B.J. Nonnecke, R.L. Horst, and T.A. Reinhardt. 1994. Effects of in vivo administration of 1,25-dihydroxyvitamin D₃ on in vitro proliferation of bovine lymphocytes. *J. Dairy Sci.* 77:3324-3330.
- Beitz, D.C. and T.J. Knight. 1994. Fats and cholesterol, role in human nutrition. *Ency. Agric. Sci.* 2:139-153.
- Beckman, M.J., J.P. Goff, T.A. Reinhardt, D.C. Beitz, and R.L. Horst. 1995. In vivo regulation of rat intestinal 24-hydroxylase: Potential new role of calcitonin. *Endocrinology* 135:1951-1955.
- Li, L., K.K. Buhman, P.A. Hartman, and D.C. Beitz. 1995. Hypocholesterolemic effect of *Eubacterium coprostanoligenes* ATCC 5122 in rabbits. *Lett. Appl. Microbiol.* 20:137-140.
- Beckman, M.J., J.A. Johnson, J.P. Goff, T.A. Reinhardt, D.C. Beitz, and R.L. Horst. 1995. The role of dietary calcium in the physiology of vitamin D toxicity: Excess dietary vitamin D₃ blunts parathyroid hormone induction of kidney 1-hydroxylase. *Arch. Biochem. Biophys.* 319:535-539.

- Li, L., T.A. Freier, P.A. Hartman, J.W. Young, and D.C. Beitz. 1995. A resting cell assay for cholesterol reductase activity in *Eubacterium coprostanoligenes* ATCC 51222. *Appl. Microbiol. Biotechnol.* 43:887-892.
- Atkins, K.E. and D.C. Beitz. 1995. Effect of 1,10-phenanthroline on DNA binding by 1,25-(OH)₂ vitamin D receptor. *Horm. Met. Res.* 27:455-460.
- Johnson, J.A., M.J. Beckman, A. Pausini-Porta, S. Christakos, M.E. Bruns, D.C. Beitz, R.L. Horst, and T.A. Reinhardt. 1995. Age and gender effects on 1,25-dihydroxyvitamin D₃-regulated gene expression. *Expt. Geron.* 30:631-643.
- Hustmeyer, F.G., D.C. Beitz, J.P. Goff, B.J. Nonnecke, R.L. Horst, and T.A. Reinhardt. 1995. In vivo parathyroid hormone stimulates in vitro bone resorption by bovine monocytes. *J. Dairy Sci.* 78:2700-2708.
- Ren, D., L. Li, A.W. Schwabacher, J.W. Young, and D.C. Beitz. 1996. Mechanism of cholesterol reduction to coprostanol by *Eubacterium coprostanoligenes* ATCC 51222. *Steroids* 61:33-40.
- Li, L., C.A. Baumann, D.D. Meling, J.L. Sell, and D.C. Beitz. 1996. Effect of orally administered *Eubacterium coprostanoligenes* ATCC 51222 on plasma cholesterol concentration in laying hens. *Poult. Sci.* 75:743-745.
- Boettcher, P.J., A.E. Freeman, S.D. Johnston, R.K. Smith, D.C. Beitz, and B.T. McDaniel. 1996. Relationships between polymorphism for mitochondrial deoxyribonucleic acid and yield traits of Holstein cows. *J. Dairy Sci.* 79:647-654.
- Boettcher, P.J., D.W. Steverink, D.C. Beitz, A.E. Freeman, and B.T. McDaniel. 1996. Multiple herd evaluation of the effects of maternal lineage on yield traits of Holstein cattle. *J. Dairy Sci.* 79:655-662.
- Ametaj, B.N., D.C. Beitz, T.A. Reinhardt, and B.J. Nonnecke. 1996. 1,25-Dihydroxyvitamin D₃ inhibits secretion of interferon- γ by mitogen- and antigen-stimulated bovine mononuclear leukocytes. *Vet. Immunol. Immunopathol.* 52:77-90.
- Li, L. and D.C. Beitz. 1996. A potential anticholesterol technology -- microbial reduction of cholesterol to coprostanol. *Soc. Indust. Microbiol. News* 46:9-18.
- Wilson, T., T.J. Knight, D.C. Beitz, D.S. Lewis, and R.L. Engen. 1996. Resveratrol promotes atherosclerosis in hypercholesterolemic rabbits. *Life Sci.* 59:15-21.
- Smith, T. R., A. R. Hippen, D. C. Beitz, and J. W. Young. 1997. Metabolic characteristics of induced ketosis in normal and obese dairy cows. *J. Dairy Sci.* 80:1569-1581.
- Parpura-Gill, A., D. Beitz, and E. Uemura. 1997. The inhibitory effects of β -amyloid on glutamate

and glucose uptakes by cultured astrocytes. *Brain Res.* 754:65-71.

Bobe, G., D.C. Beitz, A.E. Freeman, and G.L. Lindberg. 1998. Separation and quantification of bovine milk proteins by reversed-phase high-performance liquid chromatography. *J. Agr. Food Chem.* 46:458-463.

Bobe, G., D.C. Beitz, A.E. Freeman, and G.L. Lindberg. 1998. Sample preparation affects separation of whey proteins by reversed-phase high-performance liquid chromatography. *J. Agr. Food Chem.* 46:1321-1325.

Li, L., S.M. Batt, M. Wannemuehler, A. Dispirito, and D.C. Beitz. 1998. Effect of feeding of a cholesterol-reducing bacterium, *Eubacterium coprostanoligenes*, to germ-free mice. *Lab. Anim. Sci.* 48:253-255.

Hippen, A.R., P. She, J.W. Young, D.C. Beitz, G.L. Lindberg, L.F. Richardson, and R.W. Tucker. 1999. Metabolic responses of dairy cows and heifers to various intravenous dosages of glucagon. *J. Dairy Sci.* 82:1128-1138.

She, P., A.R. Hippen, J.W. Young, G.L. Lindberg, D.C. Beitz, L.F. Richardson, and R.W. Tucker. 1999. Metabolic responses of lactating dairy cows to 14-day intravenous infusions of glucagon. *J. Dairy Sci.* 82:1118-1127.

She, P., G.L. Lindberg, A.R. Hippen, D.C. Beitz, and J.W. Young. 1999. Regulation of messenger ribonucleic acid expression for gluconeogenic enzymes during glucagon infusions into lactating cows. *J. Dairy Sci.* 82:1153-1163.

Hippen, A.R., P. She, J.W. Young, D.C. Beitz, G.L. Lindberg, L.F. Richardson, and R.W. Tucker. 1999. Alleviation of fatty liver in dairy cows with 14-day intravenous infusions of glucagon. *J. Dairy Sci.* 82:1139-1152.

Faidley, T.D., C.M. Luhman, S.T. Galloway, M.K. Foley, and D.C. Beitz. 1999. Dietary beef tallow alters the fatty acid profiles of bile and liver membranes, but not secretion of cholesterol in bile. *Nutr. Res.* 19:1027-1039.

Bobe, G., D.C. Beitz, A.E. Freeman, and G.L. Lindberg. 1999. Associations among individual proteins and fatty acids in bovine milk as determined by correlations and factor analyses. *J. Dairy Res.* 66:523-536.

Madden, U.A., G.D. Osweiler, L. Knipe, G.W. Beran, and D.C. Beitz. 1999. Effects of *Eubacterium coprostanoligenes* and *Lactobacillus* on pH, lipid content, and cholesterol of fermented pork and mutton sausage-type mixes. *J. Food Sci.* 64:903-908.

Bobe, G., D.C. Beitz, A.E. Freeman, and G.L. Lindberg. 1999. Effect of milk protein genotypes on milk protein composition and its genetic parameter estimates. *J. Dairy Sci.* 82:2797-2804.

- Ametaj, B.N., B.J. Nonnecke, S.T. Franklin, R.L. Horst, W.R. Bidlack, R.L. Stuart, and D.C. Beitz. 2000. Dietary vitamin A modulates the concentration of RRR- α -tocopherol in plasma lipoproteins from calves fed milk replacer. *J. Nutr.* 130:629-636.
- Lewis, D.S., S. Oren, X. Wang, M.L. Moyer, D.C. Beitz, T.J. Knight, and G.E. Mott. 2000. Developmental changes in cholesterol 7 α - and 27-hydroxylases in the piglet. *J. Anim. Sci.* 78:943-951.
- Wu, J., R.K. Smith, A.E. Freeman, D.C. Beitz, B.T. McDaniel, and G.L. Lindberg. 2000. Sequence heteroplasmy of D-loop and rRNA coding regions in mitochondrial DNA from Holstein cows of independent maternal lineages. *Biochem. Genet.* 38:323-335.
- Ametaj, B.N., B.J. Nonnecke, R.L. Horst, and D.C. Beitz. 2000. Effects of retinoic acid and 1,25-dihydroxyvitamin D₃ on IFN- γ secretion by mononuclear leukocytes from nulliparous and postparturient dairy cattle. *Int. J. Vitam. Nutr. Res.* 70:92-101.
- Montgomery, J.L., F.C. Parrish, Jr., D.C. Beitz, R.L. Horst, E.J. Huff-Lonergan, and A.H. Trenkle. 2000. The use of vitamin D₃ to improve beef tenderness. *J. Anim. Sci.* 78:2615-2621.
- Beckerbauer, L.M., R. Thiel-Cooper, D.U. Ahn, J.L. Sell, F.C. Parrish, Jr., and D.C. Beitz. 2001. Influence of two dietary fats on the composition of emu oil and meat. *Poult. Sci.* 80:187-194.
- Zimmerman, D.R., T.A. Reinhardt, R. Kremer, D.C. Beitz, G.S. Reddy, and R.L. Horst. 2001. Calcitroic acid is a major catabolic metabolite in the metabolism of 1 alpha-dihydroxyvitamin D₂. *Arch. Biochem. Biophys.* 392:14-22.
- Stewart, J.W., M.L. Kaplan, and D.C. Beitz. 2001. Pork with a high content of polyunsaturated fatty acids lowers LDL cholesterol in women. *Am. J. Clin. Nutr.* 74:179-187.
- Amin, V., G. Bobe, J. Young, B. Ametaj, and D. Beitz. 2001. Ultrasound image texture processing for evaluating fatty liver in peripartal dairy cows. *Proc. SPIE Int. Symp. Med. Imaging*, 4322:1527-1533.
- Bassaganya-Riera, J., R. Hontecillas, and D.C. Beitz. 2002. Colonic anti-inflammatory mechanisms of conjugated linoleic acid. *Clin. Nutr.* 21:451-459.
- Boylston, T.D. and D.C. Beitz. 2002. Conjugated linoleic acid and fatty acid composition of yogurt produced from milk of cows fed soy oil and conjugated linoleic acid. *J. Food Sci.* 67:1973-1978.
- Wiegand, B.R., J.C. Sparks, D.C. Beitz, F.C. Parrish, Jr., R.L. Horst, A.H. Trenkle, and R.C. Ewan. 2002. Short-term feeding of vitamin D₃ improves color but does not change tenderness of pork loin chops. *J. Anim. Sci.* 80:2116-2121.
- Ametaj, B.N., G. Bobe, Y. Lu, J.W. Young, and D.C. Beitz. 2003. Effect of sample preparation, length of time, and sample size on quantification of total lipids from bovine liver. *J. Agr. Food Chem.* 51:2105-2110.

- Bobe, G., R.N. Sonon, B.N. Ametaj, J.W. Young, and D.C. Beitz. 2003. Metabolic responses of lactating cows to single and multiple subcutaneous injections of glucagon. *J. Dairy Sci.* 86:2072-2081.
- Bobe, G., B. N. Ametaj, J. W. Young, and D. C. Beitz. 2003. Effects of exogenous glucagon on lipids in lipoproteins and liver of lactating dairy cows. *J. Dairy Sci.* 86:2895-2903.
- Bobe, G., E.G. Hammond, A.E. Freeman, G.L. Lindberg, and D.C. Beitz. 2003. Texture of butter from cows with different fatty acid compositions. *J. Dairy Sci.* 86:3122-3127.
- Bobe, G., B.N. Ametaj, J.W. Young, and D.C. Beitz. 2003. Potential treatment of fatty liver with 14-day subcutaneous injections of glucagon. *J. Dairy Sci.* 86:3138-3147.
- Parrish, F.C. Jr., B.R. Wiegand, D.C. Beitz, D.U. Ahn, M. Du, and A.H. Trenkle. 2003. Use of dietary CLA to improve composition and quality of animal-derived foods. *Adv. Conj. Linoleic Acid Res.* 2:189-217.
- Bobe, G., A.E. Freeman, G.L. Lindberg, and D.C. Beitz. 2004. The influence of milk protein phenotypes on fatty acid composition of milk from Holstein cows. *Milchwissenschaft* 50:3-6.
- Foote, M.R., R.L. Horst, E.J. Huff-Lonergan, A.H. Trenkle, F.C. Parrish, Jr., and D.C. Beitz. 2004. The use of vitamin D₃ and its metabolites to improve beef tenderness. *J. Anim. Sci.* 82:242-249.
- Wertz, A.E., T.J. Knight, A. Trenkle, R. Sonon, R.L. Horst, E.J. Huff-Lonergan, and D.C. Beitz. 2004. Feeding 25-hydroxyvitamin D₃ to improve beef tenderness. *J. Anim. Sci.* 82:1410-1418.
- Bobe, G., J.W. Young, and D.C. Beitz. 2004. Invited review: Pathology, etiology, prevention, and treatment of fatty liver in dairy cows. *J. Dairy Sci.* 87:3105-3124.
- Chen, S., G. Bobe, S. Zimmerman, E.G. Hammond, C.M. Luhman, T.D. Boylston, A.E. Freeman, and D.C. Beitz. 2004. Physical and sensory properties of dairy products from cows with various milk fatty acid compositions. *J. Agric. Food Chem.* 52:3422-3428.
- Ametaj, B.N., B.J. Bradford, G. Bobe, R.A. Nafikov, Y. Lu, J.W. Young, and D.C. Beitz. 2005. Strong relationships between mediators of the acute phase response and fatty liver in dairy cows. *Can. J. An. Sci.* 85:165-175.
- Foote, M.R., B.J. Nonnecke, M.A. Fowler, B.L. Miller, D.C. Beitz, and W.R. Waters. 2005. Effects of age and nutrition on expression of CD25, CD44, and L-selectin (CD62L) on T-cells from neonatal calves. *J. Dairy Sci.* 88:2718-2729.
- Williams, E.L., S.M. Rodriguez, D.C. Beitz, and S.S. Donkin. 2006. Effects of short-term glucagon administration of gluconeogenic enzymes in the liver of midlactation dairy cows. *J. Dairy Sci.* 89:693-703.

Foote, M.R., B.J. Nonnecke, W.R. Waters, M.V. Palmer, D.C. Beitz, M.A. Fowler, B.L. Miller, T.E. Johnson, and H.B. Perry. 2005. Effects of increased dietary protein and energy on composition and functional capacities of blood mononuclear cells from vaccinated, neonatal calves. *Int. J. Vit. Nutr. Res.* 75:357-368.

Wertz-Lutz, A.E., T.J. Knight, R.H. Pritchard, J.A. Daniel, J.A. Clapper, A.J. Smart, A. Trenkle, D.C. Beitz. 2006. Circulating ghrelin concentrations fluctuate relative to nutritional status and influence feeding behavior in cattle. *J. Anim. Sci.* 84:3285-3300.

Beitz, D.C. and L.J. Boyd. 2006. The American Dairy Science Association: The fourth twenty-five years, 1981-2005. *J. Dairy Sci.* 89:1122-1146.

Nafikov, R.A., B.N. Ametaj, G. Bobe, K.J. Koehler, J.W. Young, and D.C. Beitz. 2006. Prevention of fatty liver in transition dairy cows by subcutaneous injections of glucagon. *J. Dairy Sci.* 89:1533-1545.

Foote, M.R., B.J. Nonnecke, D.C. Beitz, and W.R. Waters. 2007. High growth rate fails to enhance adaptive immune responses to neonatal calves and is associated with reduced lymphocyte variability. *J. Dairy Sci.* 90:404-417.

Zhang, S., T.J. Knight, K.S. Stalder, R.N. Goodwin, S.M. Lonergan, and D.C. Beitz. 2007. Effects of breed, sex, and halothane genotype on fatty acid composition of pork longissimus muscle. *J. Anim. Sci.* 85:583-591.

Bobe, G., S. Zimmerman, E.G. Hammond, A.E. Freeman, P.A. Porter, C.M. Luhman, and D.C. Beitz. 2007. Butter composition and texture from cows with different milk fatty acid composition fed fish oil or roasted soybeans. *J. Dairy Sci.* 90:2596-2603.

Nafikov, R.A. and D.C. Beitz. 2007. Carbohydrate and lipid metabolism in farm animals. *J. Nutr.* 137:702-705.

Bobe, G., G.L. Lindberg, A.E. Freeman, and D.C. Beitz. 2007. Short communication: Composition of milk protein and milk fatty acids is stable for cows differing in genetic merit for milk production. *J. Dairy Sci.* 90:3955-3960.

Cassady, B.A., N.L. Charboneau, E.E. Brys, K.A. Crouse, D.C. Beitz, and T. Wilson. 2007. Effects of low carbohydrate diets high in red meats or poultry, fish and shellfish on plasma lipids and weight loss. *Nutr. Metab.* 4:23. (doi:10.1186/1743-7075-4-23)

Foote, M.R., B.J. Nonnecke, D.C. Beitz, and W.R. Waters. 2007. Antigen-specific B-cell responses by neonatal calves after early vaccination. *J. Dairy Sci.* 90:5208-5217.

Bobe, G., B.N. Ametaj, J.W. Young, L.L. Anderson, and D.C. Beitz. 2007. Exogenous glucagon effects on health and reproductive performance of lactating dairy cows with mild fatty liver. *Anim.*

Reprod. Sci. 102:194-207.

Lonergan, S.M., K.J. Stalder, E. Huff-Lonergan, T.J. Knight, R.N. Goodwin, K.J. Prusa, and D.C. Beitz. 2007. Influence of lipid content on pork sensory quality within pH classification. *J. Anim. Sci.* 85:1074-1079.

Zhang, S., T.J. Knight, J.M. Reecy, and D.C. Beitz. 2008. DNA polymorphisms in bovine fatty acid synthase are associated with beef fatty acid composition. *Anim. Gen.* 39:62-70.

Huang, Y., J.P. Schoonmaker, B.J. Bradford, and D.C. Beitz. 2008. Response of milk fatty acid composition to dietary supplementation of soy oil, conjugated linoleic acid, or both. *J. Dairy Sci.* 91:260-270.

Carnagey, K.M., E.J. Huff-Lonergan, S.M. Lonergan, A. Trenkle, R.L. Horst, and D.C. Beitz. 2008. Use of 25-hydroxyvitamin D₃ and dietary calcium to improve tenderness of beef from the round of beef cows. *J. Anim. Sci.* 86:1637-1648.

Carnagey, K.M., E.J. Huff-Lonergan, A. Trenkle, A.E. Wertz-Lutz, R.L. Horst, and D.C. Beitz. 2008. Use of 25-hydroxyvitamin D₃ and vitamin E to improve tenderness of beef from longissimus dorsi of heifers. *J. Anim. Sci.* 86:1649-1657.

Bobbe, G., V.R. Amin, A.R. Hippen, P. She, J.W. Young, and D.C. Beitz. 2008. Non-invasive detection of fatty liver in dairy cows by digital analyses of hepatic ultrasonograms. *J. Dairy Res.* 75:84-89.

Gereszek, L.J., J.R. Coats, and D.C. Beitz. 2008. Effects of dietary conjugated linoleic acid on European corn borer (*Lepidoptera: Crambidae*) survival, fatty acid profile, and fecundity. *Ann. Entomol. Soc. Am.* 101:430-438.

Bobbe, G., J.A. Minick Bormann, G.L. Lindberg, A.E. Freeman, and D.C. Beitz. 2008. Short Communication: Estimates of genetic variation of milk fatty acids in U.S. Holstein cows. *J. Dairy Sci.* 91:1209-1213.

Wertz-Lutz, A.E., J.A. Daniel, J.A. Clapper, A. Trenkle, and D.C. Beitz. 2008. Prolonged, moderate nutrient restriction in beef cattle results in persistently elevated circulating ghrelin concentrations. *J. Anim. Sci.* 86:564-575.

Moore, S.M., K.J. Stalder, D.C. Beitz, C.H. Stahl, W.A. Fithian, and K. Bregendahl. 2008. The correlation of chemical and physical corn kernel traits with production performance in broiler chickens and laying hens. *Poult. Sci.* 87:665-676.

Moore, S.M., K.J. Stalder, D.C. Beitz, C.H. Stahl, W.A. Fithian, and K. Bregendahl. 2008. The correlation of chemical and physical corn kernel traits with growth performance and carcass characteristics in pigs. *J. Anim. Sci.* 86:592-601.

Karcher, E.L., D.O. Bayles, J.P. Bannantine, D.C. Beitz, and J.R. Stabel. 2008. Osteopontin: a novel cytokine involved in the regulation of *Mycobacterium avium* subsp. *paratuberculosis* infection in periparturient dairy cattle. *J. Dairy Sci.* 91:3079-3091.

Karcher, E.L., D.C. Beitz, and J.R. Stabel. 2008. Parturition invokes changes in peripheral blood mononuclear cell populations in Holstein dairy cows naturally infected with *Mycobacterium avium* subsp. *paratuberculosis*. *Vet. Immunol. Immunopathol.* 124:50-62.

Karcher, E.L., D.C. Beitz, and J.R. Stabel. 2008. Modulation of cytokine gene expression and secretion during the periparturient period in dairy cows naturally infected with *Mycobacterium avium* subsp. *paratuberculosis*. *Vet. Immunol. Immunopathol.* 123:277-288.

Osman, M.A., P.S. Allen, N.A. Mehyar, G. Bobe, J.F. Coetzee, K.J. Koehler, and D.C. Beitz. 2008. Acute metabolic responses of postpartal dairy cows to subcutaneous glucagon injections, oral glycerol, or both. *J. Dairy Sci.* 91:3311-3322.

Bobe, G., A.R. Hippen, P. She, G.L. Lindberg, J.W. Young, and D.C. Beitz. 2009. Effects of glucagon infusions on protein and amino acid composition of milk from dairy cows. *J. Dairy Sci.* 92:130-138.

Huang, Y., J.P. Schoonmaker, S.L. Oren, A. Trenkle, and D.C. Beitz. 2009. Calcium salts of CLA improve availability of dietary CLA. *Livestock Sci.* 122:1-7.

Bobe, G., J.C. Velez, D.C. Beitz, and S.S. Donkin. 2009. Glucagon increases mRNA concentrations of ureagenic and gluconeogenic enzymes in early-lactation dairy cows. *J. Dairy Sci.* 92:5092-5099.

Zhang, S., T.J. Knight, K.J. Stalder, R.N. Goodwin, S.M. Lonergan, and D.C. Beitz. 2009. Effects of breed, sex, and halothane genotype on fatty acid composition of triacylglycerols and phospholipids in pork longissimus muscle. *J. Anim. Breed. Genetics.* 126:259-268.

Nonnecke, B.J., M.R. Foote, B.L. Miller, D.C. Beitz, and R.L. Horst. 2010. Short communication: Fat-soluble vitamin and mineral status of milk replacer-fed dairy calves: Effect of growth rate during the preruminant period. *J. Dairy Sci.* 93:2684-2690.

Reecy, J.M., R.G. Tait, D.L. Van Overbeke, A.J. Garmyn, R.G. Mateescu, A.L. Van Eenennaam, Q. Duan, Q. Liu, J.P. Schoonmaker, M.E. Drewnoski, D.C. Beitz, K. Kizilkaya, R.L. Fernando, and D.J. Garrick. 2010. Use of genomics to improve healthfulness and quality of beef. *Proc. Ninth World Congress in Genetics Applied to Livestock.* August 2010, Leipzig, Germany, Vol. 53.

Liu, Q., J. Wang, D. Bu, Khas-Erdene, K. Liu, H. Wel, L. Zhou, and D.C. Beitz. 2010. Influence of linolenic acid content on the oxidation of milk fat. *J. Agr. Food Chem.* 58:3741-3746.

Nelson, C.D., T.A. Reinhardt, T.C. Thacker, D.C. Beitz, and J.D. Lippolis. 2010. Modulation of the bovine innate immune response by production of $1\alpha,25$ -dihydroxyvitamin D_3 in bovine monocytes.

J. Dairy Sci. 93:1041-1049.

Zhang, S., T.J. Knight, J.M. Reecy, T.L. Wheeler, S.D. Shackelford, L.V. Cundiff, and D.C. Beitz. 2010. Associations of polymorphisms in the promoter I of bovine acetyl-CoA carboxylase- α gene with beef fatty acid composition. *Anim. Gen.* 41:417-420.

Erdman, J.W. and D.C. Beitz. 2010. David H. Baker, Ph.D. (1939-2009). *J. Nutr.* 140:1400-1401.

Mao, G., G.A. Kraus, I. Kim, M.E. Spurlock, T.B. Bailey, Q. Zhang, and D.C. Beitz. 2010. A mitochondria-targeted vitamin E derivative decreases hepatic oxidative stress and inhibits fat deposition in mice. *J. Nutr.* 140:1425-1431.

Osman, M.A., P.S. Allen, G. Bobe, J.F. Coetzee, A. Abuzaid, K. Koehler, and D.C. Beitz. 2010. Chronic metabolic responses of postpartal dairy cows to subcutaneous glucagon injections, oral glycerol, or both. *J. Dairy Sci.* 93:3505-3512.

Schoonmaker, J. P., A.H. Trenkle, and D.C. Beitz. 2010. Effect of feeding wet distillers grains on performance, marbling deposition, and fatty acid content of beef from steers fed low- or high-forage diets. *J. Anim. Sci.* 88:3657-3665.

Nelson, C.D., T.A. Reinhardt, D.C. Beitz, and J.D. Lippolis. 2010. In vivo activation of the intracrine vitamin D pathway in innate immune cells and mammary tissue during a bacterial infection. *PLoS ONE* 5:e15469.

Brown, A.W., A.H. Trenkle, and D.C. Beitz. 2011. Diets high in conjugated linoleic acid from pasture-fed cattle did not alter markers of health in young women. *Nutr. Res.* 31:33-41.

Mao, G., G.A. Kraus, I. Kim, M.E. Spurlock, T.B. Bailey, and D.C. Beitz. 2011. Effect of a mitochondria-targeted vitamin E derivative on mitochondrial alteration and systemic oxidative stress in mice. *Br. J. Nutr.* 106:87-95.

Garmyn, A.J., G.G. Hilton, R.G. Mateescu, J.B. Morgan, J.M. Reecy, R.G. Tait, Jr., D.C. Beitz, Q. Duan, J.P. Schoonmaker, M.S. Mayes, M.E. Drewnoski, Q. Liu, and D.L. VanOverbeke. 2011. Estimation of relationships between mineral concentration and fatty acid composition of longissimus muscle and beef palatability traits. *J. Anim. Sci.* 89:2849-2858.

Brown, A.W., M.M. Bohan-Brown, K.L. Onken, and D.C. Beitz. 2011. Short-term consumption of sucralose, a nonnutritive sweetener, is similar to water with regard to select markers of hunger signaling and short-term glucose homeostasis in women. *Nutr. Res.* 31:882-888.

Nelson, C.D., B.J. Nonnecke, T.A. Reinhardt, W.R. Waters, D.C. Beitz, and J.D. Lippolis. 2011. Regulation of Mycobacterium-specific mononuclear cells responses by 25-hydroxyvitamin D₃. *PLoS ONE* 6:e21674.

Drewnoski, M.E., S.M. Ensley, D.C. Beitz, J.P. Schoonmaker, D.D. Loy, P.M. Imerman, J.A. Rathje,

- and S.L. Hansen. 2012. Assessment of ruminal hydrogen sulfide or urine thiosulfate as diagnostic tools for sulfur-induced polioencephalomalacia in cattle. *J. Vet. Diagn. Invest.* 24:702-709.
- Duan, Q., R.G. Tait, Jr., M.S. Mayes, D.J. Garrick, Q. Liu, A.L. Van Eenennaam, R.G. Mateescu, D.L. VanOverbeke, A.J. Garmyn, D.C. Beitz, and J.M. Reecy. 2012. Genetic polymorphisms in bovine transferrin receptor 2 (TFR2) and solute carrier family 40 (iron-regulated transporter) member 1 (SLC40A1) genes and their association with beef iron content. *Anim. Gen.* 43:115-122.
- Mateescu, R.G., A.J. Garmyn, M.A. O'Neil, R.G. Tait, Jr., A. Abuzaid, M.S. Mayes, D.J. Garrick, A.L. Van Eenennaam, D.L. VanOverbeke, G.G. Hilton, D.C. Beitz, and J.M. Reecy. 2012. Genetic parameters for carnitine, creatine, creatinine, carnosine, and anserine concentration in longissimus muscle and their association with palatability traits in Angus cattle. *J. Anim. Sci.* 90:4248-4255.
- Buchanan, J.W., A.J. Garmyn, G.G. Hilton, D.L. VanOverbeke, Q. Duan, D.C. Beitz, and R.G. Mateescu. 2013. Comparison of gene expression and fatty acid profiles in concentrate and forage finished beef. *J. Anim. Sci.* 91:1-9.
- Nafikov, R.A., J.P. Schoonmaker, K.T. Korn, K. Noack, D.J. Garrick, K.J. Koehler, J. Minick-Bormann, J.M. Reecy, D.E. Spurlock, and D.C. Beitz. 2013. Sterol regulatory element binding transcription factor 1 (SREBF1) polymorphism and milk fatty acid composition. *J. Dairy Sci.* 96:1-12.
- Bradner, L., S. Robbe-Austerman, D.C. Beitz, and J.R. Stabel. 2013. Chemical decontamination with N-acetyl-L-cysteine-sodium hydroxide improves recovery of viable *Mycobacterium avium* subsp. *paratuberculosis* organisms from cultured milk. *J. Clin. Microbiol.* 51:2139-2146.
- Bradner, L., S. Robbe-Austerman, D.C. Beitz, and J.R. Stabel. 2013. Optimization of hexadecylpyridinium chloride decontamination for culture of *Mycobacterium avium* subsp. *paratuberculosis* from milk. *J. Clin. Microbiol.* 51:1575-1577.
- Mateescu, R.G., A.J. Garmyn, R.G. Tait, Jr., Q. Duan, Q. Liu, M.S. Mayes, D.J. Garrick, A.L. Van Eenennaam, D.L. VanOverbeke, G.G. Hilton, D.C. Beitz, and J.M. Reecy. 2013. Genetic parameters for concentrations of minerals in longissimus muscle and their associations with palatability traits in Angus cattle. *J. Anim. Sci.* 91:1067-1075.
- Mateescu, R.G., D.J. Garrick, R.G. Tait, Jr., A.J. Garmyn, Q. Duan, Q. Liu, M.S. Mayes, A.L. Van Eenennaam, D.L. VanOverbeke, G.G. Hilton, D.C. Beitz, and J.M. Reecy. 2013. Genome-wide association study of concentrations of iron and other minerals in longissimus muscle of Angus cattle. *J. Anim. Sci.* 91:3593-3600.
- Nafikov, R.A., J.P. Schoonmaker, K.T. Korn, K. Noack, D.J. Garrick, K.J. Koehler, J. Minick-Bormann, J.M. Reecy, D.E. Spurlock, and D.C. Beitz. 2013. Association of polymorphisms in solute carrier family 27, isoform A6 (SLC27A6) and fatty acid-binding protein-3 and fatty acid-binding protein-4 (FABP3 and FABP4) with fatty acid composition of bovine milk. *J. Dairy Sci.* 96:6007-6021.

Zebeli, Q., D.C. Beitz, B.J. Bradford, S.M. Dunn, and B.N. Ametaj. 2013. Peripartur alterations of calcitonin gene-related peptide and minerals in dairy cows affected with milk fever. *Vet. Clin. Path.* 42:70-77.

Saatchi, M., D.J. Garrick, R.G. Tait, Jr., S. Mayes, M. Drewnoski, J. Schoonmaker, C. Diaz, D.C. Beitz and J.M. Reecy. 2013. Genome-wide association and prediction of direct genomic breeding values for composition of fatty acids in Angus beef cattle. *BMC Genomics* 14:730-745.
www.biomedcentral.com/1471-2164/14/730.

Krueger, L.A., D.C. Beitz, K. Onda, M. Osman, M.R. O'Neil, S. Lei, F.H. Wattoo, R.L. Stuart, H.D. Tyler, and B. Nonnecke. 2014. Effects of D- α -tocopherol and dietary energy on growth and health of preruminant dairy calves. *J. Dairy Sci.* 97:3715-3727.

Schoonmaker, J.P., M.E. Persia, and D.C. Beitz. 2014. Effect of feeding corn modified to contain a unique amylase on performance and carcass characteristics of feedlot steers. *Prof. Anim. Scientist* 30:561-565.

Duan, Q., R.G. Tait, Jr., M.J. Schneider, D.C. Beitz, T.L. Wheeler, S.D. Shackelford, L.V. Cundiff, and J.M. Reecy. 2015. Sire breed effect on beef longissimus mineral concentrations and their relationships with carcass and palatability traits. *Meat Sci.* 106:25-30.

Allen, P.S., A.W. Brown, M.M.B. Brown, W.H. Hsu, and D.C. Beitz. 2015. Taurine and vitamin E supplementation has minimal effects on body composition, hepatic lipids, and blood hormones and metabolite concentrations in healthy Sprague Dawley rats. *Nutr. Dietary Supplements*, 7:77-85.

Manimanna Sankarlal, V., E.D. Testroet, D.C. Beitz, and S. Clark. 2015. Dried distillers grains with solubles do not always cause late blowing in baby Swiss cheese. *J. Dairy Sci.* 98:8545-8553.

Manimanna Sankarlal, V., E.D. Testroet, D.C. Beitz, and S. Clark. 2015. Short Communication: No antimicrobial effects from one source of commercial dried distillers grains with solubles. *J. Dairy Sci.* 98:8554-8559.

Krueger, L.A., T.A. Reinhardt, D.C. Beitz, R.L. Stuart, and J.R. Stabel. 2016. Effects of fractionated colostrum replacer and vitamins A, D, and E on haptoglobin and clinical health in neonatal Holstein calves challenged with *Mycobacterium avium* ssp. *paratuberculosis*. *J. Dairy Sci.* 99:2884-2895

Buchanan, J.W., J.M. Reecy, D.J. Garrick, Q. Duan, D.C. Beitz, J.E. Koltjes, M. Saatchi, L. Koesterke, and R.G. Mateescu. 2016. Deriving gene networks from SNP associated with triacylglycerol and phospholipid fatty acid fractions from ribeyes of Angus cattle. *Front. Genet.* 7:116-127. doi:10.3389/fgene.2016.00116.

Krueger, L.A., D.C. Beitz, S.B. Humphrey, and J.R. Stabel. 2016. Gamma delta T cells are early responders to *Mycobacterium avium* ssp. *paratuberculosis* in colostrum-replete Holstein Calves. *J.*

Dairy Sci. 99:9040-9050.

Nelson, C.D., J.D. Lippolis, T.A. Reinhardt, R.E. Sacco, J.L. Powell, M.E. Drewnoski, M. O'Neil, D.C. Beitz, and W.P. Weiss. 2016. Vitamin D status of dairy cattle: Outcomes of current practices in the dairy industry. *J. Dairy Sci.* 99:10150-10160.

Testroet, E.C., S. Clark, and D.C. Beitz. 2017. Lactational performance of Holstein dairy cows fed 3 concentrations of full-fat corn-dried distillers grains with solubles. *Prof. Anim. Scientist* 33:567-574.

Testroet, E.D., C.L. Yoder, A. Testroet, C. Reynolds, M.R. O'Neil, S.M. Lei, D.C. Beitz, and T.J. Baas. 2017. Iodine values of adipose tissue varied among breeds of pigs and were correlated with pork quality. *Adipocyte* 6:284-292.

Testroet, E.D., P. Sherman, C. Yoder, A. Testroet, C. Reynolds, M. O'Neil, S.M. Lei, D.C. Beitz, and T.J. Baas. 2017. A novel and robust method for testing bimodality and characterizing porcine adipocytes of adipose tissue of 5 purebred lines of pig. *Adipocyte* 6:102-111.

Ciaxeta, L.S., S.L. Giesy, C.S. Krumm, J.W. Perfield, A. Butterfield, K.M. Schoenberg, D.C. Beitz, and Y.R. Boisclair. 2017. Effect of circulating glucagon and free fatty acids on hepatic FG21 production in dairy cows. *Am. J. Physiol-Reg. Integ. Comp. Physiol.* 313:R526-R534.

Testroet, E.D., C. Yoder, A. Testroet, C. Reynolds, M.R. O'Neil, S. Lei, D.C. Beitz, and T.J. Baas. 2017. Relationship of fat quality and meat quality traits of fresh pork. *Adipocyte* 6:1-9.

Testroet, E.D., D.C. Beitz, M.R. O'Neil, A.L. Mueller, H.A. Ramirez-Ramirez, and S. Clark. 2018. Feeding reduced-fat dried distillers. Grains with solubles to lactating Holstein dairy cows does not negatively influence cow performance or cause late-blowing in cheese. *J. Dairy Sci.* 101:1-3.

Penner, A.D., M.L. Kaplan, L.L. Christian, K.J. Stalder, and D.C. Beitz. 2018. Use of different types and amounts of dietary fats to redesign prok. *J. Anim. Sci. Livestock Prod.* 2: No. 1:3. Doi:10.21767/2577-0594.100013.

Reynolds, C.J., N.J. Koszewski, R.L. Horst, D.C. Beitz, and J.P. Goff. 2019. Localization of the 1,25-dihydroxyvitamin D-mediated response in the intestines of mice. *J. Steroid Biochem. Mol. Biol.* 186:56-60.

Stabel, J., L. Krueger, C. Jenvey, T. Wherry, J. Hostetter, and D. Beitz. 2019. Influence of colostrum and vitamins A, D₃, and E on early intestinal colonization of neonatal Holstein calves infected with *Mycobacterium avium* subsp. *paratuberculosis*. *Vet. Sci.* 6:93-111.

Reynolds, C.J., N. J. Koszewski, R.L. Horst, D.C. Beitz, and J.P. Goff. 2020. Oral 25-hydroxycholecalciferol acts as an agonist in the duodenum of mice and as modeled in cultured human HT-29 and Caco2 cells. *J. Nutr.* 150:427-433.

Brown, A.W., K.A. Kaiser, A. Keitt, K. Fontain, M. Gibson, B.A. Gower, J.M. Shikany, C.J. Vorland, D.C. Beitz, D.M. Bier, J.T. Brenna, D.R. Jacobs Jr., P. Kris-Etherton, K. Maki, M. Miller, M-P. St-Onge, M. Teran-Garcia, and D.B. Allison. 2020. Science dialogue mapping of knowledge and knowledge gaps related to the effects of dairy intake on human cardiovascular health and disease. *Crit. Rev. Food Sci. Nutr.* 61:179-195. DOI: 10.1080/10408398.2020.1722941.

Reynolds, C.J., N.J. Koszewski, R.L. Horst, D.C. Beitz, and J.P. Goff. 2020. Role of glucuronidated 25-hydroxyvitamin D on colon gene expression in mice. *Am. J. Physiol. Gastrointest. Liver Physiol.* 319:G253-G260.

B. Non-refereed journal articles, newsletters, and conference proceedings

- 1972 “Diet, cholesterol, and heart disease” (N. L. Jacobson as co-author), Proceedings of National Feed Ingredients Association Conference, Geneva, WI.
- 1976 “Etiology and prevention of ketosis and milk fever in dairy cows.” Proceedings of Minnesota Nutrition Conference, Bloomington, MN.
- 1983 “What makes cattle and people get fat?” *Beef* magazine.
- 1984 “Guidelines for describing diets for experimental animals.” *J. Nutr.* 114:15-16. (Beitz, D.C., J.D. Garlich, E.C. Naber, R.A. Britton, J.C.H. Shih, L.S. Jensen, R.E. Austic, R.L. Prior, and W.G. Bergen).
- 1985 “Can mitochondria serve as an additional selection criterion for dairy cattle?” (A.E. Freeman and G. L. Lindberg are co-authors.)
- 1985 “Research Briefings. Report of the Research Briefing Panel on Biotechnology in Agriculture.” National Academy of Sciences, Washington, D. C.
- 1985 “Basic metabolism -- How end products are utilized and specie differences.” Nutrition Institute of National Feed Ingredients Association proceedings titled “Energy and Fats”.
- 1988 “Does type of dietary protein influence cholesterolemia?” Proceedings of symposium sponsored by Korea Soybean Society in Seoul, Korea.
- 1988 “Protein not linked to atherosclerosis.” *J. Amer. Oil. Chem. Soc.* 65:1052-1053.
- 1989 “Cholesterol homeostasis and its regulation by dietary protein.” *Journal of Korea Soybean Society.*
- 1989 “A novel way to produce low cholesterol foods.” Proc. of 1989 Iowa Poultry Symposium.
- 1989 “A description of beta-agonists and PST.” Proceedings of conference on New Swine Growth Enhancers, Ames, IA.

- 1989 “Fatty acids in ruminants.” Proc. of animal nutrition conferences in Florence, Italy and Paris, France.
- 1990 “Les acides gras chez les ruminants.” In *Aliscope* (Animal Nutrition magazine in France). 1990. Page 7-11.
- 1990 “Changing animals and animal products to meet dietary guidelines.” Presented at ISU Current Issues in Nutrition Symposium, Ames, IA.
- 1991 “Current developments in transgenic research in domestic farm animals.” Proc. of Symposium in Recent Development of Agricultural Biotechnology in the World. Tokyo, Japan.
- 1991 “Use of biotechnology in the food industry.” Proc. of ISU Extension program on Agriculture in a Global Economy.
- 1992 “Cytoplasmic inheritance - Molecular differences and phenotypic expression”, Proceedings of Cloning Mammals by Nuclear Transplantation, Fort Collins, CO.
- 1992 “Do fats in food matter to you?”, McGraw-Hill Yearbook of Science and Technology, McGraw-Hill, New York, NY.
- 1993 Registration of *Eubacterium coprostanoligenes* as ATCC 51222.
- 1997 Beitz, D.C. “Potential use of cholesterol-reducing bacteria in meat processing”, Novel Food Technologies and Ingredients. ed. S. A. Minden, pp. 255-276. IBC Library Series, Southborough, MA.
- 1997 Beitz, D. C. and C. P. Nizzi. “Lipogenesis and lipolysis in bovine adipose tissue.” in Rumen Microbes and Digestive Physiology in Ruminants, eds. R. Onodera, H. Itabashi, K. Ushida, H. Yano, and Y. Sasaki, pp. 133-143. Japan Scientific Societies Press. Tokyo.
- 1998 Beitz, D.C., T.J. Knight, and G. Bobe. “The role of milk in human health: What is fact and what is opinion?” Proc. Nat’l. Dairy Genetics Workshop, pp. 25-41, Orlando, FL.
- 1998 Beitz, D.C., J.C. Sparks, B.R. Wiegand, F.C. Parrish, R.C. Ewan, R.L. Horst, and A.H. Trenkle. “Effect of vitamin D on pork quality.” Proc. Pork Quality and Safety Summit. Nat’l. Pork Producers Council, Des Moines, IA, pp. 137-140.
- 1999 Beitz, D.C. Use of antibiotics in animal agriculture. Conf. Proc. of Antibiotic Use in Animals: Food Safety and Risk Assessment. p. 40. Georgetown Univ., Washington, D.C.
- 2001 Beitz, D.C. New NRC study. Proc. Petfood Forum 2001, Chicago, IL, pp. 44-49.

- 2001 Amin, V., G. Bobe, J. Young, B. Ametaj, and D. Beitz. Ultrasound image texture processing for evaluating fatty liver in peripartal dairy cows. Proc. SPIE Int. Symp. Med. Imaging, 7 pp.
- 2002 Beitz, D.C. Nutrient requirements of dogs and cats. Proc. Petfood Forum, pp. 104-109.
- 2003 Beitz, D.C. Nutrient requirements of dogs and cats: A project nearing completion. Proc. Petfood Forum, pp. 20-28.
- 2003 Beitz, D.C. Use of glucagon to prevent and treat fatty liver in transition dairy cows. Four-State Applied Nutrition and Management Proc., MWPS-4SD16, pp. 163-167.
- 2005 Beitz, D.C. Contributions of animal products to healthy diets. Proc. Cornell Nutrition Conference for Feed Manufacturers, pp. 117-126.
- 2005 Beitz, D., S. Veysey, M. Porter, E. Hammond, and A.E. Freeman. Finding the soft butter cow. Midwest Dairy Research Center. pp. 6-7.
- 2005 Beattie, S., E. Hammond, and D. Beitz. Decreasing the atherosclerotic index of milk. Midwest Dairy Research Center. pp. 132-136.
- 2005 Mendonca, A., D. Beitz, and T. Boylston. Stability of *Eubacterium coprostanoligenes* for use as a cholesterol-lowering dietary adjunct in dairy products. Midwest Dairy Research Center. pp. 157-158.
- 2006 Beitz, D.C. Dietary modification to improve beef quality. www.meatscience.org/pubs/rmcarchv/2006/index.html
- 2006 Mendonca, A., D. Beitz, and T. Boylston. Potential probiotic characteristics of *Eubacterium coprostanoligenes*, a cholesterol-reducing microorganism. Midwest Dairy Research Center. pp. 24-26.
- 2006 Beitz, D., D.S. Veysey, M. Porter, E. Hammond, and A.E. Freeman. Finding the soft butter cow. Midwest Dairy Research Center. pp. 70-72.
- 2006 Beitz, D., S. Veysey, and W. Thomas. Finding the soft butter cow: Using FTIR spectroscopy to determine milk fatty acid composition. Midwest Dairy Research Center. pp. 50-55.
- 2007 Beitz, D. and K. Carnagey. Animal products help make diets healthy. Hoard's Dairyman October 25, 2007. p. 695.
- 2008 Mendonca, A., D. Dutilly, L. Goodridge, T. Boylston, and D. Beitz. Potential probiotic characteristics of *Eubacterium coprostanoligenes*, a cholesterol-reducing microorganism. Midwest Dairy Foods Research Center. pp. 191-194.
- 2008 Beitz, D., R. Nafikov, J. Schoonmaker, J. Reecy, D. Moody-Spurlock, K. Koehler, and J.

- Minick-Borman. Enhancing the healthfulness of milk fat. Midwest Dairy Research Center. pp. 79-85.
- 2010 Beitz, D., R. Nafikov, J. Schoonmaker, J. Reecy, D. Moody-Spurlock, K. Koehler, and J. Minick-Borman. Enhancing the healthfulness of milk fat. Midwest Dairy Research Center Animal Report, p. 168-176.
- 2010 Baumgard, L., N. Gabler, and D. Beitz. Effects of small whey proteins on intestinal integrity. Midwest Dairy Foods Research Center Annual Report, p. 22-24.
- 2011 Baumgard, L., N. Gabler, and D. Beitz. Effects of small whey proteins on intestinal integrity. Midwest Dairy Foods Research Center Annual Report, p. 74-76.
- 2011 Clark, S., R. McDonald, D. Beitz, A. Mendonca, and T. Wong. Survival of commercial probiotic strains in phospholipid-enriched yogurt. Midwest Dairy Foods Research Center Annual Report, p. 61-63.
- 2011 Clark, S., D. Beitz, and T. Boylston. Prevention of oxidative off-flavors to maximize quality and shelf life of fluid milk. Midwest Dairy Foods Research Center Annual Report, p. 55-57.
- 2012 Baumgard, L., N. Gabler, and D. Beitz. Effects of small whey proteins on intestinal motility. Midwest Dairy Foods Research Center Annual Report, p. 64-66.
- 2012 Clark, S., D. Beitz, and T. Boylston. Prevention of oxidative off-flavors to maximize quality and shelf life of fluid milk. Midwest Dairy Foods Research Center Annual Report, p. 93-97.
- 2012 Clark, S., R. McDonald, D. Beitz, A. Mendonca, and T. Wang. Survival of commercial probiotic strains in phospholipid-enriched yogurt. Midwest Dairy Foods Research Center Annual Report, p. 105-110.
- 2013 Clark, S., D. Beitz, and T. Boylston. Prevention of oxidative off-flavors to maximize quality and shelf life of fluid milk. Midwest Dairy Foods Research Center Annual Report.
- 2014 Clark, S., D. Beitz, T. Boylston, E. Testroet, and V.M. Sankarlal. Milk composition and cheese quality: Investigating the impact of distillers dried grains with solubles. Midwest Dairy Foods Research Center Annual Report.
- 2014 Cromwell, G.L., T.J. Applegate, D.C. Beitz, J.L. Galyean, M.B. Hall, M.D. Hanigan, J. Odle, W.P. Weiss, C. Kirk Baer. The National Animal Nutrition Program. 2014 Update. Comparative Animal Nutrition Conference, August 1-5, Flat Rock, NC
- 2015 Beitz, D.C., S. Clark, and J. Ross. MicroRNAs: A novel nutraceutical in milk. Midwest Dairy Foods Research Center Annual Report.

C. Books and Chapters in Books

- Beitz, D. C. 1972. Regulation of conversion of feed carbon to animal protein. ISU Nutr. Symp. on Proteins. 69 p.
- Allen, C.E., D.C. Beitz, D.A. Cramer, and R.G. Kauffman. 1976. Biology of fat in meat animals. N.C. Regional Research Publications No. 234. pp. 1-76.
- Beitz, D. C. and R.G. Hansen (editor). 1982. Animal Products in Human Nutrition. Academic Press, New York.
- Beitz, D. C., and R.S. Allen. 1984. Digestion and absorption. In: Dukes' Physiology of Domestic Animals, Tenth Edition. M.J. Swenson, editor. Cornell University Press, Ithaca, New York, pp. 367-374.
- Beitz, D. C., and R.S. Allen. 1984. Protein and amino acid metabolism. In: Dukes' Physiology of Domestic Animals, Tenth Edition. M.J. Swenson, editor. Cornell University Press, Ithaca, New York, pp. 398-411.
- Beitz, D. C. and R. S. Allen. 1984. Lipid metabolism. In: Dukes' Physiology of Domestic Animals, Tenth Edition. M. J. Swenson, editor. Cornell University Press, Ithaca, New York, pp. 386-397.
- Beitz, D.C. and R.S. Allen. 1984. Carbohydrate metabolism. In: Dukes' Physiology of Domestic Animals, Tenth Edition. M.J. Swenson, editor. Cornell University Press, Ithaca, New York, pp. 375-385.
- Beitz, D. C., G. Baldner-Shank, and N.L. Jacobson. 1986. Cholesterol homeostasis: Role of diet composition. U. Tenn. Ext. Pub. 1-45.
- Dehal, S. S., T. A. Freier, J. W. Young, P. A. Hartman, and D. C. Beitz. 1991. A novel method to decrease the cholesterol content of foods. Fat and Cholesterol Reduced Foods: Technology and Strategies. Eds. C. Haberstroh and C. E. Morris. Advances in Applied Biotechnology Series. 12:203-220. Portfolio Publishing Company, The Woodlands, Texas.
- Beitz, D. C. 1991. Use of biotechnology in the food industry in Agrarian Reforms in the USSR and the problems of transition to the Free Market. The V. I. Lenin All-Union Academy for Agriculture and Science (VASKhNIL), Moscow, USSR.
- Beitz, D. C., L. A. Cohen, K. L. Erickson, R. G. Hansen, D. H. Hettinga, B. V. Howard, J. M. Iacono, R. Jandacek, J. T. Keeton, D. Kritchevsky, R. A. Merkel, E. T. Moran, D. R. Romsos, R. F. Wilson, J. W. Young, and R. G. Zimbelman. 1991. Food Fats and Health. 96 pp. Task Force Report No. 118, CAST, Ames, IA.
- Luhman, C.M. and D.C. Beitz. 1992. Dietary protein and blood cholesterol homeostasis *in* Dietary Proteins: How They Alleviate Disease and Promote Health. Ed. by G.U. Liepa pp. 57-83. American Oil Chemists' Society, Champaign, IL.

- Beitz, D. C. 1993. Carbohydrate metabolism In: Dukes' Physiology of Domestic Animals, Eleventh Edition. M. J. Swenson, Editor. Cornell University Press, New York.
- Beitz, D. C. 1993. Lipid metabolism. In: Dukes' Physiology of Domestic Animals, Eleventh Edition. M. J. Swenson, Editor. Cornell University Press, New York.
- Beitz, D. C. 1993. Protein and amino acid metabolism. In: Dukes' Physiology of Domestic Animals, Eleventh Edition. M. J. Swenson, Editor. Cornell University Press, New York.
- Beitz, D.C. 1997. Open-Book Section on Final Exam. In: The Hidden Curriculum: Faculty-Made Tests in Science. S. Tobias and J. Raphael, Editors. Plenum Press, New York.
- Beitz, D. C., L. A. Berner, G. F. Combs, R. G. Hansen, R. T. Lovell, R. L. Willham, and C. J. Windham. 1997. Contributions of animal products to healthful diets. 56 pp. Task Force Report No. 131, CAST, Ames, IA.
- Sell, J. L., D. C. Beitz, G. C. Fahey, D. Gatlin III, R. L. Horst, and K. M. Wittenberg. 1997. The role of chromium in animal nutrition. 80 pp. National Academy Press, Washington, DC.
- Beitz, D.C. 2001. Use of biotechnology to improve food production and quality. In: Nutritional Health Strategies for Disease Prevention. Edited by T. Wilson and J.J. Temple. Humana Press, Totowa, NJ.
- Beitz, D.C. 2002. Revising the nutrient requirements of dogs and cats: a work in progress. In: Nutritional Biotechnology in the Feed and Food Industries. Proc. Alltech's 18th Annual Symposium, pp. 455-459. Edited by T.P. Lyons and K.A. Jacques. Nottingham University Press, Nottingham, UK.
- Beitz, D.C. 2004. Carbohydrate metabolism. In: Duke's Physiology of Domestic Animals, Twelfth Edition. W. O. Reece, editor. Cornell University Press, Ithaca, New York, pp. 501-515.
- Beitz, D.C. 2004. Lipid metabolism. In: Duke's Physiology of Domestic Animals, Twelfth Edition. W. O. Reece, editor. Cornell University Press, Ithaca, New York, pp. 516-534.
- Beitz, D.C. 2004. Protein and amino acid metabolism. In: Duke's Physiology of Domestic Animals, Twelfth Edition. W. O. Reece, editor. Cornell University Press, Ithaca, New York, pp. 535-552.
- Carnagey, K.M. and D.C. Beitz. 2004. Animal source food: Nutritional value. Ency. Anim. Sci. pp. 30-32. M. Dekker, Inc., N.Y., N.Y.
- Knight, T.J. and D.C. Beitz. 2004. Contributions to society: Improved animal source foods. Ency. Anim. Sci. pp. 251-253. M. Dekker, Inc., N.Y., N.Y.
- NRC. Nutrient Requirements of Dogs and Cats. 2006. The National Academies Press, Washington,

D.C.

Knight, T.J. and D.C. Beitz. 2006. Use of biotechnology to improve food production and quality. In: *Nutritional Health—Strategies for Disease Prevention*, 2nd ed., pp. 373-386, Humana Press, Totowa, NJ.

Schoonmaker, J.P. and D.C. Beitz. 2012. Hydrogen sulphide: Synthesis, physiological roles, and pathology associated with feeding cattle maize co-products of the ethanol industry. In: *Biofuel Co-products as Livestock Feed: Opportunities and Challenges*. Ed. H.P.S. Makkar, FAO, Rome. Chapter 6. pp. 101-113.

Nafikov, R.A., H. Soyeurt, and D.C. Beitz. 2015. Genetics of fatty acid composition in bovine milk and beef. In: *The Genetics of Cattle*. 2nd edition. Editors D.J. Garrick and A. Ruvinsky. CAB International, Boston, MA.

Beitz, D.C., W.J. Banz, T. Brenna, and P.C. Calder. 2018. Omega-3 Fatty Acids: Health Benefits and Dietary Recommendations. Special Publication 32. Council for Agricultural Science and Technology (CAST), Ames, IA.

D. Published book reviews

None.

E. Published Abstracts

Beitz, D. C., W. A. Wood, and J. W. Thomas. 1967. Characteristics of cell-free protein synthesizing system from the lactating dairy cow. *J. Dairy Sci.* 50:999.

Whanger, P. D., D. C. Beitz, W. A. Wood, and J. W. Thomas. 1967. A role for 3-keto-3-deoxy-6-phosphogluconate aldolase in rumen microbes. *J. Animal Sci.* 26:932.

Beitz, D. C., J. W. Young, R. L. Bredahl, and N. L. Jacobson. 1969. Biochemical comparisons in hypermuscled cattle. *J. Animal Sci.* 29:184.

Beitz, D. C., and A. Zimmerli. 1969. In vitro fatty acid specificity for triglyceride synthesis by mucosa of the digestive tract. *J. Dairy Sci.* 52:914.

Al-Shathir, N. M. and D. C. Beitz. 1970. In vitro fatty acid synthesis in bovine adipose tissue and liver. *Proc. W. C. State Bioch. Conf.*

Schroeder, L. A., D. C. Beitz, and N. L. Jacobson. 1970. Diet, blood composition, and milk fever. *J. Animal Sci.* 31:253.

Peters, J. W., D. C. Beitz, and J. W. Young. 1970. Glycolic acid metabolism in lactating goats. *J. Dairy Sci.* 53:648.

- Thornton, J. H., J. W. Young, D. C. Beitz, and A. D. McGilliard. 1971. Activity of bovine adipose lipogenic enzymes. *J. Animal Sci.* 33:1171.
- Schroeder, L. A., E. T. Littledike, D. C. Beitz, and D. J. Burkhardt. 1971. Parturient paresis, parathyroid hormone, magnesium, and phosphorus. *J. Dairy Sci.* 54:791.
- Beitz, D. C. and N. M. Al-Shathir. 1971. In vitro fatty acid synthesis in bovine adipose tissue and liver. *Fed. Proc.* 30:520.
- Thornton, J. H., D. C. Beitz, and A. D. McGilliard. 1972. Lipolysis in bovine adipose tissue. *J. Animal Sci.* 35:208.
- Burkhardt, D. J., D. C. Beitz, and N. L. Jacobson. Effects of dietary calcium:phosphorus on parturient paresis and blood composition. *J. Dairy Sci.* 55:707.
- Beitz, D. C. and P. Sandry. 1972. Fatty acid specificity for triglyceride synthesis in the intestinal mucosa of cattle. *Fed. Proc.* 31:702.
- Pothoven, M. A. and D. C. Beitz. 1972. Effect of weight and fasting on lipogenesis in cattle. *Fed. Proc.* 31:674.
- Thompson, J. R. and D. C. Beitz. 1972. Protein and RNA composition of microsomal components in rat mammary glands. *Fed. Proc.* 31:687.
- Goings, R. L., N. L. Jacobson, D. C. Beitz, and E. T. Littledike. 1973. Preventions of parturient paresis by a calcium deficient diet prepartum. *J. Dairy Sci.* 56:672.
- Wheeler, A. J., D. C. Beitz, C. S. Swift, and A. D. McGilliard. 1974. Animal acupuncture: mapping and electro-analgesia. *Fed. Proc.* 33:300.
- Pothoven, M. A. and D. C. Beitz. 1974. Lipogenesis in adipose tissue from fasted and refed steers. *J. Dairy Sci.* 57:606.
- Thompson, J. R., N. L. Jacobson, and D. C. Beitz. 1975. Cholesterol biosynthesis in liver and intestine of goat. *Fed. Proc.* 34:892.
- Liepa, G. U., D. C. Beitz, and A. D. McGilliard. 1975. Synthesis of cholesterol and fatty acids by the non-ruminating goat. *Fed. Proc.* 34:892.
- Evans, N. M., D. C. Beitz, J. W. Young, D. G. Topel, and L. L. Christian. 1975. Lactate metabolism in livers of stress-susceptible and stress-resistant pigs. *Fed. Proc.* 34:920.
- Liepa, G. U., D. C. Beitz, and A. D. McGilliard. 1976. Synthesis of cholesterol and fatty acids by nonruminating and ruminating goats. *Fed. Proc.* 35:747.

- Whitehurst, G.B., D. C. Beitz, W. R. Ellison, M. A. Pothoven, M. H. Crump, and L. P. Nuehring. 1976. Incorporation of lactate into fatty acids by bovine adipose tissue. *Fed. Proc.* 35:580.
- Lintner, T. J., D. C. Beitz, and N. L. Jacobson. 1977. Changes in blood composition in dairy cattle caused by adaptation to a prepartum, low-calcium diet. *J. Dairy Sci.* 60:122, Suppl. 1.
- Neppel, P. S., D. C. Beitz, and D. G. Topel. 1977. Blood lactate kinetics in normal and stress-susceptible pigs. *Fed. Proc.* 36:1173.
- Littledike, E. T., R. L. Horst, H. B. Green, and D. C. Beitz. 1978. Vitamin D metabolite changes in the plasma of dairy cows fed a prepartum low-calcium diet. *J. Dairy Sci.* 61:155 (Suppl. 1).
- DiMarco, N. M., D. C. Beitz, and G. B. Whitehurst. 1978. Effect of energy intake and several metabolic effectors on lipolysis in bovine adipose tissue. *Fed. Proc.* 37:411.
- Neppel, P. S., N. M. DiMarco, D. C. Beitz, and D. G. Topel. 1978. Conversion of alanine, aspartate, and lactate to glucose and CO₂ in liver from stress-susceptible and stress-resistant pigs. *Fed. Proc.* 37:267.
- Sommerfeldt, J. L., R. L. Horst, E. T. Littledike, and D. C. Beitz. 1979. In vitro degradation of cholecalciferol in rumen fluid. *Abstr. of the 60th Conference of Research Workers in Animal Disease.*
- Green, H. B., R. L. Horst, E. T. Littledike, and D. C. Beitz. 1979. Effects of prepartum-low calcium diets on concentrations of vitamin D metabolites in plasma of dairy cows. *Abstr. of the 60th Conference of Research Workers in Animal Diseases.*
- Sommerfeldt, J. L., R. L. Horst, E. T. Littledike, and D. C. Beitz. 1979. In vitro degradation of cholecalciferol in rumen fluid. *J. Dairy Sci.* 62:192 (Suppl. 1).
- Green, H. B., R. L. Horst, E. T. Littledike, and D. C. Beitz. 1979. Effect of prepartum-low-calcium diet on concentrations of vitamin D metabolites in plasma of dairy cows. *J. Dairy Sci.* 62:188 (Suppl. 1).
- DiMarco, N. M., G. B. Whitehurst, and D. C. Beitz. 1979. Prostaglandin E₂ as a possible regulator of lipolysis in bovine adipose tissue. *Fed. Proc.* 38:706.
- Crandall, D. L., D. R. Griffith, and D. C. Beitz. 1979. Effect of exercise and dietary polyunsaturated fat upon prevention of L-isoproterenol-induced myocardial infarction. *Fed. Proc.* 38:447.
- Reinhardt, J. A., R. L. Horst, J. L. Napoli, E. T. Littledike, and D. C. Beitz. 1980. Isolation and identification of 1,24,25-(OH)₃D₃ in cow plasma. *Abstr. of the 61st Conference of Research Workers in Animal Diseases.*
- Kichura, T., R. L. Horst, D. C. Beitz, and E. T. Littledike. 1980. Effect of prepartum dietary

calcium and phosphorus on incidence of milk fever and vitamin D metabolism of dairy cows. Abstr. of the 61st Conference of Research Workers in Animal Disease.

Reinhardt, T. A., R. L. Horst, D. C. Beitz, and E. T. Littledike. 1980. An assay for the determination of 1,24,25-(OH)₃D₃ and 1-0HD₃ in cow plasma. *J. Dairy Sci.* 63:88 (Suppl. 1).

Sommerfeldt, J. L., R. L. Horst, J. L. Napoli, D. C. Beitz, and E. T. Littledike. 1980. Evidence for in vitro production of vitamin D₂ and vitamin D₃ metabolites by rumen microbes. *J. Dairy Sci.* 63:88 (Suppl. 1).

Lue, L-F., J. W. Hallberg, D. D. Draper, D. G. Topel, and D. C. Beitz. 1980. Dopaminergic mechanism in the porcine stress syndrome. *Fed. Proc.* 39:592.

Mills, S. E., D. C. Beitz, and J. W. Young. 1981. Sequential determination of hepatic glucose production capacity during developments of ketosis in cows. *J. Dairy Sci.* 64:151 (Suppl. 1).

Reinhardt, T. A., R. L. Horst, E. T. Littledike, and D. C. Beitz. 1981. Biochemical properties of the bovine 1,25-dihydroxyvitamin D₃ bone receptor: Presence of a nonspecific binding component greater than specific binding. Abstr. presented at annual meeting of Amer. Soc. Bone and Mineral Research.

Sommerfeldt, J. L., R. L. Horst, E. T. Littledike, D. C. Beitz, and J. L. Napoli. 1981. Metabolism of orally administered [³H]-vitamin D₂ and [³H]-vitamin D₃ by dairy calves. *J. Dairy Sci.* 64:157 (Suppl. 1).

Reinhardt, T. A., J. L. Napoli, R. L. Horst, E. T. Littledike, and D. C. Beitz. 1981. Isolation and chemical characterization of 1,25,26-trihydroxyvitamin D₃ and 1,24,25-trihydroxyvitamin D₃ from plasma of cows treated with large doses of vitamin D₃. *J. Dairy Sci.* 64:157 (Suppl. 1).

Kichura, T. S., R. L. Horst, D. C. Beitz, and E. T. Littledike. 1981. Relationships between dietary calcium and phosphorus, vitamin D metabolism, and incidence of parturient paresis in dairy cows. *J. Dairy Sci.* 64:119 (Suppl. 1).

Richard, M. J., D. C. Serbus, D. C. Beitz, and N. L. Jacobson. 1981. Cholesterol disposition in rabbits fed skim milk diets containing differing concentrations of soybean oil or beef tallow. *Fed. Proc.* 40:352.

Reinhardt, T. A., J. L. Napoli, R. L. Horst, E. T. Littledike, and D. C. Beitz. 1981. 1,25,26 Trihydroxyvitamin D₃: A new in vivo and in vitro metabolite of vitamin D₃. *Fed. Proc.* 40:898.

Hood, R. L., D. C. Beitz, and D. C. Johnson. 1981. Inhibition of fatty acid synthesis from lactate in bovine adipose tissue. *Fed. Proc.* 40:876.

Baldner, G. L., D. C. Beitz, R. L. Hood, and S. R. Bradley. 1981. Conversion of lactate, acetate, and glucose to CO₂ and fatty acids in liver and adipose tissue of prairie voles. *Fed. Proc.* 40:909.

- Hood, R. L., and D. C. Beitz. 1982. Lactate metabolism in ruminant adipose tissue. *Proc. Nutr. Soc. Aust.* 7:198.
- Lue, L-F., D. C. Beitz, M. F. Rothschild, and D. D. Draper. 1982. Age effects on dopamine and neuronal density in the porcine caudate nucleus. *Soc. Neurosci. Abstr.* 8:963.
- McDermott, C. M., R. L. Horst, E. T. Littledike, and D. C. Beitz. 1982. Concentrations of vitamin D₃ and its metabolites in plasma and milk of dairy cows fed different amounts of vitamin D₃. *J. Dairy Sci.* 65:193 (Suppl. 1).
- Hines, T. G., N. L. Jacobson, D. C. Beitz, and E. T. Littledike. 1982. Effects of dietary calcium and vitamin D₃ on cholesterol, lipid and mineral metabolism in young goats. *J. Dairy Sci.* 65:188 (Suppl. 1).
- Mills, S. E., R. R. Lyle, D. C. Beitz, and J. W. Young. 1982. Hepatic gluconeogenesis and ketogenesis measured in vitro in steers given phlorizin and (or) 1,3-butanediol, and following feed restrictions. *J. Dairy Sci.* 65:119 (Suppl. 1).
- Lyle, R. R., S. E. Mills, R. W. Russell, D. C. Beitz, and J. W. Young. 1982. Effects of phlorizin and 1,3-butanediol on plasma glucose and ketone concentrations and kinetics of glucose metabolism in steers. *J. Dairy Sci.* 65:119 (Suppl. 1).
- McDermott, C. M., R. L. Horst, E. T. Littledike, and D. C. Beitz. 1982. Concentrations of vitamin D₃ and its metabolites in plasma of dairy cows fed different amounts of vitamin D₃. *Fed. Proc.* 41:343.
- Hood, R. L., M. L. Trankina, D. C. Beitz, and J. Best. 1982. Relationships between adipocyte size and insulin-stimulated rates of lipogenesis in the Zucker rat. *Fed. Proc.* 41:458.
- Woollett, L. A., R. L. Hood, D. C. Johnson, G. L. Baldner, and D. C. Beitz. 1982. Activities of lipoprotein lipase and de novo fatty acid synthesis in small and large frame cattle. *Fed. Proc.* 41:343.
- Baldner, G. L., E. D. Torok, D. C. Johnson, and D. C. Beitz. 1982. Use of lactate for fatty acid synthesis in ruminant mammary tissue. *Fed. Proc.* 41:343.
- Trankina, M. L. and D. C. Beitz. 1982. Effects of ronnel on metabolic activity of adipose tissue and skeletal muscle of steers. *Fed. Proc.* 41:343.
- Sommerfeldt, J. L., R. L. Horst, E. T. Littledike, D. C. Beitz, and J. L. Napoli. 1982. Metabolism of orally administered [³H]-vitamin D₂ and [³H]-vitamin D₃ by dairy calves. 5th Int. Workshop on Vitamin D. p. 7.
- Reinhardt, T. A., R. L. Horst, E. T. Littledike, and D. C. Beitz. 1982. 1,25-Dihydroxyvitamin D₃ receptors in bovine thymus gland. 5th Int. Workshop on Vitamin D. p. 53.

- Erlander, M. G., J. A. Parlaman, D. C. Beitz, D. D. Draper, and L. L. Christian. 1983. Catecholamine concentrations in selected brain regions of stress-susceptible and stress-resistant pigs. *Soc. Neurosci. Abst.* 9:1151.
- Horst, R. L., J. L. Sommerfeldt, D. C. Beitz, E. T. Littledike, R. Gardner, and J. L. Napoli. 1983. Identification of a new C-10(19) oxidative pathway for vitamin D₃. *Calcif. Tiss. Int.* 35:695.
- Horst, R. L., J. L. Sommerfeldt, D. C. Beitz, E. T. Littledike, R. Gardner, and J. L. Napoli. 1983. C-10(19) Oxidative metabolism of vitamin D by bovine rumen microbes. *J. Dairy Sci.* 66:224 (Suppl. 1).
- Woollett, L. A., G. L. Baldner, M. J. Richard, R. L. Engen, and D. C. Beitz. 1983. Effects of dietary ethanol on lipid metabolism in miniature pigs. *Fed. Proc.* 42:1309.
- VandeHaar, M. J., R. L. Horst, E. T. Littledike, and D. C. Beitz. 1983. Plasma concentrations of vitamin D₃ metabolites, calcium, and phosphorus in rats fed different concentrations of calcium and phosphorus in the diet. *Fed. Proc.* 42:1180.
- Diersen-Schade, D. A., M. J. Richard, D. C. Beitz, and N. L. Jacobson. 1983. Effects of beef, soy, and conventional diets on tissue cholesterol in young pigs. *Fed. Proc.* 42:673.
- Baldner, G. L., D. C. Beitz, R. L. Hood, A. H. Trenkle, D. C. Rule, and D. C. Johnson. 1983. Hormonal control of fatty acid synthesis and CO₂ production in bovine adipose tissue. *Fed. Proc.* 42:532.
- Aprahamian, S. A., M. L. Trankina, and D. C. Beitz. 1983. Hormone-sensitive lipase activity in adipose tissue of cattle from 6 to 24 months of age. *Fed. Proc.* 42:533.
- Diersen-Schade, D., D. C. Beitz, and N. L. Jacobson. 1983. Effects of beef, soy, and conventional diets on CO₂, fatty acid, and glycerol synthesis in young pigs. *J. Amer. Oil Chem. Soc.* 60:696.
- Hood, R. L., D. J. Best, M. L. Trankina, and D. C. Beitz. 1983. Insulin responsiveness of adipocytes of the Zucker rat. *Proc. Nutr. Soc.* 42:75A.
- Rule, D. C., D. C. Beitz, G. deBoer, R. R. Lyle, and A. H. Trenkle. 1984. Changes in plasma hormone and metabolite concentrations during a prolonged fast in steers. *J. Anim. Sci.* 59:212 (Suppl. 1).
- Rule, D. C., D. C. Beitz, R. N. Arnold, E. J. Hentges, and A. H. Trenkle. 1984. Evaluation of the urea dilution technique for estimating carcass lipid and empty body water of beef steers. Abstract #131 of annual meeting of Midwest Section, Amer. Soc. Anim. Sci.
- Erlander, M. G., E. M. Martin, R. L. Engen, D. D. Draper, and D. C. Beitz. 1984. Effects of chronic dietary ethanol on the concentrations of norepinephrine, dopamine, and dihydroxyphenylacetic acid in selected regions of the porcine brain. *Fed. Proc.* 43:395.

- VandeHaar, M. J., R. L. Horst, E. T. Littledike, and D. C. Beitz. 1984. Effects of dietary calcium and phosphorus on vitamin D metabolism. *Fed. Proc.* 43:984.
- Woollett, L. A., D. A. Diersen-Schade, S. Aprahamian, N. L. Jacobson, and D. C. Beitz. 1984. Effects of dietary fat on activities of lipoprotein lipase and hormone-sensitive lipase in growing pigs. *Fed. Proc.* 43:621.
- Aprahamian, S., M. L. Trankina, and D. C. Beitz. 1984. Effects of two organophosphates, ronnel and Dursban^R, on lipolysis in bovine adipose tissue. *Fed. Proc.* 43:789.
- Parlman, J. A., M. G. Erlander, D. D. Draper, M. F. Rothschild, L. L. Christian, and D. C. Beitz. 1984. Effects of L-dopa/carbidopa supplementation on growth and blood composition of stress-susceptible and stress-resistant pigs. *Fed. Proc.* 43:858.
- Rule, D.C. and D.C. Beitz. 1984. Evidence for fat cell hyperplasia in obese cattle. *Fed. Proc.* 43:789.
- Walsh, L. S., D. C. Beitz, and N. L. Jacobson. 1984. LDL uptake and cholesterol and fat concentrations in tissues of miniature pigs fed fats and proteins of vegetable and animal origin. *Fed. Proc.* 43:796.
- Diersen-Schade, D. A., D. C. Beitz, and N. L. Jacobson. 1984. Synthesis of C₁₈, fatty acids, and glycerol in young pigs fed beef, soy, and conventional diets. *Fed. Proc.* 42:621.
- Walsh, L. S., D. C. Beitz, and N. L. Jacobson. 1984. Plasma cholesterol and lipoproteins and LDL clearance in miniature swine fed fats and proteins of vegetable and animal origin. *J. Amer. Oil Chem. Soc.* 61:700.
- Diersen-Schade, D. A., M. J. Richard, D. C. Beitz, and N. L. Jacobson. 1984. Tissue cholesterol concentrations of young pigs fed high beef, soy, and conventional diets. *J. Amer. Oil Chem. Soc.* 61:700.
- Rule, D. C. and D. C. Beitz. 1985. Effect of dietary soybeans on fatty acid composition of muscle, adipose tissue, and blood plasma of beef steers. *Fed. Proc.* 44:548.
- Baldner, G. L., D. C. Beitz, and N. L. Jacobson. 1985. Effect of animal and vegetable fats and proteins on cholesterol concentration in plasma and tissue of pigs. *Fed. Proc.* 44:1497.
- Woollett, L. A., and D. C. Beitz. 1985. In vivo uptake of free fatty acids from plasma triglycerides by different sizes of adipocytes from lean and obese Zucker rats. *Fed. Proc.* 44:753.
- VandeHaar, M. J., D. C. Beitz, and S. Nissen. 1986. Effect of feeding α -ketoisocaproate to dairy cows on milk production. *J. Dairy Sci.* 69:111 (Suppl. 1).
- Woollett, L. A. and D. C. Beitz. 1986. Effects of type of dietary fat on lipid and glucose metabolism in pigs. *J. Amer. Oil Chem. Soc.* 63:443.

- VandeHaar, M. J., D. C. Beitz, and S. Nissen. 1986. Effect of feeding 2-ketoisocaproate to dairy cows on milk fat composition. *Fed. Proc.* 45:240.
- VandeHaar, M. J., P. J. Flakoll, D. C. Beitz, and S. Nissen. 1987. A new method to protect compounds from ruminal degradation using the corn protein zein. *J. Anim. Sci.* 65:501 (Suppl. 1).
- Lindberg, G. L., B. B. Shank, M. F. Rothschild, A. E. Freeman, C. M. Koehler, and D. C. Beitz. 1987. Mammary mitochondrial functions in lines of mice genetically divergent for milk production. *J. Dairy Sci.* 70:127 (Suppl. 1).
- Johnson, J. A., D. C. Beitz, and N. L. Jacobson. 1987. Effect of animal and vegetable proteins on plasma cholesterol homeostasis. *Fed. Proc.* 46:1473.
- Baldner-Shank, G. L., D. C. Beitz, and N. L. Jacobson. 1987. In vivo kinetics of cholesterol in plasma lipoproteins of pigs fed animal and vegetable fats and proteins. *Fed. Proc.* 46:1333.
- VandeHaar, M. J., P. J. Flakoll, D. C. Beitz, and S. L. Nissen. 1987. Effect of leucine metabolites on energy metabolism in growing lambs. *Fed. Proc.* 46:1178.
- Tipton, C. L., P. C. Leung, J. S. Johnson, R. J. Brooks, and D. C. Beitz. 1987. Cholesterol hydroperoxides inhibit calmodulin and suppress atherogenesis. *Fed. Proc.* 46:416.
- Woollett, L. A., M. K. Dows, D. C. Beitz, and S. L. Nissen. 1987. Effects of dietary beef tallow or soy oil on glucose homeostasis in normal and diabetic pigs. *Fed. Proc.* 46:327.
- Escribano, F., D. C. Beitz, and J. L. Sell. 1988. Glycerol tri [9,10(n)-³H] oleate assay of turkey pancreatic lipase. *Poult. Sci.* 67:85 (Suppl. 1).
- Koehler, C. M., G. L. Lindberg, J. E. Mayfield, A. M. Myers, A. E. Freeman, and D. C. Beitz. 1988. Evaluation of a rapid method for isolation of mitochondrial DNA. *FASEB J.* 2:A1126.
- Hustmeyer, F. G., B. J. Nonnecke, D. C. Beitz, R. L. Horst, and T. A. Reinhardt. 1988. 1,25-Dihydroxyvitamin D₃ enhances ConA-induced bovine lymphocyte proliferation: Effect of monocytes and cell density. *FASEB J.* 2:A901.
- Dehal, S. S., D. C. Beitz, and J. W. Young. 1988. Discovery of cholesterol reductase activity in plant leaves. *FASEB J.* 2:A582.
- Brown, D. R. and D. C. Beitz. 1988. Effects of testosterone on mitochondria of growing goats. *FASEB J.* 2:A322.
- Drackley, J. K., M. J. Richard, D. C. Beitz, and J. W. Young. 1989. Lipid metabolism during an induced subclinical ketosis in dairy cows. *J. Dairy Sci.* 72:543 (Suppl. 1).

- Lindberg, G. L., C. M. Koehler, S. D. Johnston, D. R. Brown, A. M. Myers, A. E. Freeman, and D. C. Beitz. 1989. High frequency of sequence variation in the displacement-loop region of bovine mitochondrial DNA. *J. Dairy Sci.* 72:53 (Suppl. 1).
- Koehler, C. M., G. L. Lindberg, J. E. Mayfield, A. E. Freeman, and D. C. Beitz. 1989. Sequence heterogeneity in bovine mitochondrial DNA shown by restriction fragment length polymorphism analysis. *J. Dairy Sci.* 72:53 (Suppl. 1).
- Dehal, S. S., J. A. Johnson, J. W. Young, and D. C. Beitz. 1989. Alfalfa (*Medicago sativa*): A source of cholesterol reductase. Abstract No. 72. Division of Biological Abstracts. 197th Natl. Amer. Chem. Soc. Meeting. Dallas, TX.
- Drackley, J. K., J. W. Young, M. J. Richard, and D. C. Beitz. 1989. Palmitate metabolism by liver from lactating cows. *FASEB J.* 3:A1256.
- Beckman, M. J., R. L. Horst, D. C. Beitz, and T. A. Reinhardt. 1989. Evidence for up-regulation of the 1,25-dihydroxyvitamin D receptor (VDR) during hypervitaminosis D: a comparison between vitamin D₃ and vitamin D₂. *FASEB J.* 3:A1245.
- Faidley, T. D., C. M. Luhman, S. T. Galloway, M. K. Foley, and D. C. Beitz. 1989. Dietary fat effects on lipids and lipoproteins in pig plasma. *FASEB J.* 3:A958.
- Foley, M. K., S. T. Galloway, C. M. Luhman, T. D. Faidley, and D. C. Beitz. 1989. Influence of dietary calcium (Ca) and vitamin D₃ (Vit D) on plasma lipids in growing swine. *FASEB J.* 3:A958.
- Galloway, S. T., M. K. Foley, C. M. Luhman, T. D. Faidley, and D. C. Beitz. 1989. Effect of dietary calcium (Ca) and vitamin D₃ (Vit D) on bile in pigs. *FASEB J.* 3:A957.
- Luhman, C. M., T. D. Faidley, S. T. Galloway, M. K. Foley, and D. C. Beitz. 1989. Influence of dietary fat on biliary cholesterol and bile acid secretion in swine. *FASEB J.* 3:A957.
- Knight, T. J., T. D. Faidley, and D. C. Beitz. 1989. In vivo metabolism of LDL-cholesterol and LDL-cholesteryl esters in swine. *FASEB J.* 3:A957.
- Atkins, K. B., T. A. Reinhardt, R. L. Horst, and D. C. Beitz. 1989. Effect of 1,10 phenanthroline on DNA binding by 1,25-(OH)₂D receptor. *FASEB J.* 3:A774.
- Koszewski, N. J., T. A. Reinhardt, D. C. Beitz, and R. L. Horst. 1989. Effects of age on the kidney 1,25-dihydroxyvitamin D receptor (VDR) in male rats. *FASEB J.* 3:A773.
- Atkins, K. B., D. C. Beitz, R. L. Horst, and T. A. Reinhardt. 1990. Evidence for the presence of a retinoic acid receptor in rat osteosarcoma cells. *FASEB J.* 4:A659.
- Luhman, C. M., T. D. Faidley, and D. C. Beitz. 1990. Postprandial lipoprotein composition in pigs fed diets varying in type and amount of dietary fat. *FASEB J.* 4:A651.

- Faidley, T. D., S. T. Galloway, C. M. Luhman, M. K. Foley, and D. C. Beitz. 1990. A method for repeated sampling and reinfusion of bile in conscious pigs. *FASEB J.* 4:A759.
- Dehal, S. S., J. W. Young, and D. C. Beitz. 1990. Demonstration of cholesterol reductase in pea (*Pisum sativum*) leaves. *FASEB J.* 4:A534.
- Chen, X., S. T. Galloway, H. Chou, and D. C. Beitz. 1990. Uptake of plasma cholesterol by tissues and bile acid excretion: Effects of dietary calcium and vitamin D₃. *FASEB J.* 4:A926.
- Johnston, S. D., G. L. Lindberg, C. M. Koehler, A. E. Freeman, J. E. Mayfield, A. M. Myers, and D. C. Beitz. 1990. Nucleotide sequence heterogeneity in the displacement loop region of mitochondrial DNA from different breeds of dairy cattle. *FASEB J.* 4:A1167.
- Whitley, G., D. Beitz, and R. C. Seagrave. 1990. Analysis of compartment modeling of cholesterol transport. *FASEB J.* 4:A652.
- Galloway, S. T., N. L. Jacobson, and D. C. Beitz. 1990. Effect of dietary calcium and vitamin D₃ on immune response and blood parameters of young swine. Abstract #102 of annual meeting of Midwest Section, Amer. Soc. Anim. Sci.
- Beitz, D. C. 1990. Type of dietary protein and cholesterolemia. *Inform* 1:317.
- Dehal, S. S., J. W. Young, and D. C. Beitz. 1990. Conversion of cholesterol in cream to coprostanol by cholesterol reductase. *J. Dairy Sci.* 73:85(Suppl. 1).
- Dehal, S.S., B.A. Osslund, J.W. Young, and D.C. Beitz. 1991. Partial purification and characterization of cholesterol reductase from alfalfa leaves (*Medicago sativa*). *FASEB J.* 5:A423.
- Johnson, J. A., M. J. Beckman, D. C. Beitz, R. L. Horst, and T. A. Reinhardt. 1991. Effects of aging and dietary calcium on 1,25-dihydroxyvitamin D₃ receptors. *FASEB J.* 5:A582.
- Atkins, K. B., D. C. Beitz, R. L. Horst, and T. A. Reinhardt. 1991. Regulation of retinoic acid receptors in rat osteosarcoma 17/2.8 cells. *FASEB J.* 5:A951.
- Beckman, M. J., R. L. Horst, J. P. Goff, T. A. Reinhardt, and D. C. Beitz. 1991. Regulation of the 1,25-dihydroxyvitamin D [1,25-(OH)₂D] receptor (VDR) in rat kidney: Interaction of dietary calcium and excess vitamin D₃. *FASEB J.* 5:A1643.
- Beitz, D. C., S. S. Dehal, T. A. Freier, J. W. Young, and P. A. Hartman. 1991. An enzymatic method to decrease the cholesterol content of animal-derived foods. *Inform* 2:364.
- Schutz, M. M., A. E. Freeman, G. L. Lindberg, C. M. Koehler, A. M. Myers, J. E. Mayfield, and D. C. Beitz. 1991. Association of production and sequence differences in bovine mitochondrial DNA. *J. Dairy Sci.* 74:284 (Suppl. 1).

- Beckman, M. J., J. A. Johnson, J. P. Goff, T. A. Reinhardt, D. C. Beitz, and R. L. Horst. 1992. Calcium deficiency regulates the expression of vitamin D-dependent genes. *FASEB J.* 6:A1954.
- Faidley, T. D., H. Chou, X. Chen, S. T. Galloway, J. W. Young, and D. C. Beitz. 1992. Interaction of dietary calcium and vitamin D₃ on kinetics of metabolism of LDL-cholesterol in young pigs. *FASEB J.* 6:A1361.
- Li, L., T. A. Freier, P. A. Hartman, J. W. Young, and D. C. Beitz. 1992. Conversion of cholesterol to coprostanol by *Eubacterium* sp. strain HL. *FASEB J.* 6:A1389.
- Ren, D., A. W. Schwabacher, T. A. Freier, P. A. Hartman, and D. C. Beitz. 1992. Mechanism of cholesterol conversion to coprostanol by *Eubacterium* sp. HL. *FASEB J.* 6:A1669.
- Sadiev, S., D. Ren, D. C. Beitz, and A. E. Freeman. 1992. Cloning and sequencing of bovine mitochondrial genome. *FASEB J.* 6:A1670.
- Moorthi, S., T. R. Smith, D. C. Beitz, and J. W. Young. 1992. Changes in expression of phosphoenolpyruvate carboxykinase gene in development of bovine lactation ketosis. *FASEB J.* 6:A1936.
- Nizzi, C. P., R. C. Ewan, L. L. Christian, D. D. Draper, and D. C. Beitz. 1992. Effect of dietary tocopheryl acetate on inositol (1,4,5) triphosphate concentration in brain tissues of pigs. *FASEB J.* 6:A1953.
- Johnson, J. A., M. J. Beckman, A. Pansini-Porta, S. Christakos, D. C. Beitz, R. L. Horst, and T. A. Reinhardt. 1992. Age and sex effects on 1,25-dihydroxyvitamin D₃ regulated gene expression. *FASEB J.* 6:A1954.
- Smith, R. K., J. Wu, C. R. Youngs, A. E. Freeman, and D. C. Beitz. 1992. Sequence determination of the displacement-loop region of bovine mitochondrial DNA from a single oocyte by using the polymerase chain reaction. *J. Dairy Sci.* 75(Suppl. 1):238.
- Moorthi, S., T. R. Smith, R. K. Smith, D. C. Beitz, and J. W. Young. 1992. Amplification of a cDNA for bovine phosphoenolpyruvate carboxykinase by use of the polymerase chain reaction. *J. Dairy Sci.* 75(Suppl. 1):238.
- Schutz, M. M., A. E. Freeman, G. L. Lindberg, and D. C. Beitz. 1992. Effects on milk production of maternal lineages grouped by mitochondrial DNA genotypes. *J. Dairy Sci.* 75(Suppl. 1):248.
- Beckman, M. J., J. A. Johnson, J. P. Goff, T. A. Reinhardt, D. C. Beitz, and R. L. Horst. 1992. Low dietary calcium induces dissimilar effects on the expression of vitamin D-dependent genes in kidney versus intestinal tissues. *Amer. Soc. Bone Min. Res.* 7:266.
- Johnson, J. A., M. J. Beckman, A. Pansini-Porta, S. Christakos, M. E. Bruns, D. C. Beitz, R. L.

Horst, and T. A. Reinhardt. 1992. Age and sex effects on 1,25-dihydroxyvitamin D₃-regulated gene expression. Amer. Soc. Bone Min. Res. 7:231

Johnson, J.A., J.P. Goff, D.C. Beitz, R.L. Horst, and T.A. Reinhardt. 1992. Expression of 1,25-hydroxyvitamin-D-24-hydroxylase changes with aging. Amer. Soc. Bone Min. Res.

Knight, T. J., T. D. Faidley, and D. C. Beitz. 1992. Quality and not quantity of dietary fat influences HDL lipids and not LDL lipids. Inform 3:516.

Yoon, C-S, T.J. Knight, T.D. Faidley, and D.C. Beitz. 1992. Effect of fatty acid-modified pork and lard on plasma lipid concentration and lipoprotein composition in pigs. FASEB J. 7:A524.

Smith, R.K., J. Wu, A.K. Falk, B.T. McDaniels, A.E. Freeman, and D.C. Beitz. 1992. Nucleotide sequence variation of the displacement-loop region of bovine mitochondrial DNA. FASEB J. 7:A527.

Sadiev, S., G. Lindberg, A.E. Freeman, and D.C. Beitz. 1993. Sequencing of bovine mitochondrial NADH dehydrogenase subunit 1 from Holstein cows. FASEB J. 7:A528.

Li, L., K.K. Buhman, C.A. Baumann, D.D. Meling, J.L. Sell, P.A. Hartman, and D.C. Beitz. 1993. Effect of orally administered *Eubacterium coprostanoligenes* on plasma cholesterol concentration in rabbits and laying hens. FASEB J. 7:A730.

Faidley, T.D., T.J. Knight, and D.C. Beitz. 1993. Dietary fat influence on lipoprotein cholesteryl ester clearance of bile of young pigs. FASEB J. 7:A730.

Knight, T.J., T.D. Faidley, and D.C. Beitz. 1993. Effects of dietary fat on lipoprotein composition and lecithin-cholesterol acyltransferase (LCAT) activity in pig plasma. FASEB J. 7:A869.

Li, L., K.K. Buhman, P.A. Hartman, and D.C. Beitz. 1993. Does *Eubacterium coprostanoligenes* decrease plasma cholesterol concentration when orally administered to rabbits? Inform 4:533.

Hippen, A.R., J.W. Young, and D.C. Beitz. 1993. Redesigning milk fat by feeding supplementary fats to dairy cows. J. Dairy Sci. 76 (Suppl. 1):182.

Beckman, M.J., T.A. Reinhardt, J.P. Goff, H.L. Neibergs, D.C. Beitz, and R.L. Horst. 1993. In vivo regulation of rat intestinal 24-hydroxylase: Potential new role of calcitonin. Amer. Soc. Bone Min. Res. 8:170.

Li, L., Buhman, K.K., Hartman, P.A., and D.C. Beitz. 1993. Effect of orally administered *Eubacterium coprostanoligenes* on plasma cholesterol concentration rabbits. Proc. XI Int. Cong. Nutr., Book 2, p.679.

Lulich, R.G., D.C. Beitz, and A.A. DiSpirito. 1993. Improved culture medium and kinetics of a cholesterol reduction by *Eubacterium coprostanoligenes*. Proc. North Central Meeting of Ames.

Soc. Microbiol. Abstr. 8S.

Youngs, C.R., T.J Knight, S.M. Batt, and D.C. Beitz. 1994. Phospholipid, cholesterol, triacylglycerol, and fatty acid composition of porcine blastocysts. *Theriogenology* 41:343.

Madden, U.A., P.A. Hartman, and D.C. Beitz. 1994. Use of milk to deliver *Eubacterium coprostanoligenes* to decrease plasma cholesterol concentration in hypercholesterolemic rabbits. *FASEB J.* 8:A162.

Young, W-B., J. Chen, D.C. Beitz, and G.L. Lindberg. 1994. DNA transfection by hepatocyte receptors using novel ligands. *FASEB J.* 8:A303.

Faidley, T.D., C.C. Schwartz, T.J. Knight, and D.C. Beitz. 1994. Cholesteryl ester transfer from HDL to LDL by a mechanism independent of cholesterol ester transfer protein. *FASEB J.* 8:A454.

Nizzi, C.P., R.C. Ewan, L.L. Christian, D.D. Draper, and D.C. Beitz. 1994. Effects of dietary tocopheryl acetate on the fatty acid composition in the brains of stress-susceptible swine. *FASEB J.* 8:A599.

Richard, M.J., B.G. Miller, J.W. Young, and D.C. Beitz. 1994. An evaluation of the influence of dairy products on cholesterol concentration in tissues. *Inform* 5:500.

Bobé, G., A.E. Freeman, D.C. Beitz, and G.L. Lindberg. 1994. Phenotypic relationships among major milk proteins and milk fat in Holstein cattle. *J. Dairy Sci.* 77/*J. Anim. Sci.* 72 (Suppl. 1):204.

Lulich, R.G., D.C. Beitz, and A.A. DiSpirito. 1994. Improved culture medium and kinetics of cholesterol reduction by *Eubacterium coprostanoligenes*. *Abstr. Gen. Mtg. Am. Soc. Microbiol.* (Abstr. 010).

Goodwin, R.N., L.L. Christian, C.F. Louis, P.J. Berger, K.J. Prusa, and D.C. Beitz. 1994. Effect of the HAL gene on pork carcass composition and eating quality traits. *J. Dairy Sci.* 77/*J. Anim. Sci.* 72 (Suppl. 1) :249.

Penner, A.D. and D.C. Beitz. 1994. Effects of type and amount of dietary fat on performance and carcass characteristics of swine. *J. Dairy Sci.* 77/*J. Anim. Sci.* 72 (Suppl. 1) :250.

Stewart, J.W., M.L. Kaplan, and D.C. Beitz. 1995. Lipid metabolism in women fed modified pork with high content of polyunsaturated fats. *FASEB J.* 9:A979.

Gambhir, V., T. Reinhardt, J. Goff, D. Beitz, and R. Horst. 1995. Identification of the naturally occurring precursor to 9,13-dl-cis-retinoic acid in the neonatal calf. *FASEB J.* 9:A169.

Wu, J., R.K. Smith, A.E. Freeman, G.L. Lindberg, B.T. McDaniel, and D.C. Beitz. 1995. Sequence heteroplasmy of D-loop and rRNA coding region in mitochondrial DNA from Holstein cows of independent maternal lineages. *FASEB J.* 9:A179.

- Richard, M.J., G. Baldner-Shank, N.L. Jacobson, and D.C. Beitz. 1995. Cholesterol absorption and blood plasma kinetics in pigs fed soy- or beef-based diets. *Inform* 6:472.
- Boettcher, P.J., A.E. Freeman, S.D. Johnston, R.K. Smith, D.C. Beitz, and B.T. McDaniel. 1995. Relationships between mitochondrial DNA polymorphism and production traits of Holstein cows. *J. Anim. Sci.* 73(Suppl. 1) :43.
- Wilson, T., T.J. Knight, D.S. Lewis, D.C. Beitz, R.L. Engen, and S. Wolford. 1995. Resveratrol at a pharmacological dose promotes atherogenesis in rabbits. *Proc. Annual Meeting of Iowa Academy Science.*
- Bobe, G., A.E. Freeman, D.C. Beitz, and G.L. Lindberg. 1995. Effect of β -lactoglobulin phenotype on milk composition of Holstein cattle. *J. Dairy Sci.* 78(Suppl. 1) :165.
- Ametaj, B.N., B.J. Nonnecke, T.A. Reinhardt, and D.C. Beitz. 1995. Interferon- γ (IFN- γ) secretion by bovine peripheral blood mononuclear leukocytes (PMNL) is inhibited by vitamin D compounds. *J. Dairy Sci.* 78(Suppl. 1) :171.
- Goff, J.P., T.A. Reinhardt, D.C. Beitz, and R.L. Horst. 1995. Breed affects tissue vitamin D receptor concentration in periparturient dairy cows: A milk fever risk factor? *J. Dairy Sci.* 78(Suppl. 1) :184.
- Bobe, G., A.E. Freeman, D.C. Beitz, and G.L. Lindberg. 1995. Effect of casein-fat ratio on milk composition in Holstein cattle. *J. Dairy Sci.* 78 (Suppl. 1): 194.
- Maak, S., M. Wicke, D.C. Beitz, and G.V. Lengerken. 1995. Suitability of a shot biopsy test for prediction of meat quality in live pigs at different ages. *J. Anim. Sci.* 73(Suppl. 1) :170.
- Wang, X., S.L. Oren, T.J. Knight, D.S. Lewis, and D.C. Beitz. 1996. Feeding increases hepatic mitochondrial cholesterol 27-hydroxylase in suckling piglets. *FASEB J.* 10:A125.
- Oren, S.L., X. Wang, T.J. Knight, D.C. Beitz, and D.S. Lewis. 1996. Development of cholesterol 7- α -hydroxylase in piglets. *FASEB J.* 10:A125.
- Wilson, T., T.J. Knight, D.C. Beitz, D.S. Lewis, and R.L. Engen. 1996. Promotion of atherosclerosis by resveratrol in hypercholesterolemic rabbits. *FASEB J.* 10:A200.
- Ametaj, B.N., B.J. Nonnecke, T.A. Reinhardt, R.L. Horst, and D.C. Beitz. 1996. Retinoic acid-induced modulation of interferon- γ (IFN- γ) by mitogen-stimulated peripheral bovine mononuclear leukocytes (PBML). *J. Dairy Sci.* 79 (Suppl. 1):157.
- Rathmacher, J.A., F.J. Bonilla, C. Coates, D.C. Beitz, A. Trenkle, and S.L. Nissen. 1996. The effect of bovine somatotropin and Revalor-S on skeletal muscle protein metabolism. *J. Anim. Sci.* 74 (Suppl. 1):144.

- Maak, S., M. Schwerin, M. Wicke, G. von Lengerken, and D.C. Beitz. 1996. Meat quality in halothane-negative pigs with different genotypes in the promoter of the HSP 70.2 gene. *J. Anim. Sci.* 74(Suppl. 1):161.
- Beitz, D.C. 1996. Lipogenesis and lipolysis in bovine adipose tissue. *Proc. Jap. Soc. Rumen Met. Physiol.* 7(No. 2): 13 and *Proc. Jap. Soc. Anim. Nutr. Met.* 40(Suppl.):13.
- Rathmacher, J.A., F.J. Bonilla, C. Coates, D.C. Beitz, A. Trenkle, and S.L. Nissen. 1997. Effect of bovine somatotropin and Revalor-S[®] on tissue deposition rates in steers. *J. Anim. Sci.* 75(Suppl. 1):56.
- Hippen, A.R., P. She, G.L. Lindberg, D.C. Beitz, and J.W. Young. 1997. Prepartal energy intake affects severity of fatty liver and susceptibility to ketosis. *J. Anim. Sci.* 75(Suppl. 1):86.
- Stewart, J.W., M.L. Kaplan, and D.C. Beitz. 1997. Fatty acid profiles in plasma and platelets from women fed pork with high content of polyunsaturated fat. *FASEB J.* 11:A163.
- Nizzi, C., J.A. Rathmacher, S. Nissen, A. Trenkle, and D.C. Beitz. 1997. Effects of recombinant somatotropin and Revalor-S[®] on lipogenic activity in adipose tissue from beef cattle. *FASEB J.* 11:A381.
- Knight, T.J., B.J. Nikolau, G.L. Lindberg, and D.C. Beitz. 1997. Expression of plant stearoyl-ACP desaturase in animal cells. *FASEB J.* 11:A413.
- She, P., A.R. Hippen, G.L. Lindberg, D.C. Beitz, and J.W. Young. 1997. Phosphoenolpyruvate carboxykinase (PEPCK) gene expression in cows with fatty liver and experimentally induced ketosis. *FASEB J.* 11:A416.
- Hippen, A.R., P. She, G.L. Lindberg, D.C. Beitz, and J.W. Young. 1997. Glucagon decreases triacylglycerols in fatty livers of dairy cows. *J. Dairy Sci.* 80(Suppl. 1):142.
- She, P., A.R. Hippen, G.L. Lindberg, D.C. Beitz, J.W. Young, R.W. Tucker, and L.F. Richardson. 1997. Metabolic changes caused by 14-day infusions of glucagon into normal dairy cows. *J. Dairy Sci.* 80(Suppl. 1):251.
- Hippen, A.R., P. She, G.L. Lindberg, D.C. Beitz, J.W. Young, R.W. Tucker, and L.F. Richardson. 1997. Influence of glucagon on metabolites in blood of dairy cows with fatty liver and ketosis. *J. Dairy Sci.* 80(Suppl. 1):251.
- Zimmerman, D.R., R.L. Horst, J.P. Goff, D.A. Hoy, and D.C. Beitz. 1998. Refinement of retinyl palmitate assay reveals earlier assays grossly overestimate concentrations in plasma. *J. Anim. Sci.* 76(Suppl. 1)/*J. Dairy Sci.* 81(Suppl. 1):328.
- Beckerbauer, L.M., J.L. Sell, and D.C. Beitz. 1998. Impact of two different dietary fats on the

composition of emu oil. Abstracts of 89th AOCS Annual Meeting and Expo, p. 18.

Montgomery, J.L., F.C. Parrish, Jr., D.C. Beitz, R.L. Horst, E.J. Huff-Lonergan, and A.H. Trenkle. 1998. The use of vitamin D₃ to improve beef tenderness. Proc. 50th Annu. Reciproc. Meat Conf. 168.

Lindberg, G.L., G. Bobe, A.E. Freeman, and D.C. Beitz. 1998. Variation in atherogenic potential of milk fat from Holstein cows. J. Dairy Sci. 81:1199.

Stewart, J.W., M.L. Kaplan, and D.C. Beitz. 1998. Pork with modified fatty acid composition lowers LDL-cholesterol. FASEB J. 12:A236.

Young, J.W., A.R. Hippen, P. She, G.L. Lindberg, D.C. Beitz, and G. Bobe. 1998. Potential for control of fatty liver in early lactating dairy cows by glucagon. Abstract A₄₀ at 10th Int'l Conf. Prod. Dis. in Farm Anim. p. 66. Utrecht, Netherlands.

Ametaj, B.N., B.J. Nonnecke, R.L. Horst, and D.C. Beitz. 1998. 9-Cis- or 9, 13-di-cis-retinoic acid augments 1, 25-dihydroxyvitamin D₃ (1, 25-(OH)₂ D₃)-induced inhibition of interferon- γ (IFN- γ) secretion by bovine mononuclear leukocytes (MNL). 27th Annu. Autumn Immunol, Conf. 27: 151.

Knight, T.J., J.E. Buss, G.L. Lindberg, B. Nikolau, and D.C. Beitz. 1999. Fatty acid modification of cells in culture by overexpression of exogenous desaturases. FASEB J. 13:A541.

Knight, T.J., R.N. Goodwin, and D.C. Beitz. 1999. Genetic variation of fatty acid desaturation in pigs. Abstract of Amer. Soc. Anim. Sci./Amer. Dairy Sci. Assoc. Midwest meetings, p. 3.

Goodwin, R.N., T.J. Knight, D.C. Beitz, and P.J. Berger. 1999. Genetic parameters of fatty acid composition of porcine longissimus dorsi muscle. Abstract of Amer. Soc. Anim. Sci./Amer. Dairy Sci. Assoc. Midwest meetings, p. 3.

Bobe, G., E.M. Polkanova, E.G. Hammond, A.E. Freeman, D.C. Beitz, and G.L. Lindberg. 1999. Phenotypic differences in fatty acid composition among cows fed the same diet result in diverse textural properties of butter. J. Dairy Sci. 82(Suppl. 1):17.

Parrish, F.C., Jr., J.C. Sparks, B.R. Wiegand, R.C. Ewan, R.L. Horst, A.H. Trenkle, and D.C. Beitz. 1999. Effects of short-term feeding of vitamin D₃ on pork quality. Proc. 52nd Annu. Recipr. Meat Conf. Proc. p. 127.

Karantzeni, I., V. Sanghvi, M.J. Jeffrey, J.L. Sell, and D.C. Beitz. 2000. Effects of dietary CLA on fatty acid composition of eggs and desaturase activities of liver of laying hens. FASEB J. 14:A253.

Beitz, D. 2000. Does dietary conjugated linoleic acid improve meat quality? J. Anim. Sci. 78(Suppl. 1)/J. Dairy Sci. 83(Suppl. 1):23.

Oren, S.L., G. Bobe, B.N. Ametaj, A.F. Irlbeck, D.C. Beitz, and J.W. Young. 2000. Metabolic responses of dairy cows to various subcutaneously administered dosages of glucagon. J. Anim. Sci.

78(Suppl. 1)/J. Dairy Sci. 83(Suppl. 1):44.

Gassman, K.J., D.C. Beitz, F.C. Parrish, and A. Trenkle. 2000. Effects of feeding calcium salts of CLA to finishing steers. J. Anim. Sci. 78(Suppl. 1)/J. Dairy Sci. 83(Suppl. 1):275-276.

Boylston, T.D., D.C. Beitz, and E.G. Hammond. 2000. Influence of conjugated linoleic acid and soy oil supplementation in diets of cows on the CLA and fatty acid composition of yogurt. Inst. Food Technol. Annual Meeting, Dallas, TX. Abstr. 78C-15.

Amin, V., G. Bobe, J. Young, B. Ametaj, and D. Beitz. 2001. Ultrasound image texture processing for evaluating fatty liver in periparturient dairy cows. Abst. No. 4322-175. SPIE Int. Symp. Med. Imaging 2001.

Liu, F., S. Lentz, D.J. Piegors, A.A. DiSpirito, J.W. Young, and D.C. Beitz. 2001. Hypocholesterolemic effects of orally administered *Eubacterium coprostanoligenes* in cynomolgus monkeys. FASEB J. 15:A729.

Bobe, G., B.N. Ametaj, D.C. Beitz, and J.W. Young. 2001. Reproductive efficiency of dairy cows is associated negatively with concentrations of liver lipids in the postparturient period. J. Dairy Sci. 84:1565.

Ametaj, B.N., G. Bobe, S.L. Oren, O. Rosendo, D.C. Beitz, and J.W. Young. 2001. Subcutaneously injected glucagon affects selected blood constituents in dairy cows. J. Dairy Sci. 84:1558.

Beitz, D.C. and T.J. Knight. 2001. Designer foods. J. Dairy Sci. 84(Suppl. 1), J. Anim. Sci. 79(Suppl. 1), Poult. Sci. 80(Suppl. 1), Proc. 54th Annu. Recipr. Meat Conf. Vol II:139.

Huang, Y., B. Bradford, N. Heig, J. Young, and D. Beitz. 2001. Feeding dairy cattle to increase the content of conjugated linoleic acid in milk. J. Dairy Sci. 84(Suppl. 1), J. Anim. Sci. 79(Suppl. 1), Poult. Sci. 80(Suppl. 1), Proc. 54th Annu. Recipr. Meat Conf. Vol II:310.

Ametaj, B.N., Y. Lu, G. Bobe, J.W. Young, and D.C. Beitz. 2001. Improved quantification of total lipids from liver samples. J. Dairy Sci. 84(Suppl. 1), J. Anim. Sci. 79(Suppl. 1), Poult. Sci. 80(Suppl. 1), Proc. 54th Annu. Recipr. Meat Conf., Vol II:334.

Chen, S., S. Zimmerman, E. Hammond, G. Freeman, D. Kelley, N. Scott, C. Luhman, and D. Beitz. 2001. Selection of cows producing fat of low- and high-atherogenicity and the properties of butter and cheese made from their milk. J. Dairy Sci., 84(Suppl. 1), J. Anim. Sci. 79(Suppl. 1), Poult. Sci. 80(Suppl. 1), Proc. 54th Annu. Recipr. Meat Conf., Vol II:383.

Bobe, G., B.N. Ametaj, Y. Lu, D.C. Beitz, and J.W. Young. 2002. Effect of 14-day subcutaneous injections of several dosages of glucagon on liver carbohydrates in lactating dairy cows. FASEB J. 16:A618.

Bohan, M.M., R. Sonon, G. Bobe, Y. Lu, T. Knight, A. Wertz, A. Trenkle and D. Beitz. 2002.

Effects of ghrelin injection on blood and body composition in rats. *FASEB J.* 16:A619.

Bobe, G., B.N. Ametaj, R. Sonon, Y. Lu, D.C. Beitz, and J.W. Young. 2002. Effect of 14-day subcutaneous injections of several dosages of glucagon on liver lipid composition in lactating dairy cows. *FASEB J.* 16:A635.

Carnagey, K.M., J.W. Stewart, D.C. Beitz, and D. Lewis. 2002. Regulation of bile acid metabolism in piglets: Fecal and circulation levels of hydrophilic and hydrophobic bile acids in suckling and weaned piglets. *FASEB J.* 16:A1153.

Ametaj, B.N., G. Bobe, J.W. Young, and D.C. Beitz. 2002. Chronic glucagon administration and lipoprotein composition in periparturient dairy cows. *J. Dairy Sci.* 85:1351-1352.

Nafikov, R.A., B.N. Ametaj, G. Bobe, J.W. Young, and D.C. Beitz. 2002. Prevention of fatty liver in transition dairy cows by glucagon. *J. Dairy Sci.* 85(Suppl. 1), *J. Anim. Sci.* 80(Suppl. 1):21.

Bobe, G., B.N. Ametaj, D.C. Beitz, and J.W. Young. 2002. Effect of 14-day subcutaneous injections of several dosages of glucagon on milk yield and composition in lactating dairy cows. *J. Dairy Sci.* 85(Suppl. 1)/*J. Anim. Sci.* 80(Suppl. 1):64.

Bobe, G., B.N. Ametaj, R. Nafikov, D.C. Beitz, and J.W. Young. 2002. Effect of 14-day subcutaneous injections of several dosages of glucagon on plasma parameters in lactating dairy cows. *J. Dairy Sci.* 85(Suppl. 1)/*J. Anim. Sci.* 80(Suppl. 1):65.

Ametaj, B.N., B.J. Bradford, G. Bobe, Y. Lu, R. Nafikov, R.N. Sonon, J.W. Young, and D.C. Beitz. 2002. Acute phase response indicates inflammatory conditions may play a role in the pathogenesis fatty liver in dairy cows. *J. Dairy Sci.* 85(Suppl. 1)/*J. Anim. Sci.* 80(Suppl. 1):189.

Bobe, G., B.N. Ametaj, D.C. Beitz, and J.W. Young. 2002. Effect of 14-day subcutaneous injections of several dosages of glucagon on the health of lactating dairy cows. *J. Dairy Sci.* 85(Suppl. 1)/*J. Anim. Sci.* 80(Suppl. 1):190.

Bobe, G., B.N. Ametaj, D.C. Beitz, and J.W. Young. 2002. Effect of 14-day subcutaneous injections of several dosages of glucagon on reproductive success in lactating dairy cows. *J. Dairy Sci.* 85(Suppl. 1)/*J. Anim. Sci.* 80(Suppl. 1):190.

Wertz, A.E., A. Trenkle, R.L. Horst, F.C. Parrish, E.J. Huff-Lonergan, T.J. Knight, R.N. Sonon, and D.C. Beitz. 2002. Use of 25-hydroxyvitamin D₃ to improve beef tenderness. *J. Dairy Sci.* 85(Suppl. 1)/*J. Anim. Sci.* 80(Suppl. 1):216.

Bobe, G., B.N. Ametaj, Y. Lu, D.C. Beitz, and J.W. Young. 2002. Metabolic responses of lactating dairy cows to 14-day subcutaneous infusions of several dosages of glucagon. *J. Dairy Sci.* 85(Suppl. 1)/*J. Anim. Sci.* 80(Suppl. 1):275.

Bobe, G., B.N. Ametaj, R.N. Sonon, D.C. Beitz, and J.W. Young. 2002. Effect of time and day of

- injection on plasma B-hydroxybutyrate, NEFA, and urea N during 14-day subcutaneous injections of several dosages of glucagon in dairy cows. *J. Dairy Sci.* 85(Suppl. 1)/*J. Anim. Sci.* 80(Suppl. 1):350.
- Bobbe, G., B.N. Ametaj, R.N. Sonon, D.C. Beitz, and J.W. Young. 2002. Effect of time and day of injection on plasma glucose and insulin during 14-day subcutaneous injections of several dosages of glucagon in dairy cows. *J. Dairy Sci.* 85(Suppl. 1)/*J. Anim. Sci.* 80(Suppl. 1):350.
- Ametaj, B.N., J.P. Goff, R.L. Horst, B.J. Bradford, and D.C. Beitz. 2003. Presence of acute phase response in normal and milk fever dairy cows around parturition. 11th Int. Conf. Prod. Animal. Dis. In 2001, *Acta Vet. Scand. Suppl.* 98:241.
- Bobbe, G., S. Zimmerman, E.G. Hammond, A.E. Freeman, D.H. Kelley, J. Detrick, P.A. Porter, C.M. Luhman, and D.C. Beitz. 2003. Effect of supplemental dietary fish oil and soy oil on production and composition of milk and properties of butter from cows with low and high atherogenic index. *J. Dairy Sci.* 86(Suppl. 1)/*J. Anim. Sci.* 81 (Suppl. 1):44.
- Knight, T.J., J.A. Minick, R.G. Tait, Jr., G.H. Rouse, D.E. Wilson, D.R. Strohbehn, J.M. Reecy, A.E. Wertz, A.H. Trenkle, and D.C. Beitz. 2003. Redesigning beef cattle to have a more healthful fatty acid composition. *J. Dairy Sci.* 86(Suppl. 1)/*J. Anim. Sci.* 81 (Suppl. 1):87.
- Wertz, A.E., T.J. Knight, C.C. Ribeiro-Filho, D.C. Beitz, and A. Trenkle. 2003. Validation of a ghrelin radioimmunoassay (RIA) for use in evaluating physiological factors that influence plasma ghrelin concentrations in beef cattle. *J. Dairy Sci.* 86(Suppl. 1)/*J. Anim. Sci.* 81(Suppl. 1):95.
- Foote M.R., B.J. Nonnecke, M.A. Fowler, B.L. Miller, T.E. Johnson, D.C. Beitz, and R.L. Horst. 2003. Effects of age and accelerated growth on circulating concentrations of B-carotene and vitamins A, E, and D in milk replacer-fed calves. *J. Dairy Sci.* 86(Suppl. 1)/*J. Anim. Sci.* 81 (Suppl. 1):309.
- Carnagey, K.M., D.S. Lewis, J.W. Stewart, and D.C. Beitz. 2003. Effects of choly sarcosine on fatty acid absorption in neonatal piglets: A model for preterm infants. *FASEB J.* A751-752.
- Bohan, M.M., S. Zhang, A. McCleary, R. Lamer, J. Verkade, E. Hammond, and D.C. Beitz. 2003. Metabolic responses of trans-9, trans-11, and a mixture of conjugated linoleic acid isomers in golden Syrian hamsters. *FASEB J.* 71:A807.
- Foote, M.R., B.J. Nonnecke, W.R. Waters, M.A. Fowler, B.L. Miller, and D.C. Beitz. 2003. Effects of plane of nutrition on proliferation of lymphocyte subsets from neonatal calves vaccinated with *M. bovis* bacillus Calmette-Guerin (BCG). *FASEB J.* 71:A1124.
- Bohan, M.M., S. Zhang, A.L. McCleary, E. Hammond, and D.C. Beitz. 2004. Metabolic responses of conjugated triene and diene fatty acids in golden Syrian hamsters. Abstr. No. 30 of 116th annual meeting of Iowa Acad. Sci.
- Foote, M.R., B.J. Nonnecke, W.R. Waters, M.V. Palmer, M.A. Fowler, B.L. Miller, and D.C. Beitz. 2004. Dietary protein and energy and the adaptive immune response of milk replacer-fed dairy

calves. J. Dairy Sci. 87 (Suppl. 1), J. Anim. Sci. 82 (Suppl. 1), Poult. Sci. 83 (Suppl. 1):406.

Knight, T.J., K.J. Stalder, D.C. Beitz, R.N. Goodwin, and S.M. Lonergan. 2004. Differences in triacylglycerol and phospholipid content of pork *longissimus dorsi* by breed, gender, and halothane genotype. Abstr. 28 of Midwest Section ASAS and Midwest Branch ADSA 2004 meeting.

Knight, T.J., J.A. Minick, R.G. Tait, Jr., A. Trenkle, D.E. Wilson, G.H. Rouse, J.M. Reecy, and D.C. Beitz. 2004. Designing beef to be a more heart-healthy food. FASEB J. 18:A143-A144.

Sonon, R.N., D.C. Beitz, A.H. Trenkle, and M.M. Bohan. 2004. Assessing conjugated linoleic acid (CLA) concentrations in milk from pastured dairy cows. Abstr. No. 1 of 116th annual meeting of Iowa Acad. Sci.

Sonon, R.N. Jr., D.C. Beitz, A.H. Trenkle, J.R. Russell, and R. Rosmann. 2004. Conjugated linoleic acid (CLA) concentrations in beef tissues from cattle finished on pasture initially with limited grain. J. Dairy Sci. 87 (Suppl. 1), J. Anim. Sci. 82 (Suppl. 1), Poult. Sci. 83 (Suppl. 1):134.

Wertz, A.E., T.J. Knight, A. Kreuder, M. Bohan, D.C. Beitz, and A. Trenkle. 2004. Fluctuation of plasma ghrelin and growth hormone in fed and fasted cattle. J. Dairy Sci. 87 (Suppl. 1), J. Anim. Sci. 82 (Suppl. 1), Poult. Sci. 83 (Suppl. 1):194.

Bobbe, G., B.N. Ametaj, R.A. Nafikov, D.C. Beitz, and J.W. Young. 2004. Relationships between mild fatty liver and health and reproductive performance in Holstein Cows. Abstr. A-40, 12th Int. Conf. Prod. Dis. Farm Animals. p. 40.

Nafikov, R.A., B.N. Ametaj, G. Bobbe, K.J. Koehler, J.W. Young, and D.C. Beitz. 2004. Prevention of fatty liver in transition dairy cows by subcutaneous glucagon injections. A-41, 12th Int. Conf. Prod. Dis. Farm Animals. p. 40.

Wertz-Lutz, A.E., J.A. Daniel, J.A. Clapper, D.C. Beitz, and A. Trenkle. 2005. Exogenous ghrelin elevates plasma growth hormone concentrations in steers allowed *ad libitum* intake. J. Dairy Sci. 88 (Suppl. 1)/J. Anim. Sci. 83 (Suppl. 1):282.

Koknaroglu, H., P. Tsengeg, T. Knight, D. Beitz, and P. Hoffman. 2005. Effect of condensed corn distiller soluble supplementation on the fatty acid composition of ribeye steaks from pasture-fed and feedlot steers. J. Dairy Sci. 88 (Suppl. 1)/J. Anim. Sci. 83 (Suppl. 1):205.

Lonergan, S., K. Stalder, T. Knight, R. Goodwin, K. Prusa, and D. Beitz. 2005. Relationship of pork *longissimus* muscle fatty acid profile with pork loin texture and sensory traits. J. Dairy Sci. 88 (Suppl. 1)/J. Anim. Sci. 83 (Suppl. 1):157.

Williams, E.L., S. Rodriguez, D.C. Beitz, and S.S. Donkin. 2005. Effects of short-term glucagon administration on gluconeogenic enzymes in the liver of mid-lactation dairy cows. J. Dairy Sci. 88 (Suppl. 1)/J. Anim. Sci. 83 (Suppl. 1):79.

- Foote, M., B. Nonnecke, M. Fowler, B. Miller, D. Beitz, and W. Waters. 2005. Effects of age and nutrition on proliferation and activation of mitogen-stimulated T cell subsets from neonatal calves. *J. Dairy Sci.* 88 (Suppl. 1)/*J. Anim. Sci.* 83 (Suppl. 1):6.
- Carnagey, K.M., S.M. Lonergan, E.J. Huff-Lonergan, R.L. Horst, A.H. Trenkle, and D.C. Beitz. 2005. Effect of 25-hydroxyvitamin D₃ and dietary calcium on calpastatin activity in beef muscles. *FASEB J.* 19:A991.
- Bohan, M.M., G. Janda, L. Anderson, A. Trenkle, and D. Beitz. 2005. Effect of dietary macronutrients on appetite-related hormones in blood on body composition of lean and obese rats. *FASEB J.* 19:A76.
- Carnagey, K.M., A.E. Wertz, T.J. Knight, R.L. Horst, E.J. Huff-Lonergan, A.H. Trenkle, and D.C. Beitz. 2005. Effects of orally administered 25-hydroxyvitamin D₃ and vitamin E on calcium and vitamin D metabolites in plasma and on vitamin D metabolites in beef *longissimus dorsi* muscle. Abstr. 100 of Midwest Section ASAS and Midwest Branch ADSA 2005 meeting.
- Gereszek, L.J., D.C. Beitz, and J.R. Coats. 2005. Response of the European corn borer (Lepidoptera: Pyralidae) to conjugated linoleic acid-enriched diet. Entomological Society Annual Meeting. Fort Lauderdale, FL.
- Gereszek, L.J., D.C. Beitz, and J.R. Coats. 2005. Effects of dietary conjugated linoleic acid on the European corn borer. American Chemical Society 230th National Meeting, Washington, D.C.
- Osman, M.A., N.A. Mehyar, G. Bobe, J.F. Coetzee, D.C. Beitz, and K. Koehler. 2006. Acute effects of subcutaneous injections of glucagon and/or oral administration of glycerol on blood metabolites and hormones of dairy cows affected with fatty liver disease. *J. Anim. Sci.* 84(Suppl. 1)/*J. Dairy Sci.* 89(Suppl. 1):266.
- Foote, M., B. Nonnecke, W. Waters, D. Beitz, M. Fowler, T. Johnson, and B. Miller. 2006. High growth rate fails to enhance adaptive immune responses of neonatal calves and is associated with decreased T cell viability. *J. Anim. Sci.* 84(Suppl. 1)/*J. Dairy Sci.* 89(Suppl. 1):163.
- Zhang, S., T. Wang, and D.C. Beitz. 2006. Role of soy and egg lecithin in regulation of plasma cholesterol concentration in golden Syrian hamsters. *FASEB J.* 20:A1027.
- Bohan, M.M., M.R. Foote, B.J. Nonnecke, A.H. Trenkle, and D.C. Beitz. 2006. Plane of nutrition affects appetite-related hormones in neonatal calves. *FASEB J.* 20:A171.
- Bohan, M.M., L.L. Anderson, A.H. Trenkle, and D.C. Beitz. 2006. Nutrient regulation of plasma ghrelin concentration in lean and overweight female hormones. *FASEB J.* 20:A177.
- Brown, A.W., M.M. Bohan, N. Mehyar, A.H. Trenkle, and D.C. Beitz. 2006. Effects of TNF- α as a simulated stressor on adipose and liver tissues from rats fed varying diets. *FASEB J.* 20:A126.

- Carnagey, K.M., E.J. Huff-Lonergan, A.H. Trenkle, R.L. Horst, S.M. Lonergan, and D.C. Beitz. 2006. Effect of 25-hydroxyvitamin D₃ and dietary calcium on calpastatin activity in beef muscles. *FASEB J.* 20:A171.
- Lonergan, S., K. Stalder, E. Huff-Lonergan, T. Knight, R. Goodwin, K. Prusa, and D. Beitz. 2006. Classification of pork loin based on intramuscular lipid content to predict sensory and texture of fresh pork. Abstr. No. 56 Amer. Soc. Anim. Sci., Midwest Section, Amer. Dairy Sci. Assoc., Midwest Branch. p. 19.
- Gereszek, L.J., D.C. Beitz, and J.R. Coats. 2006. Effects of dietary conjugated linoleic acid on European corn borer pupae. American Chemical Society 232nd National Meeting, San Francisco, CA.
- Karcher, E.L., D.C. Beitz, and J.R. Stabel. 2006. Cytokine transcription in periparturient dairy cows naturally infected with *Mycobacterium avium* subsp. *paratuberculosis*. Conference of Research Workers in Animal Disease. Chicago, IL.
- Williams, E.L., D.C. Beitz, and J.R. Stabel. 2006. Characterization of cytokine gene expression in periparturient dairy cows naturally infected with *Mycobacterium avium* subsp. *paratuberculosis*. ADSA/ASAS National Meeting. Minneapolis, MN. *J. Dairy Sci.*:89 (Suppl. 1).
- Beitz, D.C., M.A. Osman, P.S. Allen, N.A. Mehyar, G. Bobe, J.F. Coetzee, and K.J. Koehler. 2007. Acute metabolic responses of postpartal dairy cows to subcutaneous glucagon injection, oral glycerol, or both. Abstr. No. 5.3. Proc. of 13th Int. Conf. on Production Diseases of Farm Animals. p. 197.
- Burkett, J.L., T.J. Baas, D.C. Beitz, C.R. Schwab, N.L. Berry, and S. Zhang. 2007. Correlated response in fatty acid composition from five generations of selection for intramuscular fat in Duroc pigs. *J. Anim. Sci.* 85, Suppl. 1/*J. Dairy Sci.* 90, Suppl. 1/*Poult. Sci.* 86, Suppl. 1: 627.
- Knock, R.C., A.H. Trenkle, E.J. Huff-Lonergan, S.M. Lonergan, J.R. Russell, P.M. Dixon, K.M. Carnagey, and D.C. Beitz. 2007. Carcass and meat quality characteristics of distiller's co-product-supplemented pasture- and feedlot-finished beef steers. *J. Anim. Sci.* 85, Suppl. 1/*J. Dairy Sci.* 90, Suppl. 1/*Poult. Sci.* 86, Suppl. 1: 410.
- Wertz-Lutz, A.E., J.A. Clapper, J.S. Thurlow, D.C. Beitz, and A. Trenkle. 2007. Plasma ghrelin concentrations of beef cattle consuming a similar amount of dietary energy supplied by different dietary ingredients. *J. Anim. Sci.* 85, Suppl. 1/*J. Dairy Sci.* 90, Suppl. 1/*Poult. Sci.* 86. Suppl. 1: 82-83.
- Karcher, E.L., D.C. Beitz, and J.R. Stabel. 2007. Osteopontin expression during the periparturient period in dairy cows naturally infected with *Mycobacterium avium* spsp. *paratuberculosis* infection. *J. Anim. Sci.* 85, Suppl. 1/*J. Dairy Sci.* 90, Suppl. 1/*Poult. Sci.* 86, Suppl. 1:7.
- Knock, R.C., A. Trenkle, E.J. Huff-Lonergan, S.M. Lonergan, J.R. Russell, K.M. Carnagey, and D.C. Beitz. 2007. Use of 25-hydroxyvitamin D₃ to improve tenderness of beef from distiller's co-product-

supplemented pasture- and feedlot-finished beef steers. Abstr. No. 81. 60th Recipr. Meat Conf.

Zhang, S., T.J. Knight, J.M. Reecy, A.H. Trenkle, and D.C. Beitz. 2007. DNA polymorphisms in the thioesterase domain of fatty acid synthase are associated with fatty acid composition of *Longissimus dorsi* muscle of Angus cattle. FASEB J. 21:A1120.

Brown, A.W., M.M. Bohan, K.L. Onken, and D.C. Beitz. 2007. Effects of Splenda® brand sweetener on plasma hormone and metabolite concentrations. FASEB J. 21:A1060.

Bohan, M.M., L.L. Anderson, A.H. Trenkle, and D.C. Beitz. 2007. Effect of nutrient composition of the diet on the variation of plasma hormone concentrations during waking hours in lean and overweight humans. FASEB J. 21:A321.

Bohan, M.M., L.L. Anderson, A.H. Trenkle, and D.C. Beitz. 2007. Nutrient regulation of plasma ghrelin concentration in lean and overweight male humans. FASEB J. 21:A320.

Wertz-Lutz, A.E., J.A. Clapper, D.C. Beitz, and A. Trenkle. 2007. Plasma ghrelin and GH concentrations are elevated with long-term feed intake restriction that results in BW change. Abstr. 305. Amer. Soc. Anim. Sci., Midwest Section, Amer. Dairy Sci. Assoc., Midwest Branch. p. 97.

Tait, Jr., R., S. Zhang, T. Knight, J. Minick Bormann, D. Beitz, and J. Reecy. 2007. Heritability estimates for fatty acid quantity in Angus beef. Abstr. 35. Amer. Soc. Anim. Sci., Midwest Section, Amer. Dairy Sci. Assoc., Midwest Branch. p. 12.

Karcher, E.L., D.C. Beitz, and J.R. Stabel. 2007. Modulation of cytokine expression and lymphocyte subsets during the periparturient period in dairy cows naturally infected with *Mycobacterium avium* subsp. *paratuberculosis*. Proc 9th Int'l Colloq. Paratuberculosis. P.15. Tsukula, Japan.

Nafikov, R.A., J.P. Schoonmaker, J.M. Reecy, D. Moody Spurlock, J. Minick Bormann, T.J. Knight, K.J. Koehler, and D.C. Beitz. 2008. Genetic regulation of milk fatty acid composition—developing tools for use in selection. Abstr. No. LB695. Expt'l Biol. 2008, p. LB 29.

Karcher, E.L., C.S. Johnson, J.P. Bannantine, D.C. Beitz, and J.R. Stabel. 2008. Osteopontin immunoreactivity in peripheral blood mononuclear cells, ileum, and ileocecal lymph node of dairy cows naturally infected with *Mycobacterium avium* subsp. *paratuberculosis*. J. Anim. Sci. 86: E-Suppl. 2/J. Dairy Sci. 91: E-Suppl. 1, 120.

Karcher, E.L., D.C. Beitz, and J.R. Stabel. 2008. Cytokine secretion in periparturient dairy cows naturally infected with *Mycobacterium avium* subsp. *paratuberculosis*. J. Anim. Sci. 86: E-Suppl. 2/J. Dairy Sci. 91: E-Suppl. 1, 159-160.

Schoonmaker, J.P., A.H. Trenkle, and D.C. Beitz. 2008. Effect of feeding distillers grains on performance and marbling deposition in steers fed high-concentrate or high-forage diets. J. Anim. Sci. 86: E-Suppl. 2/J. Dairy Sci. 91: E-Suppl. 1, 584.

Nelson, C.D., D.C. Beitz, T.A. Reinhardt, and J.D. Lippolis. 2008. Toll-like receptor signaling increases production of 1,25-dihydroxyvitamin D₃ in bovine macrophages. Abstr. No. 672.28. Expt'l. Biol. 2008, p. 188.

Burkett, J.L., T.J. Baas, D.C. Beitz, C.R. Schwab, N.L. Berry, and S. Zhang. 2008. Genetic parameter estimates of fatty acid composition and meat quality traits in Duroc pigs selected for intramuscular fat content for six generations. Abstr. 116, Amer. Soc. Anim. Sci., Midwest Section, Amer. Dairy Sci. Assoc., Midwest Branch, p. 37-38.

Karcher, E.L., D.C. Beitz, and J.R. Stabel. 2008. Parturition and *Mycobacterium avium* subsp. *paratuberculosis*: A potential interface for the pathogenesis of Johne's disease. J. Dairy Sci. 91:2921.

Nelson, C.D., D.C. Beitz, T.A. Reinhardt, and J.L. Lippolis. 2008. Autocrine signaling mechanism of vitamin D in the bovine innate immune response. J. Dairy Sci. 91:2920.

Schoonmaker, J.P. and D.C. Beitz. 2008. Influence of fatty acids on muscle and adipose tissue development. Abstr. 71. Amer. Soc. Anim. Sci., Midwest Section, Amer. Dairy Sci. Assoc., Midwest Branch, p. 23.

Nafikov, R.A., J.P. Schoonmaker, J.M. Reecy, D. Moody-Spurlock, J. Minick-Borman, K.J. Koehler, and D.C. Beitz. 2009. Genetic regulation of milk fatty acid composition: developing tools for use in selection. Abstr. 35. Amer. Soc. Anim. Sci. Midwest Section, Amer. Dairy Sci. Assoc., Midwest Branch, p. 12.

Nafikov, R.A., J.P. Schoonmaker, J.M. Reecy, D. Moody-Spurlock, J. Minick-Borman, K.J. Koehler, and D.C. Beitz. 2009. Polymorphisms in lipogenic genes and variations in milk fatty acid composition in Holstein dairy cows. J. Anim. Sci. 87, E-Suppl. 2/J. Dairy Sci. 92, E-Suppl. 1:45.

Nelson, C.D., D.C. Beitz, T.A. Reinhardt, and J.D. Lippolis. 2009. Expression of inducible nitric oxide synthase is up-regulated by production of 1,25-dihydroxyvitamin D₃ in bovine monocytes in response to toll-like receptor signaling. J. Anim. Sci. 87, E.-Suppl. 2/J. Dairy Sci. 92, E-Suppl. 1: 139.

Nafikov, R., J. Schoonmaker, J. Reecy, D. Moody-Spurlock, J. Minick-Bormann, K. Koehler, and D.C. Beitz. 2009. Polymorphisms in SREBP pathway and variations in milk fatty acid composition in Holstein cows. FASEB J. 23:LB429.

Duan, Q., J.M. Reecy, R. JR Tait, J.P. Schoonmaker, D.C. Beitz, A. van Eeneunam, R. Martescu, and A. Garmyn. 2009. Phenotypic variation of mineral contents in beef. FASEB J. 23:LB412.

Mao, G., G. Kraus, M. Spurlock, and D. Beitz. 2009. Mitochondrially targeted vitamin E decreases diet-induced fat deposition in C57BL/6 mice through normalizing mitochondrial oxidative stress and function. FASEB J. 23:337.2.

- Brown, A.W., A.H. Trenkle, and D.C. Beitz. 2009. Effects of diets naturally high or low in conjugated linoleic acid on measures of health in women. *FASEB J.* 23:334.
- Abuzaid, A., J.M. Reecy, R. Tait, and D.C. Beitz. 2010. Variation of carnitine concentrations in beef. Abstr. No. 744.16. *FASEB J.* 24.
- Duan, Q., J. Reecy, R. Tait, Q. Liu, A. van Eenennaam, R. Mateescu, A. Garmyn, and D. Beitz. 2010. Genetic polymorphisms in bovine ferroportin are associated with longissimus dorsi muscle iron content. Abstr. No. 229.2. *FASEB J.* 24.
- Reecy, J.M., R.G. Tait, D.L. Van Overbeke, A.J. Garmyn, R.G. Mateescu, A.L. Van Eenennaam, Q. Duan, Q. Liu, J.P. Schoonmaker, M.E. Drewnoski, D.C. Beitz, K. Kizilkaya, R.L. Fernando, and D.J. Garrick. 2010. Use of genomics to improve healthfulness and quality of meat. Proc. 9th World Cong. Gen. Appl. Lvstk. Prod.
- Schoonmaker, J.P., M.E. Persia, and D.C. Beitz. 2010. Effect of feeding corn modified to contain amylase on performance and carcass characteristics of feedlot steers. Midwest ADSA/ASAS annual meeting Abstr. 281, p. 92-93.
- Nelson, C.D., T.A. Reinhardt, D.C. Beitz, and J.D. Lippolis. 2010. Innate immune responses of bovine mammary epithelial cells triggered by toll-like signaling are enhanced by 1,25-dihydroxyvitamin D₃. *J. Dairy Sci.* 93:2304.
- Osman, M.A., J.R. Stabel, J.M. Hostetter, D.S. Nettleton, and D.C. Beitz. 2010. Prevention of *Mycobacterium avium* subsp. *paratuberculosis* (MAP) infection in BALB/c mice by feeding probiotic *Lactobacillus acidophilus* NP-51. Abstr. No. 102.5. *FASEB J.* 24.
- Nafikov, R.A., J.P. Schoonmaker, K.T. Korn, K. Noack, D.J. Garrick, K.J. Koehler, J. Minick-Bormann, J.M. Reecy, D.E. Spurlock, and D.C. Beitz. 2010. Association of polymorphisms in GPAT4 and SLC27A6 genes with bovine milk fat percentage and fatty acid composition. *J. Anim. Sci.* 93, E. Suppl./*J. Dairy Sci.* 93, E. Suppl./*Poult. Sci.* 89, E. Suppl./i-ii.
- Osman, M.A., J.R. Stabel, J.M. Hostetter, D.S. Nettleton, and D.C. Beitz. 2010. Prevention of *Mycobacterium avium* spp. *paratuberculosis* (MAP) infection in Balb/c mice by feeding probiotic *Lactobacillus acidophilus* NP-51. *J. Anim. Sci.* 88, E-Suppl. 2/*J. Dairy Sci.* 93, E. Suppl. 1 *J. Poult. Sci.*, 89, E. Suppl. 1:550.
- Buchanan, J.W., A.J. Garmyn, G.G. Hilton, D.L. VanOverbeke, Q. Duan, D.C. Beitz, and R.G. Mateescu. 2011. Gene expression analysis and fatty acid profiling in concentrate and pasture based beef finishing systems. *J. Anim. Sci.* 89:E. Suppl. 1, *J. Dairy Sci.* 94: E. Suppl. 1:710.
- Reecy, J.M., R.G. Tait, D.L. VanOverbeke, A.J. Garmyn, R.G. Mateescu, A.L. Van Eenennaam, Q. Duan, Q. Liu, J.P. Schoonmaker, M.E. Drewnoski, D.C. Beitz, K. Kizilkaya, R.L. Fernando, and D.J. Garrick. 2011. Use of genomics to improve fatty acid composition of meat. Abstr. No. 137, Midwest ADSA/ASAS Meetings, Des Moines, IA.

- Drewnoski, M.E., D.C. Beitz, D.D. Loy, S.M. Ensley, and S.L. Hansen. 2011. Factors affecting ruminal sulfide concentration of cattle. Abstr. No. 310. Midwest ADSA/ASAS Meetings, Des Moines, IA.
- Osman, M.A., J.R. Stabel, J.M. Hostetler, D. Nettleton, S.E. Dowd, K. Onda, W. Kreikemeier, D. Ware, and D.C. Beitz. 2012. Probiotics cultures in animal feed: Effects on ruminal fermentation, immune responses, and resistance to infectious diseases. *J. Anim. Sci.* 90, Suppl. 2/*J. Dairy Sci.* 95, Suppl. 1:38.
- Osman, M., J. Stabel, S. Dowd, K. Onda, W. Kreikemeier, D. Ware, and D. Beitz. 2012. Probiotic Bovamine[®] fine-tunes the ruminal microbiome for enhanced fermentation and immunity. Abstr. No. P-101. 8th INRA-Rowett Symposium on Gut Microbiology, Clermont-Ferrand, France.
- Koltes, J.E., R.G. Tait, E.R. Fritz, B.P. Mishra, A.L. Van Eenennaam, R.G. Mateescu, D.L. VanOverbeke, A.J. Garmyn, Q. Liu, G. Duan, D. Nettleton, D. Beitz, D. Garrick, and J.M. Reecy. 2012. A systems-genetic analysis of bovine skeletal muscle iron content. Abstr. No. 60, 2012 Joint Annual Meeting of ADSA/ASAS, p. 82.
- Bradner, L., S. Robbe-Austerman, D. Beitz, and J. Stabel. 2012. Optimization of methods for the detection of *Mycobacterium avium* ssp. *paratuberculosis* in milk and colostrum of naturally infected dairy cows with Johne's disease. Abstr. No. 254, 2012 Joint Annual Meeting of ADSA/ASAS, p. 99.
- Buchanan, J.W., A.J. Garmyn, G.G. Hilton, D.L. VanOverbeke, Q. Duan, D.C. Beitz, and R. Mateescu. 2012. Effect of pasture-based finishing system on bovine intramuscular gene expression and fatty acid composition. Abstr. at Plant Animal Genetics, San Diego, CA.
- Cromwell, G.L., T.J. Applegate, D.C. Beitz, M.L. Galyean, M.B. Hall, M.D. Hanigan, J. Odle, W.P. Weiss, and C.K. Baer. 2013. The National Animal Nutrition Program. *J. Anim. Sci.* 91(Suppl. 2)/*J. Dairy Sci.* 96(Suppl. 1):103.
- Krueger, L.A., K. Onda, M. Osman, M.R. O'Neil, R.L. Stuart, H.D. Tyler, B. Nonnecke, and D.C. Beitz. 2013. The effects of D- α -tocopherol and dietary energy on growth and health of dairy calves. *J. Anim. Sci.* 91(Suppl. 2)/*J. Dairy Sci.* 96 (Suppl. 1):614.
- Li, G., E. Testroet, S. Clark, and D. Beitz. 2013. Oxidative stability evaluation of milk from cows fed with dried distillers grains with solubles by sensory and chemical analyses. *J. Anim. Sci.* 91(Suppl. 1)/*J. Dairy Sci.* 96(Suppl. 1):40.
- O'Neil, M.R., G.A. Kraus, N.K. Gabler, S.M. Lonergan, and D.C. Beitz. 2013. Mitochondrially targeted antioxidants as a strategy to reduce oxidative stress in pigs. *J. Anim. Sci.* 91(Suppl. 2)/*J. Dairy Sci.* 96(Suppl. 1):182.
- O'Neil, M., E. Testroet, M. Osman, W. Kreikemeier, D. Ware, and D.C. Beitz. 2013. Influence of

the direct-fed microbial Bovamine on feed efficiency and milk production of lactating Holstein cows. *J. Anim. Sci. (Suppl. 2)/J. Dairy Sci.* 96(Suppl. 1):35-36.

Reecy, J.M., J. Koltcs, R.G. Tait, Jr., M.S. Mayes, R. Mateescu, D.J. Garrick, and D.C. Beitz. 2013. A systems-genetic analysis of bovine skeletal muscle iron level. Abstr. P0105. Plant & Animal Genome XXI, San Diego, CA.

Sanz-Fernandez, M.V., S.C. Pearce, V. Mani, N.K. Gabler, D.C. Beitz, L. Metzger, J.F. Patience, R.P. Rhoads, and L.H. Baumgard. 2013. Effects of whey protein on intestinal integrity in heat-stressed growing pigs. *J. Anim. Sci.* 91(Suppl. 2)/*J. Dairy Sci.* 96(Suppl. 1):343.

Stabel, J.R., L. Bradner, S. Robbe-Austerman, and D.C. Beitz. 2013. Assessment of shedding of *Mycobacterium avium* ssp. *paratuberculosis* into milk and colostrum of naturally infected dairy cows over complete lactation cycles. *J. Anim. Sci. (Suppl. 2)/J. Dairy Sci.* 91(Suppl. 1):479.

Testroet, E.D., G. Li, D.C. Beitz, and S. Clark. 2013. Dietary inclusion of dried distillers grains with solubles modifies milk composition and production in lactating cows. *J. Anim. Sci.* 91(Suppl. 2)/*J. Dairy Sci.* 96(Suppl. 1):11.

Reynolds, C., No. Kozqewski, R. Horst, D. Beitz, and J. Goff. 2014. Beta-glucuronidated 1,25-dihydroxyvitamin D3 as a substrate for intestinal microbiota. Presented at 17th Vitamin D Workshop, Chicago, IL.

Van Sambeek, D.M., B.J. Kerr, J. van Leeuwen, D.C. Beitz, and N.K. Gabler. 2014. Evaluation of feeding a *Bacillus*-based probiotic with *Rhizopus oligosporus* biomass in nursery pigs. *J. Anim. Sci.* 92 (Suppl. 2)/*J. Dairy Sci.* 97 (Suppl. 1):61.

Testroet, E.D., C. Yoder, C. Bustos, S.M. Lei, D.C. Beitz, and T.J. Baas. 2014. Relationship of fat quality to meat quality traits of pork. *J. Anim. Sci.* 92 E-Suppl. 2/*J. Dairy Sci.* 97 E-Suppl. 1:210.

Testroet, E.D., S. Clark, and D.C. Beitz. 2015. Feed efficiency and performance of lactating Holstein dairy cows fed two different concentrations of dried distillers grains with solubles. Abstr. #283. Annual meeting of ADSA/ASAS, Orlando, FL.

White, R.R., T.J. Applegate, G.L. Cromwell, D.C. Beitz, M.L. Galyean, M.B. Hall, P.S. Miller, J. Odle, W.P. Weiss, and M.D. Hanigan. 2015. Global impact of improving feed efficiency and technology transfer efficacy. *J. Anim. Sci.* 93 (Suppl. 3)/*J. Dairy Sci.* 98(Suppl. 2):599.

Beitz, D.C. 2015. Tribute to Ronald L. Horst. Abstr. 249th Annual meeting of Am. Chem. Soc., Denver, Mar. 22-26.

Testroet, E.D., P.J. Sherman, A. Testroet, C.L. Yoder, S. Lei, C. Reynolds, M.R. O'Neil, T.J. Baas, and D.C. Beitz. 2015. Modeling of hypertrophy and hyperplasia in porcine adipose tissue. *FASEB J.* 29(Suppl. 1):254.5.

Reynolds, C.N., N. Koszewski, R. Horst, D. Beitz, and J. Goff. 2016. 25-Hydroxyvitamin D elicits hormone-like response in intestinal epithelium. Proc. The 19th Workshop on Vitamin D, Boston, MA.

O'Neil M.R., D.C. Beitz, and R.L. Stuart. 2016. Seasonal effects and husbandry practices on fat-soluble vitamin status of beef and dairy cows and their offspring. J. Anim. Sci. 94, Suppl. 2/J. Dairy Sci. 99, Suppl. 1:163.

Wood, D. L.A. Krueger, M. Dehghan Banadaky, J.R. Stabel, M.A. Engstrom, D.C. Beitz, and R. Blome. 2016. Effects of mineral and vitamin supplementation to pasteurized whole milk diets on growth and health of preruminant Holstein bull calves. J. Anim. Sci. 94, E-Suppl. 5/J. Dairy Sci. 99, E-Suppl. 1:697.

Testroet, E.D., M.R. O'Neil, D.C. Beitz, and S. Clark. 2017. Feeding reduced-fat dried distillers grains with solubles to lactating Holstein dairy cows does not negatively influence quality of baby Swiss cheese. Abstr. 213. Annu. Mtg. Am. Dairy Sci. Assoc., p. 89.

Reynolds, C.J., N.J. Koszewski, R.L. Horst, D.C. Beitz, and J.P. Goff. 2017. Oral 25-hydroxyvitamin D₃ elicits response in intestinal epithelium. Abstr., 20th Workshop on Vitamin D. Orlando, FL.

Reynolds, C.J., N.J. Koszewski, R.L. Horst, D.C. Beitz, and J.P. Goff. 2017. Oral 25-hydroxyvitamin D₃ elicits response in intestinal epithelium. FASEB J. 31:646.54.

Testroet, E.D., S. Shome, A. Testroet, J. Reecy, R.L. Jernigan, M. Zhu, M. Du, S. Clark, and D.C. Beitz. 2018. Profiling of the exosomal cargo of bovine milk reveals the presence of immune- and growth-modulatory ncRNAs. FASEB J. 32: Suppl. 1 Abstr. 747.25..

O'Neil, M.R., E.H. Branstad, C.S. McCarthy, B.C. Dooley, D.C. Beitz, A.J. Hund, G.A. Ducharme, and H.A. Ramirez-Ramirez. 2018. Effects of administering an oral probiotic drench containing *Megasphaera elsdenii* NCIMB 41125 to dairy cows fed a high starch diet in early lactation. ADSA annual meeting. Abstr. 355. p. 124.

Reynolds, C., N. Koszewski, R. Horst, D. Beitz, and J. Goff. 2018. 25-Hydroxyvitamin D and the intestinal vitamin D response. Abstr. annual meeting of American Society for Nutrition, Boston, MA.

Reynolds, C., J.J. Koszewski, R.L. Horst, D.C. Beitz, and J.P. Goff. 2019. 25-Hydroxyvitamin D-glucuronide activates VDR in the colon of mice. Abstr. 21st Workshop on Vitamin D. New York.

O'Neil, M., E. Branstad, C. McCarthy, B. Dooley, D. Beitz, and H. Ramirez-Ramirez. 2019. Effect of daily feeding of a direct-fed microbial to dairy cows during midlactation on production performance and milk composition. Abstr. T163. Annu. Mtg. of Amer. Dairy Sci. Assoc., Cincinnati, OH.

Choudhary, S. M. Lacasse, R.K. Choudhary, M. Rincon, D.C. Beitz, and E.D. Testroet. 2020. Expression of mitochondrial complex I inhibitor in bovine liver tissue, primary hepatic cells, and detection of its transcript in conditioned media mimicking fatty liver disease. FASEB J. 34: Suppl. 1, Abstr. 05160.

LaCasse, M., S. Choudhary, R. Choudhary, J. de Avila, D. Beitz, M. Du, and E. Testroet. 2020. A nonperfusion-based method of hepatic cell isolation and development of fatty liver disease for dairy cattle. FASEB J. 34: Suppl. 1, Abstr. 06887.

F. Published letters or comments to the editor

- 1968 Absorption of fatty acids by young calves*
- 1969 Comparative biochemistry of double-muscled and normal Angus cows*
- 1969 Glycolic acid metabolism in dairy goats*
- 1970 Physiological limitation of milk protein synthesis*
- 1971 Lipogenesis in cattle*
- 1973 Effect of dietary cholesterol on lipid composition of plasma lipoproteins in the goat*
- 1974 Regulation of lipid synthesis in cattle*
- 1975 Animal acupuncture: Mapping and anesthesia*
- 1975 Role of liver in lactate metabolism in stress prone pigs*
- 1976 Lipogenesis in beef cattle*
- 1977 Lactate metabolism in stress-susceptible and stress-resistant pigs*
- 1980 Growth of fat in beef cattle*
- 1981 Prevention of milk fever in dairy cows*
- 1982 Renewed excitement in research on the porcine stress syndrome*
- 1984 Guidelines for describing diets for experimental animals. J. Nutr. 114:15-16.
- 1984 Mechanisms of cholesterol transport, uptake, and tissue distribution in miniature pigs fed two proteins and two fats*
- 1984 Feeding supplemental vitamin D₃ to dairy cows to increase amount of vitamin D in milk*

- 1987 Oral 2-ketoisocaproate administration increases milk fat production in dairy cows*
- 1986 Effect of type of dietary fats and proteins on tissue and plasma cholesterol metabolism in pigs*
- 1987 Does type of dietary fat influence glucose homeostasis?*
- 1988 Protein not linked to atherosclerosis. *J. Amer. Oil Chem. Soc.* 65:1052-1053
- 1988 Does eating beef or soy protein affect your plasma cholesterol differently?*

*ISU College of Agriculture Dean's Newsletter

G. General audience publications

- Walsh, L.S., D.C. Beitz, and N.L. Jacobson. 1985. Cholesterol transport and uptake in miniature pigs fed vegetable and animal fats and proteins. A.S. Leaflet R374. ISU Cattle Research Report. pp. 169-171.
- Rule, D.C., and D.C. Beitz. 1985. Increasing the proportion of polyunsaturated fatty acids of beef by feeding full-fat, extruded soybeans. A.S. Leaflet R375. ISU Cattle Research Report. pp. 1-10.
- Diersen-Schade, D.S., D.C. Beitz, and N.L. Jacobson. 1985. Cholesterol balance in young pigs fed beef, soy, and conventional diets. A.S. Leaflet R373. ISU Cattle Research Report. pp. 163-167.
- Beitz, D.C., N.L. Jacobson, M.J. Woltanski, and Y-H Ko. 1986. Plasma cholesterol and clearance of cholesterol in low-density blood lipoproteins of pigs fed beef or soy proteins. A.S. Leaflet R418. ISU Cattle Research Report. pp. 111-116.
- Rouse, G., and D. Beitz. 1986. The variation in cholesterol concentration in beef and its relationship with other beef carcass parameters: Progress report. A.S. Leaflet R418. ISU Cattle Research Report. pp. 117-118.
- Beitz, D.C., G.B. Shank, and N.L. Jacobson. 1986. Effect of animal and vegetable fats and proteins on distribution of cholesterol in plasma and tissues of young growing pigs. A.S. Leaflet R580-D. ISU Swine Research Report. pp. 11-19.
- Woollett, L.A., S.L. Nissen, and D.C. Beitz. 1986. Does type of dietary fat regulate plasma glucose concentration? A.S. Leaflet R500-E. ISU Swine Research Report. pp. 21-33.
- Woollett, L.A., S.L. Nissen, and D.C. Beitz. 1987. Does type of dietary fat regulate plasma glucose concentration? A.S. Leaflet R453. ISU Cattle Research Report. pp. 113-125.
- VandeHaar, M., P. Flakoll, D. Beitz, and S. Nissen. 1987. Oral 2-ketoisocaproate administration

increases milk fat production in dairy cows. A.S. Leaflet R434. ISU Cattle Research Report. pp. 11-14

Beitz, D.C., G.B. Shank, and N.L. Jacobson. 1987. Effect of animal and vegetable fats and proteins on distribution of cholesterol in plasma and tissues of young pigs. A.S. Leaflet R452. ISU Cattle Research Report. pp. 103-111.

Vandewert, W., D.C. Beitz, F.C. Parrish, Jr., and T.J. Knight. 1988. Several lipid components of Limousin beef and their relationship with carcass and sensory parameters. A.S. Leaflet R549. ISU Cattle Research Report. pp. 58-59.

Rouse, G. and D. Beitz. 1988. Cholesterol concentration in the lean tissue, liver, and plasma of beef cattle. A.S. Leaflet R548. ISU Cattle Research Report. pp. 57-58.

Luhman, C.M., and D.C. Beitz. 1988. Propionate and cholesterol homeostasis in animals. Nutr. Rev.

Beitz, D.C. 1988. How will advances in biotechnology affect your livestock operation. (Proc. Cornbelt Cow Calf Conf.)

Beitz, D.C. 1989. A novel method to produce low cholesterol foods. Iowa Poult. Symp. pp. 19-20.

Beitz, D.C. 1989. A description of beta agonists and PST. Proc. New Swine Growth Enhancers. pp. 10-15.

Effect of dietary calcium and vitamin D₃ on immune response and blood parameters of young swine. 1989. (ISU Swine Research Report).

Faidley, T.D., C.M. Luhman, S.T. Galloway, M.K. Foley, A.D. McGilliard, and D. Beitz. 1990. A surgical model designed to study the effects of beef consumption on cholesterol metabolism. A.S. Leaflet R727. ISU Beef/Sheep Research Report. pp. 95-96.

Luhman, C., T. Faidley, S. Galloway, and D.C. Beitz. 1990. Does feeding beef tallow or soy oil cause different concentrations of blood cholesterol? A.S. Leaflet R729. ISU Beef/Sheep Research Report. pp. 99-102.

Faidley, T., C. Luhman, S. Galloway, M. Foley, and D. Beitz. 1990. Does dietary beef tallow influence the removal of cholesterol from the body? A.S. Leaflet R728. ISU Beef/Sheep Research Report. pp. 96-99.

Knight, T.J., T. Faidley, and D.C. Beitz. 1991. Does dietary beef tallow influence postprandial lipoprotein composition of pigs? A.S. Leaflet R827. ISU Beef/Sheep Research Report. pp. 116-122.

Beitz, D.C. 1993. Does the fat in food matter to you? McGraw-Hill Yearbook of Science and Technology. New York, N.Y.

- Knight, T., T. Faidley, and D. Beitz. 1993. Effects of type and amount of dietary fat on lipoprotein composition and lecithin-cholesterol acyltransferase activity in pig plasma. A.S. Leaflet R1047. ISU Beef/Sheep Research Report. pp. 142-147.
- Faidley, T.D. and D.C. Beitz. 1993. Pigs as models for humans. A.S. Leaflet R1103. ISU Beef/Sheep Research Report. pp. 125-.
- von Borell, E., D. Beitz, L. Christian, and D. Zimmerman. 1993. Effects of chronic-intermittent restraint on behavior, immune response, adrenocortical function, and performance of pigs. A.S. Leaflet R1084. ISU Beef/Sheep Research Report. pp. 52-53.
- Young, J.W., and D.C. Beitz. 1995. Executive summary of research related to dairying conducted by the nutritional physiology group. D.S. Leaflet 33. ISU Dairy Report. pp. 69-70.
- Hustmyer, F.G., D.C. Beitz, J.P. Goff, B.J. Nonnecke, R.L. Horst, and T.A. Reinhardt. 1995. In vivo parathyroid hormone stimulates in vitro bone resorption by bovine monocytes. D.S. Leaflet 39. ISU Dairy Report. pp. 88-91.
- Beitz, D.C., T.J. Knight, and G.L. Lindberg. 1995. Genetic manipulation of mammary cells to improve fatty acid composition of milk. D.S. Leaflet 59. ISU Dairy Report. pp. 151-154.
- Hippen, A.R., D.C. Beitz, and J.W. Young. 1995. Redesigning milk fat from dairy cows. D.S. Leaflet 60. ISU Dairy Report. pp. 155-159.
- Li, L., and D.C. Beitz. 1995. Potential of a cholesterol-reducing bacterium in dairy foods. D.S. Leaflet 62. ISU Dairy Report. pp. 162-165.
- Jensen, H.H., and D.C. Beitz. 1995. New techniques to modify pork fats promote better health. Iowa Ag. Review 2:9-10.
- Beitz, D.C., T.J. Knight, and G.L. Lindberg. 1996. Genetic manipulation of adipose cells to improve fatty acid composition of meat. A.S. Leaflet R1360. ISU Beef Report. pp. 162-165.
- Rathmacher, J.A., F.J. Bonilla, C. Nizzi, J.C. Iiams, A. Al-Owaimer, D.C. Beitz, S.L. Nissen, and A. Trenkle. 1996. Effects of bovine somatotropin and Revalor-S[®] on growth performance and carcass leanness in beef cattle. A.S. Leaflet R1345. ISU Beef Reports. pp. 97-101.
- Ametaj, B.N., B.J. Nonnecke, T.A. Reinhardt, and D.C. Beitz. 1996. Interferon- γ secretion by bovine mononuclear leukocytes is inhibited by 1,25-dihydroxyvitamin D₃. D.S. Leaflet 97. ISU Dairy Report. pp. 69-72.
- Young, J.W., A.R. Hippen, P. She, G. Lindberg, and D.C. Beitz. 1996. Understanding the sequential development of lactation ketosis by use of a model ketosis. D.S. Leaflet 95. ISU Dairy Report. pp. 61-63.

Young, J.W., and D.C. Beitz. 1996. An overview of dairy-related research conducted by the Nutritional Physiology Group. D.S. Leaflet 94. ISU Dairy Report. pp. 59-60.

Penner, A.D., M.L. Kaplan, and D.C. Beitz. 1996. Redesigning pork by type and amount of dietary fat for better human nutrition. A.S. Leaflet R1423. ISU Swine Report. pp. 249-256.

Young, J.W., D.C. Beitz, and G.L. Lindberg. 1997. Dairy-related research conducted by the Nutritional Physiology Group. D.S. Leaflet 130. ISU Dairy Report. pp. 53-54.

Sparks, J.C., B.R. Wiegand, F.C. Parrish, Jr., R.C. Ewan, R.L. Horst, A.H. Trenkle, and D.C. Beitz. 1997. Effects of short term feeding of vitamin D₃ on pork quality. A.S. Leaflet R163. ISU Beef Report. pp. 55-57.

Montgomery, J.L., F.C. Parrish, Jr., D.C. Beitz, R.L. Horst, E.J. Huff-Lonergan, and A.H. Trenkle. 1997. Feeding of vitamin D₃ is a potential method to improve tenderness of beef. D.S. Leaflet 145. ISU Dairy Report. pp. 98-101.

Hippen, A.R., J.W. Young, P. She, G.L. Lindberg, and D.C. Beitz. 1997. Prepartal energy intake of dairy cows affects severity of fatty liver and susceptibility to ketosis. D.S. Leaflet 131. ISU Dairy Report. pp. 55-57.

Montgomery, J.L., F.C. Parrish, Jr., D.C. Beitz, R.L. Horst, E.J. Huff-Lonergan, and A. Trenkle. 1998. Feeding supplemental dietary vitamin D₃ to improve beef tenderness. A.S. Leaflet 162. ISU Beef Report. pp. 77-80.

Freeman, A.E., D.C. Beitz, T. Reinhardt, J. Cogdill, and G. Bobe. 1999. Variations of minerals in milk and their association with individual milk proteins. D.S. Leaflet 169. ISU Dairy Report. p. 68.

Beitz, D., A.E. Freeman, E. Hammond, and H. Jensen. 1999. Producing dairy products that are more healthy and taste like real dairy products. D.S. Leaflet 170. ISU Dairy Report. p. 69.

Beitz, D.C. 1999. Comment on subtherapeutic use of antibiotics in animal agriculture. (A CAST Comment).

Foote, M.R., D.C. Beitz, R.L. Horst, E.J. Huff-Lonergan, A.H. Trenkle, and F.C. Parrish, Jr. 2001. Use of vitamin D₃ and its metabolites to improve beef tenderness. A.S. Leaflet R1765. ISU Beef Research Report. pp. 133-137.

Beitz, D.C., R.N. Sonon, and A.H. Trenkle. 2001. Conjugated linoleic acid, an important nutraceutical in food from ruminants. CROPP Newsletter.

Gassman, K., F.C. Parrish, Jr., D.C. Beitz, and A. Trenkle. 2001. Effects of feeding calcium salts of conjugated linoleic acid (CLA) to finishing steers. A.S. Leaflet R1763. ISU Beef Research Report. pp. 125-130.

- Beitz, D.C. 2002. Consider dairy products with a high health index. Dairy Herd Mgmt. April, p. 40.
- Bohan, M., T. Knight, A. Wertz, A. Trenkle, and D. Beitz. 2003. Effect of ghrelin injection on blood and body composition. A.S. Leaflet R1840. ISU Beef Research Report.
- Wertz, A.E., D.C. Beitz, A. Trenkle, T.J. Knight, R.L. Horst, E.J. Huff-Lonergan, and F.C. Parrish, Jr. 2003. Use of 25-hydroxyvitamin D₃ to improve beef tenderness. A.S. Leaflet R1841. ISU Beef Research Report.
- Beitz, D.C., A. Trenkle, R. Sonon, and W. Miller. 2004. Conjugated linoleic acid: An important nutraceutical in foods. Brochure prepared for SARE extension activities.
- Wertz, A., T. Knight, A. Kreuder, M. Bohan, D. Beitz, and A. Trenkle. 2004. Effect of feed intake on plasma ghrelin concentration in beef cattle. A.S. Leaflet R1881. ISU Animal Industry Report.
- Foote, M.R., B.J. Nonnecke, D.C. Beitz, and M. Van Amburgh. 2004. Effects of intensified nutrition on immune cell populations in milk replacer-fed neonatal calves. A.S. Leaflet R1908. ISU Animal Industry Report.
- Bobe, G., B.N. Ametaj, R.A. Nafikov, D.C. Beitz, and J.W. Young. 2004. Health and reproductive performance of lactating dairy cows with mild fatty liver receiving exogenous glucagon. A.S. Leaflet R1904. ISU Animal Industry Report.
- Carnagey, K.M., D.S. Lewis, J.W. Stewart, and D.C. Beitz. 2004. Improvement of lipid absorption in young pigs as a model for preterm infants. A.S. Leaflet R1958. ISU Animal Industry Report.
- Sonon, R.N., D.C. Beitz, and A.H. Trenkle. 2004. Improving health benefits of beef and milk: A field study. A.S. Leaflet R1864. ISU Animal Industry Report.
- Knight, T., K. Stalder, R. Goodwin, S. Lonergan, and D.C. Beitz. 2004. Influence of breed, gender, and halothane genotype on lipids of longissimus dorsi muscle of pigs. A.S. Leaflet R1942. ISU Animal Industry Report.
- Bobe, G., G. Freeman, G.L. Lindberg, and D.C. Beitz. 2004. Milk protein genotypes explain variation of milk protein composition. A.S. Leaflet R1901. ISU Animal Industry Report.
- Bobe, G., V. Amin, D.C. Beitz, and J.W. Young. 2004. Non-invasive diagnosis of fatty liver and degree of fatty liver in dairy cows by digital analyses of hepatic ultrasonograms. A.S. Leaflet R1905. ISU Animal Industry Report.
- Knight, T., J. Minick, R. Tait, Jr., A. Trenkle, D. Wilson, G. Rouse, D. Strohhahn, J. Reecy, and D. Beitz. 2004. Redesigning beef cattle to have a more healthful fatty acid composition. A.S. Leaflet R1882. ISU Animal Industry Report.

- Bobe, G., S. Zimmerman, E.G. Hammond, G. Freeman, G.L. Lindberg, and D.C. Beitz. 2004. Texture of butters made from milks differing in indices of atherogenicity. A.S. Leaflet R1902. ISU Animal Industry Report.
- Beitz, D.C., J.W. Young, A.R. Hippen, and R. Nafikov. 2004. Use of glucagon to prevent and treat fatty liver in transition dairy cows. A.S. Leaflet R1903. ISU Animal Industry Report.
- Carnagey, K.M., and D.C. Beitz. 2004. Use of 25-hydroxyvitamin D₃ to improve tenderness of beef. <http://www.feedinfo.com>. ISU Animal Industry Report.
- DePra, H.A., J.D. Duggin, D.R. Gill, C.R. Krehbiel, J.B. Morgan, D.C. Beitz, A.H. Trenkle, R.L. Horst, and F.N. Owens. 2004. Effect of feeding 2,500, 50,000, or 100,000 IU of vitamin D₃ daily on feedlot performance, carcass merit, and plasma and tissue metabolite concentrations. Oklahoma Agric. Exp. Sta. Res. Rep. p-1008. Available at: <http://www.ansi.okstate.edu/research/2004rr/17/17.htm>
- Foote, M.R., B.J. Nonnecke, M.A. Fowler, B.L. Miller, D.C. Beitz and W.R. Waters. 2005. Nutritional modulation of the proliferation and activation of blood lymphocytes subsets from milk replacer-fed calves. A.S. Leaflet R2004. ISU Animal Industry Report.
- Carnagey, K.M., E.J. Huff-Lonergan, R.L. Horst, A.H. Trenkle, and D.C. Beitz. 2005. Use of 25-hydroxyvitamin D₃ to improve tenderness of beef. A.S. Leaflet R2005. ISU Animal Industry Report.
- Zhang, S., T. Knight, J. Minick, R. Tait, Jr., A. Trenkle, D. Wilson, G. Rouse, D. Strohhahn, J. Reecy, and D. Beitz. 2005. Association of genetic variation to healthfulness of beef. A.S. Leaflet R2009. ISU Animal Industry Report.
- Lonergan, S., R. Goodwin, E. Huff-Lonergan, K. Stalder, K. Prusa, T. Knight, and D. Beitz. 2006. Classification of pork loin based on lipid composition to predict sensory and textural properties. A.S. Leaflet R2052. ISU Animal Industry Report.
- Lonergan, S., R. Goodwin, K. Stalder, K. Prusa, T. Knight and D.C. Beitz. 2006. Relationship of pork longissimus muscle fatty acid profile with pork loin texture and sensory traits. A.S. Leaflet R2053. A.S. Leaflet R2053. ISU Animal Industry Report.
- Carnagey, K., E. Huff-Lonergan, S. Lonergan, R. Horst, A. Trenkle, and D.C. Beitz. 2006. Use of 25-hydroxyvitamin D₃ and dietary calcium manipulations to improve tenderness of beef. A.S. Leaflet R2055. ISU Animal Industry Report.
- Zhang, S., T. Wang, and D.C. Beitz. 2006. Soy lecithin but not egg lecithin decreased the plasma cholesterol concentration in golden Syrian hamsters. A.S. Leaflet R2080. ISU Animal Industry Report.
- Bohan, M., L. Anderson, A. Trenkle, and D. Beitz. 2006. Effects of dietary macronutrients on appetite-related hormones in blood on body composition of lean and obese rats. A.S. Leaflet R2081.

ISU Animal Industry Report.

Osman, M., N. Mehyar, G. Bobe, J. Coetzee, and D. Beitz. 2006. Acute effects of subcutaneous injection of glucagon and/or oral administration of glycerol on blood metabolites and hormones of Holstein dairy cows affected with fatty liver disease. A.S. Leaflet R2090. ISU Animal Industry Report.

Foote, M.R., B.J. Nonnecke, W.R. Waters, and D.C. Beitz. 2006. High-growth rate fails to enhance adaptive immune responses in neonatal calves and decreases immune cell viability. A.S. Leaflet R2103. ISU Animal Industry Report.

Mendonca, A., D. Beitz, and T. Boylston. 2006. Stability of *Eubacterium coprostanoligenes* for using as a cholesterol-lowering dietary adjunct in dairy products. Annu. Rpt. Midwest Dairy Foods Res. Ctr. pp. 157-158.

Beattie, S., E. Hammond, and D. Beitz. 2006. Decreasing the atherosclerotic index of milk. Annu. Rpt. Midwest Dairy Foods Res. Ctr. pp. 132-133.

Beitz, D., S. Veysey, M. Porter, E. Hammond, and A.E. Freeman. 2006. Finding the soft butter cow. Annu. Rpt. Midwest Dairy Foods Res. Ctr. pp. 6-7.

Tait, R.G., S. Zhang, T. Knight, J.M. Bormann, D. Strohhahn, D. Beitz, and J. Reecy. 2007. Heritability estimates for fatty acid concentration in Angus beef. A.S. Leaflet R2191.

Karcher, E., D.C. Beitz, and J. Stabel. 2007. Modulation of cytokine gene expression and secretion during the perparturient period in dairy cows naturally infected with *Mycobacterium avium* subsp. *paratuberculosis*. A.S. Leaflet R2198.

Bohan, M., M. Foote, B. Nonnecke, and D. Beitz. 2007. Plane of nutrition affects plasma ghrelin concentrations in neonatal calves. A.S. Leaflet R2199.

Osman, M., P. Allen, N. Mehyar, G. Bobe, J. Coetzee, and D.C. Beitz. 2007. Acute effects of postpartal subcutaneous injection of glucagon and/or oral administration of glycerol on blood metabolites and hormones and liver lipids and glycogen of Holstein dairy cows induced with fatty liver disease. A.S. Leaflet R2200.

Bohan, M., L. Anderson, A. Trenkle, and D. Beitz. 2007. Nutrient regulation of plasma ghrelin concentration in lean and overweight female humans. A.S. Leaflet R2214.

Lonergan, S., K. Stalder, E. Huff-Lonergan, T. Knight, R. Goodwin, K. Prusa, and D. Beitz. 2007. Contributions of pH and intramuscular lipid to sensory quality of fresh pork loin. A.S. Leaflet R2241.

Knock, R., A. Trenkle, D. Beitz, E. Huff-Lonergan, S. Lonergan, and J. Russell. 2008. Fatty acid profiles and control of pasture- and feedlot-finished beef steers supplemented with 25-

hydroxyvitamin D₃ prior to harvest. A.S. Leaflet R2273.

Knock, R., A. Trenkle, D. Beitz, E. Huff-Lonergan, S. Lonergan, and J. Russell. 2008. Effects of 25-hydroxyvitamin D₃ on sensory traits and color of beef from pasture- and feedlot finished beef steers. A.S. Leaflet R2274.

Knock, R., A. Trenkle, D. Beitz, E. Huff-Lonergan, S. Lonergan, and J. Russell. 2008. Use of 25-hydroxyvitamin D₃ to improve tenderness of beef from pasture- and feedlot-finished beef steers. A.S. Leaflet R2275.

Nelson, C., D. Beitz, T. Reinhardt, and J. Lippolis. 2008. Toll-like receptor signaling in bovine macrophages increases 1,25-dihydroxyvitamin D₃ production. A.S. Leaflet R2276.

Tait, R. Jr., S. Zhang, T. Knight, D. Strohbehn, D. Beitz, and J. Reecy. 2008. Genetic correlations of fatty acid concentrations with carcass traits in Angus-sired beef cattle. A.S. Leaflet R2285.

Foote, M., B. Nonnecke, D. Beitz, and R. Waters. 2008. Antigen-specific B cell responses of vaccinated, neonatal calves. A.S. Leaflet R2300.

Bobe, G., S. Zimmerman, E.G. Hammond, G. Freeman, P.A. Porter, C.M. Luhman, and D.C. Beitz. 2008. Butter composition and texture from cows with different milk fatty acid compositions fed fish oil or roasted soybeans. A.S. Leaflet R2302.

Karcher, E.L., D.C. Beitz, and J.R. Stabel. 2008. Osteopontin expression in periparturient dairy cows naturally infected with *Mycobacterium avium* subsp. *paratuberculosis*. A.S. Leaflet R2305.

Karcher, E.L., D.C. Beitz, and J.R. Stabel. 2008. Parturition invokes changes in peripheral blood mononuclear cell populations in Holstein dairy cows naturally infected with *Mycobacterium avium* subsp. *paratuberculosis*. A.S. Leaflet R2306.

Bobe, G., G.L. Lindberg, and D.C. Beitz. 2008. Regulation of periparturient milk composition in Jersey cattle. A.S. Leaflet R2307.

Bobe, G., G.L. Lindberg, J. Young, and D.C. Beitz. 2008. Changes in milk protein and amino acid composition of dairy cows in response to fatty liver and intravenous glucagon. A.S. Leaflet R2308.

Burkett, J., T. Baas, D. Beitz, C. Schwab, N. Berry, and S. Zhang. 2008. Correlated response in fatty acid composition after five generations of selection for intramuscular fat in Duroc pigs. A.S. Leaflet R2350.

Schoonmaker, J., A. Trenkle, and D. Beitz. 2009. Effect of feeding ethanol by-products on performance and marbling deposition in steers fed high-concentrate or high-forage diets. A.S. Leaflet R2419.

Nelson, C., D. Beitz, and J. Lippolis. 2009. Activation of vitamin D₃ in bovine mastitis caused by

Streptococcus uberis. A.S. Leaflet R2432.

Nafikov, R., J. Schoonmaker, J. Reecy, D. Moody-Spurlock, D. Beitz, K. Koehler, and J. Minick-Bormann. 2009. Effects of A17924G Phenotypes associated with thioesterase domain of fatty acid synthase and K232A genotypes of diacylglycerol acyltransferase-1 on milk fatty acid composition in Holstein cows. A.S. Leaflet R2433.

Osman, M., J. Stabel, J. Hostetter, D. Nettleton, and D.C. Beitz. 2010. Prevention of *Mycobacterium avium* subspecies paratuberculosis (MAP) infection in Balb/c mice by feeding *Lactobacillus acidophilus* strain NP-51[®]. ISU Animal Industry Report. A.S. Leaflet R2487.

Nelson, C., D. Beitz, T. Reinhardt, and J. Lippolis. 2010. 1,25-Dihydroxyvitamin D₃ enhances bovine mammary epithelial innate immune responses. ISU Animal Industry Report A.S. Leaflet R2488.

Drewnoski, M., D. Beitz, D. Loy, S. Hansen, and S. Ensley. 2011. Factors affecting ruminal hydrogen sulfide concentration of cattle. ISU Animal Industry Report A.S. Leaflet R2587.

Osman, M., J. Stabel, J. Hostetter, D. Nettleton, and D.C. Beitz. 2011. Probiotic *Lactobacillus acidophilus* strain NP51[®] curtails the progression of *Mycobacterium avium* subspecies paratuberculosis (MAP) infection in Balb/c mice. ISU Animal Industry Report A.S. Leaflet R2597.

Nelson, C.D., D.C. Beitz, T.A. Reinhardt, and J.D. Lippolis. 2011. Regulation of immune responses to *Mycobacteria bovis* by a paracrine mechanism of vitamin D signaling in cattle. ISU Animal Industry Report A.S. Leaflet R2601.

Bradner, L., J.R. Stabel, D.C. Beitz, S. Robbe-Austerman. 2012. Optimization of methods for the detection of *Mycobacterium avium* subsp. paratuberculosis in milk and colostrum of naturally infected dairy cows. ISU Animal Industry Report A.S. Leaflet R2676.

Osman, M., J. Stabel, K. Onda, S. Dowd, W. Kreikemeier, D. Ware, and D.C. Beitz. 2012. Modification of digestive system microbiome of lactating dairy cows by feeding Bovamine[®]: effect on ruminal fermentation. ISU Animal Industry Report A.S. Leaflet R2701.

Bradner, L., J.R. Stabel, D.C. Beitz, and S. Robbe-Austerman. 2013. Shedding of *Mycobacterium avium* subsp. paratuberculosis into milk and colostrum of naturally infected dairy cows over complete lactation cycles. ISU Animal Industry Report A.S. Leaflet R2793.

Beitz, D.C. 2014. Etiology and prevention of fatty liver and ketosis in dairy cattle. 2014 Florida Ruminant Nutrition Symposium 25th Annual Meeting Proceedings p. 41-51.

Testroet, E., G. Li, S. Clark, and D. Beitz. 2014. Quality of milk from lactating dairy cattle fed dried distillers grains with solubles. ISU Animal Industry Report A.S. Leaflet R2871.

O'Neil, M., M. Osman, E. Testroet, W. Kreikemeier, D. Ware, and D. Beitz. 2014. Direct-fed

microbials decreases dry matter intake and increased feed efficiency when fed to lactating Holstein dairy cows. ISU Animal Industry Report A.S. Leaflet R2877.

Krueger, L., D. Beitz, K. Onda, M. Osman, M. O'Neil, S. Lei, R. Stuart, H. Tyler and B. Nonnecke. 2014. Effects of d- α -tocopherol and dietary energy on growth and health of pre-ruminant dairy calves. 2014. ISU Animal Industry Report A.S. Leaflet R2880.

O'Neil, M., G. Kraus, N. Gabler, S. Lonergan, and D. Beitz. 2014. Impact of mitochondrially targeted novel antioxidant on pig feed efficiency. ISU Animal Industry Report A.S. Leaflet R2934.

Dehghan-Banadaky, M., L. Krueger, J. Stabel, and D. Beitz. 2015. Effects of complete vitamin and mineral supplementation in full potential all-milk diets on growth and health of Holstein bull calves. ISU Animal Industry Report, A.S. Leaflet R2968.

Krueger, L.A., D.C. Beitz, R.L. Stuart, and J.R. Stabel. 2015. Early inflammation disorder in neonatal calves. ISU Animal Industry Report, A.S. Leaflet R2969.

Testroet, E., C. Yoder, A. Testroet, C. Reynolds, M. O'Neil, S.M. Lei, D. Beitz, and T. Baas. 2015. Relationship of fat quality and meat quality traits of fresh pork. ISU Animal Industry Report, A.S. Leaflet R2942.

Testroet, E.D., V.M. Sankarlal, S. Clark, and D.C. Beitz. 2016. Lactational performance of Holstein dairy cows fed two levels of full-fat corn dried distillers grains with solubles. Anim. Ind. Rep. AS662, ASL R3069.

Testroet, E., M.R. O'Neil, A.L. Mueller, D.C. Beitz, and S. Clark. 2017. Feeding lactating Holstein dairy cows reduced-fat dried distillers grains with solubles: Milk composition and feed efficiency. Anim. Ind. Rep. AS 663, ASL R3152.

Testroet, E., M.R. O'Neil, D.C. Beitz, and S. Clark. 2017. Feeding lactating Holstein cows reduced-fat dried grains with solubles: Quality of baby Swiss cheese. Anim. Ind. Rep. AS 663, ASL R3157.

Testroet, E.D., S. Shome, J. Reecy, R.L. Jernigan, M. Zhu, M. Du, S. Clark, D.C. Beitz. 2018. Profiling of the exosomal cargo of bovine milk reveals the presence of immune- and growth-modulatory non-coding RNAs (ncRNA). Anim. Ind. Rep. AS 664, ASL. R.3235.

H. Non-print educational materials

Numerous overhead transparencies, slides, and posters have been prepared for presentations at scientific and seminar presentations.

I. Other contributions to print, broadcast, and electronic media

1986 I made a televised uplinked presentation on "Diet and Lipoprotein Metabolism" as part of Current Issues in Nutrition of the ISU Nutritional Sciences Council.

- 1992 I made two presentations on basics and uses of biotechnology as part of a nationally telecast live satellite videoconference with title of “Techniques and Applications of Biotechnology-- Implications for Industry”, which was ISU's entry into the National Technological University Market.
- 1993 “Applications of transgenic organisms to agriculture and human medicine” in a 2-hour movie on biotechnology that is coordinated by Purdue University.
- 1998 Described essentials of molecular biology in a one-hour show called “Plants, Animals, and Transgenics: A “Tomato by Any Other Name” that was part of nine hour series called “The DNA Files” that was aired nationwide by National Public Radio.
- 2003 Participated in about 9 radio interviews and 6 magazine/newspaper interviews regarding release of 2004 NRC publication on Dog and Cat Nutrition.

I have not kept record of many interviews that have been broadcast on radio and television and printed in magazines.

X. PATENTS

- ◆ Beitz, D. C. and M. E. Phillips. 1976. Method of measuring the fat and protein content of fluids. U.S. Patent #3,960,493
- ◆ Tipton, C. L. and D. C. Beitz. 1988. Method and composition for suppression of atherogenesis utilizing cholesterol hydroperoxides. U.S. Patent #4,789,670
- ◆ Beitz, D. C., J. W. Young, and S. S. Dehal. 1990. Method of converting cholesterol in food to coprostanol. U.S. Patent #4,921,710
- ◆ Beitz, D.C., A.E. Freeman, M.M. Schultz, and G.L. Lindberg. 1994. Association of bovine mitochondrial DNA with traits of economic importance. U.S. Patent #5,292,639
- ◆ Beitz, D.C. 1995. Administration of cholesterol reductase to humans. U.S. Patent #5,436,004
- ◆ Beitz, D.C., J.W. Young, L. Li, and K.K. Buhman. 1999. Oral administration of coprostanol producing microorganisms to humans to decrease plasma cholesterol concentration. U.S. Patent #5,972,685
- ◆ Young, J.W., D.C. Beitz, and A.R. Hippen. 1999. Use of glucagon as a metabolic conditioner for dairy cows and other ruminants. U.S. Patent #6,004,932
- ◆ Beitz, D.C., A.H. Trenkle, F.C. Parrish, Jr., J.L. Montgomery, and R.L. Horst. 2000. Use

of vitamin D and its metabolites and analogs to improve tenderness of meat and meat products. U.S. Patent #6,042,855

- ◆ Zhang, S., T. Knight, J.M. Reecy, and D. Beitz. 2011. Genetic markers in fatty acid synthase for identification of meat product fatty acid content in cattle. U.S. Patent #7,910,308B1

XI. GRANTS AND CONTRACTS (as PI)*

| Title | Grantor | Year Rec'd. | Year Term. | Amount of Award |
|--|---|-------------|------------|-----------------|
| Milk protein synthesis | ISU Res. Fdn. | 1968 | 1969 | \$2,500 |
| Milk analysis by nephelometry | Hach Chem., Ames, IA | 1970 | 1974 | 3,910 |
| Dietary cholesterol and brain development | ISU Res. Fdn. | 1974 | 1975 | 1,994 |
| Role of prostaglandins in fat deposition in cattle | ISU Res. Fdn. | 1976 | 1977 | 1,940 |
| Organophosphates as growth promotants | Dow Chemical, Midland, MI | 1978 | 1982 | 31,433 |
| Why are fat cells of cattle unable to synthesize fatty acids from glucose? | W. S. Martin--ISU Nutr. Sci. Council | 1979 | 1980 | 1,300 |
| Lipogenesis from lactate in cattle | ISU Res. Fdn. | 1979 | 1980 | 2,112 |
| Factors influencing the incidence of milk fever, prevention of milk fever, and vitamin D metabolism of several domestic species | USDA, Wash. D.C. | 1979 | 1983 | 128,395 |
| Concentrations of vitamins D ₂ and D ₃ and their metabolites in bovine milk as influenced by diet, breed, and stage of lactation | Midland UDIA, Ankeny, IA | 1980 | 1981 | 4,400 |
| Calcium homeostasis during total parenteral nutrition | NIH-UCLA Contract, Wash., D. C. | 1980 | 1983 | 30,024 |
| Cellularity of bovine adipose tissue | Merck & Co., Inc., Rahway, NJ | 1981 | 1982 | 5,000 |
| Dopamine and the porcine stress syndrome | ISU Res. Fdn. | 1981 | 1982 | 5,433 |
| Use of <i>Lactobacillus acidophilus</i> as a dietary ingredient for growing calves | Fermented Feeds, Inc., Mason City, IA | 1981 | 1982 | 8,600 |
| Prevention of milk fever by low-calcium diet | Iowa Limestone Co., Altoona, IA | 1981 | 1983 | 6,000 |
| The stress-susceptible pig as a model animal for Parkinson's disease | Amer. Parkinson's Dis. Assoc., New York, NY | 1982 | 1983 | 19,400 |
| Mineral imbalance: Responses to treatment | USDA--U. of PA. | 1983 | 1984 | 7,000 |

| | | | | |
|---|--|------|------|---------|
| with active metabolites of vitamin D | Contract, Wash., D.C. | | | |
| Dietary recommendations for the diabetic: saturated or unsaturated fat | Iowa Beef Industry Council, Ames, IA | 1983 | 1984 | 11,838 |
| Evaluation of 24(F)-1,25 dihydroxyvitamin D ₃ and 24,24(F) ₃ -1,25 dihydroxyvitamin D ₃ as possible preventatives of parturient paresis in the dairy cow | Hoffmann-LaRoche, Inc., Nutley, NY | 1983 | 1984 | 15,000 |
| Mechanism of control by dietary protein of cholesterol uptake by tissues | National Live Stock and Meat Board, Chicago, IL | 1983 | 1984 | 15,544 |
| Use of full-fat soybeans in beef cattle finishing diets as a source of rumen-bypass of polyunsaturated fatty acids | Iowa Soybean Promo. Bd. St. Louis, MO | 1983 | 1984 | 19,390 |
| Relationships of mitochondrial efficiency to varying rates of milk synthesis | W. S. Martin--ISU Nutr. Sci. Council | 1984 | 1985 | 2,550 |
| Dietary recommendations for the diabetic: saturated or unsaturated fat | Iowa Beef Industry Council, Ames, IA | 1984 | 1985 | 10,800 |
| Influence of type of dietary fat on hormonal regulation of glucose homeostasis | Amer. Diabetes Assoc.--Iowa Affiliate, Iowa City, IA | 1984 | 1985 | 11,000 |
| Evaluation of a series of vitamin D analogs in animal models of bone | Hoffmann-LaRoche, Inc., Nutley, NJ | 1986 | 1987 | 25,000 |
| Thymus receptor preparation | Smith Kline Clin. Lab., Inc. Creve Coeur, MO | 1984 | 1986 | 7,400 |
| Mitochondrial energy metabolism in mammary glands with differing milk production potential | National Assoc. of Animal Breeders, Columbia, MO | 1985 | 1986 | 7,500 |
| Influence of dried skim milk and butter on cholesterol uptake by tissues | Midland UDIA, Ankeny, IA | 1984 | 1987 | 82,000 |
| Mechanism of calcium and vitamin D ₃ in regulation of cholesterol homeostasis | National Dairy Promotion and Research Board, Arlington, VA | 1986 | 1988 | 102,544 |
| Evaluation of a series of vitamin D analogs in standard models of bone metabolism | Hoffmann-LaRoche, Inc., Nutley, NJ | 1986 | 1987 | 20,000 |
| Effect of amount of beef tallow and/or soy oil in the diet on regulation of plasma cholesterol concentration | Iowa Beef Industry Council, Ames, IA | 1986 | 1987 | 15,000 |
| Mitochondrial genotype differences in mammary glands with differing milk production potentials | National Assoc. of Animal Breeders, Columbus, MO | 1986 | 1987 | 3,500 |
| Use of enzymes to decrease cholesterol | Wisc. Milk Marketing Bd., | 1986 | 1989 | 148,450 |

| | | | | |
|--|--|------|------|---------|
| content of dairy products | Madison, WI | | | |
| Mechanism of cholesterol uptake by tissues | Amer. Heart Assoc.--IA Affiliate, Des Moines, IA | 1986 | 1988 | 24,500 |
| Mechanism of calcium and vitamin D ₃ in regulation of cholesterol homeostasis | USDA, Wash. D. C. | 1986 | 1988 | 80,000 |
| Evaluation of composition and eating qualities of beef from different lines of cattle | N. Amer. Limousin Fdn., Denver, CO | 1986 | 1987 | 3,750 |
| Evaluation of composition and eating qualities of beef from different lines of cattle | N. Amer. Limousine Fdn., Denver, CO | 1987 | 1988 | 850 |
| Effect of amount of beef tallow and/or soy oil in the diet on regulation of plasma cholesterol concentration | IA. Beef Industry Council, Ames, IA | 1987 | 1988 | 15,000 |
| Oxidative stress in a naturally occurring animal model of Parkinson's disease | W. S. Martin Fund of Nutr. Sci. Council | 1987 | 1988 | 3,060 |
| Interaction of mitochondrial and nuclear DNA in regulation of milk production | State of Iowa through ISU Biotechnology Council | 1986 | 1988 | 120,000 |
| A molecular study of cytoplasmic inheritance in dairy cattle | Holstein Association, Brattleboro, VT | 1988 | 1990 | 34,853 |
| In vivo method for decreasing cholesterol content of meat | W. S. Martin Fund of Nutr. Sci. Council | 1988 | 1989 | 2,000 |
| Effects of glucose-insulin-potassium prior to cardioplegia for myocardial presentation in ischemic damaged hearts and hypertrophied hearts | Iowa Methodist Hospital, Des Moines, IA | 1988 | 1989 | 15,000 |
| Decreasing cholesterol content of lamb by using cholesterol reductase | Iowa Sheep and Wool Promotion Board, Des Moines, IA | 1988 | 1989 | 5,000 |
| Mechanism of control of plasma cholesterol concentration by type and amount of dietary fat | Iowa Beef Industry Council, Ames, IA | 1989 | 1990 | 20,000 |
| Mitochondrial molecular genetics and milk production | Binational Agricultural Research and Development Fund, Wash., D.C. | 1989 | 1992 | 107,750 |
| Mechanism of control of cholesterol homeostasis by dietary fat | Amer. Heart Assoc.--Iowa Affiliate, Des Moines, IA | 1989 | 1991 | 27,000 |
| Use of enzymes to decrease the cholesterol content of dairy products | Wisconsin Milk Marketing Board, Madison, WI | 1990 | 1991 | 29,500 |
| Effect of redesigned pork on cholesterol metabolism | National Live Stock and Meat Board, Chicago, IL | 1990 | 1992 | 72,900 |
| Mechanism of control of plasma cholesterol | Iowa Beef Industry | 1990 | 1991 | 18,500 |

| | | | | |
|---|--|------|------|---------|
| | Council, Ames, IA | | | |
| Decreasing cholesterol content of lamb by using cholesterol reductase | Iowa Sheep and Wool Promotion Board, Des Moines, IA | 1990 | 1991 | 5,000 |
| Evaluation of a series of vitamin D analogs in animal models of bone | Hoffmann-LaRoche, Inc., Nutley, NJ | 1990 | 1991 | 5,000 |
| Molecular biology and phenotypic relationships of bovine mitochondrial DNA | USDA, Wash., D.C. | 1990 | 1993 | 210,000 |
| Redesigning milk fat from dairy cows | Biotechnology Research and Development Corp., Peoria, IL | 1991 | 1992 | 36,000 |
| Mechanism of control of plasma cholesterol | Iowa Beef Industry Council, Ames, IA | 1991 | 1992 | 20,000 |
| Use of enzymes to decrease cholesterol content of foods | ISU Human Nutrition Ctr. | 1991 | 1993 | 60,000 |
| Can the cDNA for human LDL receptor be used to detect and quantify mRNA for the porcine LDL receptor | W. S. Martin Fund of ISU Nutr. Sci. Council | 1991 | 1992 | 1,800 |
| Modified pork fats for better human nutrition | ISU Human Nutrition Ctr. | 1991 | 1993 | 22,000 |
| The relationship between antioxidants in foods and human health maintenance | ISU Human Nutrition Ctr. | 1991 | 1993 | 15,000 |
| Mechanism of control of blood cholesterol | Iowa Beef Industry Council | 1992 | 1993 | 10,000 |
| Decreasing cholesterol in dairy products | Iowa Dairy Products Assoc. | 1992 | 1993 | 2,500 |
| Evaluating the incorporation of <i>Eubacterium coprostanoligenes</i> into dairy products | Anderson Erickson Dairy Co. | 1992 | 1993 | 7,500 |
| Increasing desaturase activity of animal cells | Iowa Beef Industry Council | 1993 | 1994 | 10,000 |
| Addition of <i>Eubacterium coprostanoligenes</i> to pork products to decrease cholesterol content | Iowa Pork Producers Assoc. | 1993 | 1994 | 15,000 |
| Mitochondrial genetic differences between swine breeds and their relation production trait differences | Iowa Pork Producers Assoc. | 1993 | 1994 | 15,000 |
| Addition of <i>Eubacterium coprostanoligenes</i> to lamb products to decrease cholesterol content | Iowa Sheep and Wool Promotion Board | 1993 | 1994 | 5,000 |
| Effect of enrichment of the intestine with <i>Eubacterium coprostanoligenes</i> on blood cholesterol contents | Merck Co. | 1993 | 1994 | 5,000 |

| | | | | |
|--|---|------|------|---------|
| Mitochondrial DNA mutation in naturally occurring cardiomyopathies | Merck Co. | 1994 | 1994 | 6,000 |
| Modifying animal cells to produce a greater ratio of monounsaturated fatty acids | USDA Human Nutrition Center at ISU | 1994 | 1995 | 23,740 |
| Vitamins A, D, E, and K concentrations in bison and beef livers | American Bison Assoc. | 1994 | 1995 | 5,000 |
| Modifying animal cells to produce a greater ratio of monounsaturated fatty acids | ISU Center for Designing Foods to Improve Nutrition | 1994 | 1995 | 23,740 |
| Cloning of cholesterol reductase gene from <i>Eubacterium coprostanoligenes</i> | ISU W.S. Martin Fund | 1995 | 1996 | 2,500 |
| Relation of mitochondrial genetic differences to production trait differences | Iowa Pork Producers Assoc. | 1995 | 1996 | 17,000 |
| Manipulating mammary cells to synthesize the “ideal” milk fat | ISU Biotechnology Program | 1995 | 1996 | 15,000 |
| Molecular cloning and functional expression of the cholesterol reductase gene from <i>Eubacterium coprostanoligenes</i> ATCC 51222 | ISU Center for Designing Foods to Improve Nutrition | 1996 | 1997 | 25,650 |
| Increasing the ratio of monounsaturated to saturated fatty acids in animal cells by genetic manipulation | ISU Center for Designing Foods to Improve Nutrition | 1996 | 1997 | 22,050 |
| Influence of type of dietary fat on composition of emu oil and meat | American Emu Association | 1996 | 1998 | 24,000 |
| Use of vitamin D and its metabolites to improve tenderness of beef | Iowa Beef Industry Council | 1996 | 1998 | 15,831 |
| Increasing the ratio of monounsaturated to saturated fatty acids in animal cells by genetic manipulation | ISU Center for Designing Foods to Improve Nutrition | 1997 | 1998 | 23,500 |
| Use of vitamin D and its metabolites to improve tenderness of pork | National Pork Producers Council | 1997 | 1998 | 23,800 |
| Improvement of health benefits of milk by increasing its content of conjugated linoleic acid | ISU Center for Designing Foods to Improve Nutrition | 1998 | 1999 | 24,600 |
| Use of vitamin D and its metabolites to improve beef tenderness | Iowa Beef Industry Council | 1999 | 2000 | 35,000 |
| Use of a cholesterol reducing bacterium to decrease blood cholesterol | S. J. Biologics, Inc. | 1998 | 1999 | 160,000 |
| Why does conjugated linoleic acid (CLA) increase saturated fatty acid content of | W. S. Martin Fund | 1998 | 1999 | 4,000 |

animal tissues

| | | | | |
|--|--|------|------|---------|
| Identification of genes affecting meat quality in the pig (M.F. Rothschild is P.I.) | Pig Improvement Company | 1998 | 2000 | 240,000 |
| Preparation of active cholesterol reductase | W. S. Martin Fund | 1998 | 1999 | 5,000 |
| Using milks of divergent fat compositions for production of more healthful dairy foods | Land O' Lakes/Center for Advanced Technology Development | 1999 | 2002 | 130,000 |
| Use of vitamin D and its metabolites to improve tenderness of beef | Iowa Beef Industry Council | 1999 | 2000 | 15,500 |
| Use of vitamin D and its metabolites to improve tenderness of beef | National Cattlemen's Beef Association | 1999 | 2000 | 20,000 |
| Travel grant for Ovidiu Popescu of Romania | Coll. of Agr. Int'l. Program | 2000 | 2000 | 2,000 |
| A novel approach to prevention and treatment of fatty liver | W.S. Martin Fund | 2000 | 2001 | 8,000 |
| Use of 25-hydroxyvitamin D ₃ to improve tenderness of beef | Iowa Beef Industry Council | 2001 | 2002 | 25,000 |
| Assessing and enhancing conjugated linoleic acid concentrations in foods from pastured dairy and beef cattle | NRC SARE | 2001 | 2003 | 66,500 |
| Producing milk with greater health benefits | Iowa Dairy Association | 2001 | 2002 | 2,000 |
| Support of dairy research | Bioproducts, Inc. | 2001 | 2002 | 9,000 |
| Treatment of fatty liver by leptin | W.S. Martin Fund | 2002 | 2003 | 7,250 |
| Prevention of fatty liver in dairy cows by glucagon and glycerol | NRI/USDA | 2002 | 2004 | 289,593 |
| Redesigning beef cattle to have a more healthful fatty acid composition | CDFIN | 2002 | 2004 | 57,133 |
| Using a combination of 25-hydroxyvitamin D ₃ and vitamin E to improve beef tenderness | Iowa Beef Industry Council | 2003 | 2004 | 22,863 |
| Evaluation of health benefits of conjugated linoleic acid (CLA)-enriched dairy and beef foods | NCR SARE | 2004 | 2006 | 150,000 |
| A survey of native Iowa and agronomic plants for cholesterol reductase: A potential therapeutic agent for high blood cholesterol | Iowa Science Foundation | 2004 | 2005 | 4,850 |
| Novel strategies to improve tenderness of underutilized round muscles from cows | National Cattlemen's Beef Association | 2004 | 2005 | 73,202 |

| | | | | |
|---|--|------|------|---------|
| Fractionation of tallow from Wagyu fat | Yama Beef Inc. | 2004 | 2004 | 15,000 |
| Effect of egg yolk lecithin on absorption of dietary cholesterol (T. Wang is P.I.) | CDFIN | 2004 | 2005 | 38,832 |
| Nutrient regulation of plasma ghrelin concentration in lean and overweight female humans | CDFIN | 2004 | 2005 | 47,866 |
| Evaluation of the nutritional value of different corn hybrid traits on performance of pigs, broilers, and layers (K. Bregendahl is P.I.) | J. C. Robinson Seeds | 2004 | 2006 | 99,073 |
| Genetic analysis of fatty acid composition of beef and milk—developing tools for use in selection | USDA | 2005 | 2008 | 300,000 |
| Improving the healthfulness of milk fatty acid composition by identifying markers for selection | CDFIN | 2005 | 2006 | 39,388 |
| Nutrient regulation of plasma ghrelin concentration in lean and overweight male humans | CDFIN | 2005 | 2006 | 48,567 |
| Evaluation of health benefits of conjugated linoleic acid (CLA)-enriched dairy and beef foods | NCR SARE | 2005 | 2006 | 125,000 |
| Evaluation of nutritional regime and drug/nutraceutical treatments for prevention of nonalcoholic fatty liver disease in rats as models for humans | CDFIN | 2006 | 2008 | 60,690 |
| A novel approach to improving tenderness of underutilized muscles from the round from pasture-fed cattle | National Cattlemen’s Beef Association | 2006 | 2007 | 86,018 |
| Finding the “soft butter” cow | Midwest Dairy Association | 2005 | 2006 | 25,000 |
| A preliminary study on variation in healthfulness of beef from different breeds (J. M. Reecy is P.I.) | National Cattlemen’s Beef Association | 2006 | 2006 | 37,750 |
| Evaluation of sustained release formulations of vitamin D for use in animal and human nutrition | Cytochroma, Inc. Markham, Ontario, Canada | 2006 | 2007 | 9,917 |
| Effect of dietary conjugated linoleic acid as a novel and safe inhibitor of growth and development of the European corn borer (J. Coats is Co-P.I.) | ISU Research Foundation | 2006 | 2007 | 17,316 |
| Effect of feeding ethanol by-products on marbling and fatty acid composition of beef | Iowa Beef Industry Council | 2006 | 2007 | 20,000 |

| | | | | |
|---|---|------|------|-----------|
| Effect of feeding ethanol by-products on marbling and fatty acid composition of beef | Iowa Beef Center | 2006 | 2007 | 5,000 |
| Effect of feeding ethanol by-products on marbling and fatty acid composition of beef | Iowa Beef Industry Council | 2007 | 2008 | 15,000 |
| Selection for increased intramuscular fat and its effect on other quality traits and the fatty acid composition of pork (T. Baas is P.I.) | National Pork Board | 2007 | 2008 | 31,988 |
| Dietary regulation of oxidative stress and obesity (T. Stahly, G. Kraus are P.I.s) | CDFIN | 2007 | 2008 | 39,350 |
| Enhancing the healthfulness of milk fat | Midwest Dairy Association | 2008 | 2009 | 45,000 |
| Prevention and treatment of <i>Mycobacterium avium</i> subsp. <i>paratuberculosis</i> (MAP) infection in mice by <i>Lactobacillus acidophilus</i> NP 51 | Nutrition Physiology | 2007 | 2009 | 180,000 |
| Utilization of natural genetic variation to improve healthfulness of beef (J. Reecy is P.I.) | Pfizer Animal Genomics | 2008 | 2010 | 1,444,868 |
| Dietary regulation of oxidative stress and obesity | NWRC | 2008 | 2009 | 30,000 |
| Effect of feeding corn genetically modified to contain amylase on body weight gain, feed intake, and feed efficiency of feedlot cattle | Syngenta Corp. | 2009 | 2009 | 36,634 |
| Enhancing the healthfulness of milk from Jersey cattle | Iowa Science Foundation | 2009 | 2009 | 5,000 |
| Increasing the use of distillers grains in livestock diets (D. Loy is P.I.) | Iowa Power Fund | 2009 | 2011 | 172,994 |
| Infrastructure support of ISU Beef Breeding herd | ISU Center for Integrated Animal Genomics | 2009 | 2010 | 8,000 |
| Enhancing the healthfulness and marketability of milk from Jersey cattle | American Jersey Cattle Association | 2009 | 2010 | 7,900 |
| Effects of long-term supplementation of laying hen diets with high concentrations of cholecalciferol on egg yolk vitamin D concentration, egg quality, hen performances, and hen health (M. Persia is P.I.) | American Egg Board/ Iowa Egg Council | 2010 | 2012 | 119,104 |
| Modification of immune response and digestive system microbiota by Bovamine® in lactating cows | Nutrition Physiology Corp. | 2010 | 2011 | 72,000 |
| Infrastructure support of ISU Beef Breeding herd | ISU Center for Integrated Animal Genomics | 2010 | 2011 | 6,000 |

| | | | | |
|--|--|------|------|---------|
| Prevention of oxidative off-flavors to maximize quality and shelf life of fluid milk (S. Clark is P.I.) | Dairy Management Inc. | 2011 | 2013 | 87,000 |
| Increasing the inclusion rate of distillers grains in beef cattle diets through mitigation of sulfate toxicity (S. Hansen is P.I.) | Alliance Nutrition/ADM | 2010 | 2011 | 117,979 |
| Infrastructure support of ISU Beef Breeding herd | ISU Center for Integrated Animal Genomics | 2011 | 2012 | 6,000 |
| Bovamine and feed efficiency of dairy cows | Nutrition Physiology Corp. | 2011 | 2013 | 145,000 |
| Impact of mitochondrially targeted novel antioxidant on feed efficiency | National Pork Board | 2011 | 2013 | 59,949 |
| Free-radical generation differential scanning calorimetry (FRG-DSC): A novel and reliable method for assessing oxidative stability and predicting shelf life of milk | Iowa Science Foundation | 2012 | 2013 | 5,000 |
| Evaluation of fungal biomass as a feed source to assist low-performing nursery pigs achieve viable production outcomes (J. Van Leeuwen is P.I.) | Iowa Attorney General: Innovative Swine Industry Enhancement Grant Program | 2013 | 2014 | 87,819 |
| Vitamin E and dairy calf growth and health | Robert Stuart Products | 2012 | 2013 | 7,500 |
| Fat-soluble vitamins and Johne's disease development | Robert Stuart Products | 2013 | 2014 | 7,500 |
| Relationship of fat quality to meat and eating quality traits of pork (T. Baas is P.I.) | National Pork Board | 2013 | 2014 | 68,250 |
| Milk composition and cheese quality: investigating the impact of dried distillers grains with solubles (DDGS) | Midwest Dairy Association | 2013 | 2014 | 74,464 |
| Effects of complete vitamin and mineral supplementation in full-potential all-milk diets on growth and health of Holstein bulls | Animix and DSM | 2014 | 2014 | 12,591 |
| Reduced fat DDGS feeding: Investigating impact on milk composition and cheese quality | Minnesota Corn Research | 2015 | 2016 | 79,146 |
| Micro RNAs: A novel nutraceutical in milk | Midwest Dairy Association | 2015 | 2015 | 24,132 |
| Micro RNA in infant formula: A novel nutraceutical | Iowa Academy of Science | 2015 | 2016 | 591 |
| Value of quizzes in teaching biochemistry | ISU Center for Excellence In Learning and Teaching | 2015 | 2017 | 2,500 |
| Unrestricted gift | Tech Mix | 2015 | 2016 | 5,000 |

| | | | | |
|---|-----------|------|------|---------|
| Unrestricted gift | Tech Mix | 2016 | 2017 | 40,000 |
| Training Graduate Students and Future Leaders in Animal Nutritional Physiology And Metabolism | USDA | 2016 | 2019 | 220,500 |
| A novel therapeutic to address fatty liver In post-parturient dairy cows (with U. VT) | USDA/SBIR | 2020 | 2022 | 115,000 |

*Have received financial support for one to three graduate students per year from the National Animal Disease Center of the ARS/USDA.

XII. MENTOR FOR VISITING SCIENTISTS AND POSTDOCTORAL STUDENTS

VISITING SCIENTISTS

| Name | Address | Appt. Year | Period | Position |
|------------------|--|------------|----------|--------------------------------------|
| H. N. Munro | MIT | 1979 | 1 week | Wellcome Visiting Professor |
| R. L. Hood | CSIRO, Sydney, Australia | 1980-81 | 1 year | ISU World Food Inst. Foreign Scholar |
| K. Hove | Agr. Univ. of Norway | 1980-81 | 1 year | Fogarty Fellow |
| R.A. Leng | Univ. New England, Armidale, N.S.W., Australia | 1982 | 4 weeks | MASUA, Distinguished Foreign Scholar |
| S. A. Aprahamian | Jordan, Saudi Arabia | 1982-83 | 1.5 yrs | World Food Inst. Foreign Scholar |
| A.D. Care | Leeds Univ. Leeds, England | 1985 | 4 weeks | MASUA Distinguished Foreign Scholar |
| J. M. Dietschy | Univ. of Texas, Dallas, TX | 1985 | 1 week | Wellcome Visiting Professor |
| P. J. Van Soest | Cornell Univ., Ithaca, NY | 1986 | 1 week | Visiting Lecturer |
| P.B. Lazarow | Rockefeller Univ., New York, NY | 1987 | 1 week | Wellcome Visiting Professor |
| A. Borman | Univ. Gdansk, Gdansk, Poland | 1987 | 3 months | Visiting Scientist |
| J. P. Tritschler | Univ. of Massachusetts Amherst, MA | 1988-89 | 1 year | Visiting Scientist |
| R.W. Hanson | Case-Western Reserve Univ., Cleveland, OH | 1989 | 1 week | Visiting Lecturer |

| | | | | |
|----------------|---|---------|-----------|-----------------------------|
| A.A. Tzagoloff | Columbia Univ., New York, NY | 1990 | 1 week | Visiting Lecturer |
| D.F. Birt | Eppley Cancer Research Institute | 1991 | 1 week | Visiting Lecturer |
| J.B. Yang | Dongnan Health Junior College, Suwon, S. Korea | 1991 | 1 year | Visiting Scientist |
| C.-S. Yoon | Korea Food Research Institute, Seoul, S. Korea | 1991-92 | 1 year | Visiting Scientist |
| A. C. Beynen | State Univ., Utrecht, The Netherlands | 1992 | 1 week | Visiting Lecturer |
| B.N. Ametaj | Univ. of Agriculture Tirana, Albania | 1994 | 12 months | Visiting Scientist |
| S. Maak | Martin Luther Univ. Halle, Germany | 1994 | 12 months | Visiting Scientist |
| K.A. Hartman | Ames High School Ames, IA | 1995 | 10 weeks | ASBMB Fellow |
| D. H. Beermann | Cornell Univ. | 1995 | 1 week | Visiting Lecturer |
| C. S. Lieber | Mt. Sinai Sch. of Med. | 1996 | 1 week | Wellcome Visiting Professor |
| R. J. Martin | Univ. of Georgia Athens, GA | 1997 | 1 week | Visiting Lecturer |
| S. Meydani | Tufts Univ. Boston, MA | 1998 | 3 days | Wellcome Visiting Professor |
| D.B. Jump | Michigan State Univ. E. Lansing, MI | 1999 | 3 days | Visiting Lecturer |
| O. Popescu | Fac. of Vet. Med. Iasi, Romania | 2000 | 2 weeks | Visiting Scientist |
| R. Sonon | Visayas St. Coll. Agr. Baybay, Philippines | 2000 | 4 years | Visiting Scientist |
| H. Sies | Heinrich Heine Univ. Dusseldorf, Germany | 2002 | 2 days | Visiting Lecturer |
| R. Sunde | Univ. of Missouri | 2003 | 5 days | Visiting Lecturer |
| A. Krastanov | Univ. Food Tech., Plovdiv, Bulgaria | 2003 | 4 months | Visiting Scientist |
| I. Jovanovic | Fac. Vet. Med., Belgrade, Serbia | 2003 | 4 months | Visiting Scientist |

| | | | | |
|---------------------|---|------|----------|--------------------|
| H. Koknaroglu | Suleyman Demirel Univ. Isparta, Turkey | 2004 | 2 months | Visiting Scientist |
| J. Kaput | NutraGenetics Co., Chicago, IL | 2005 | 3 days | Visiting Lecturer |
| D. Kirovski | Fac. Vet. Med., Belgrade, Serbia | 2005 | 1 month | Visiting Scientist |
| T. Carr | Univ. Nebr.-Lincoln | 2007 | 5 days | Visiting Lecturer |
| G. Wu | Texas A&M Univ. | 2009 | 5 days | Visiting Lecturer |
| S. Saha | Indian Vet. Res. Inst. Izatnagar, India | 2010 | 3 months | Visiting Scientist |
| B. Ametaj | Univ. of Alberta Edmonton, Alberta, Canada | 2010 | 1 week | Visiting Lecturer |
| H. Onda | Azabu Univ. School of Vet. Med. Kanagawa, Japan | 2010 | 2 years | Visiting Scientist |
| F. Wattoo | PMAS-Arid Agriculture Univ., Rawalpindi, Pakistan | 2012 | 7 months | Visiting Scientist |
| M. Dehghan-Banadaky | Univ. of Tehran, Tehran, Iran | 2014 | 7 months | Visiting Scientist |
| M. White | Univ. of Illinois-UC | 2014 | 1 week | Visiting Lecturer |
| C. Yeoman | Montana State Univ. | 2014 | 1 week | Visiting Lecturer |
| G. Fahey | Univ. of Illinois-UC | 2015 | 1 week | Visiting Lecturer |
| C. Woteki | Formerly USDA | 2018 | 1 week | Visiting Lecturer |

POSTDOCTORAL ASSOCIATES

| Name | Appointment Period | Research |
|-----------------|-------------------------------------|-----------------------|
| T. A. Reinhardt | 1980 to 1982 | Milk Fever |
| S. S. Dehal | May 1987 to February 26, 1991 | Cholesterol Reductase |
| D. R. Brown | June 1987 to December 31, 1988 | Mitochondria |
| S. Sadiev | January 1991 to January 31, 1993 | Mitochondria |
| B. Ametaj | September 1999 to December 31, 2001 | Fatty Liver |
| A. Wertz | January 2001 to August 23, 2003 | Growth of Beef Cattle |
| T. Knight | March 2001 to May 2005 | Growth of Beef Cattle |

| | | |
|----------------|--------------------------|--|
| J. Schoonmaker | August 2006 to July 2009 | Beef and Milk Fatty Acids |
| M. Drewnoski | August 2009 to June 2011 | Beef Fatty Acids/Sulfate Reduction to H ₂ S |

XIII. SIGNIFICANT PRESENTATIONS

a. on-campus

- 1968 “Milk protein biosynthesis” to Modern Views of Nutrition Seminar
- 1970 “Prostaglandins” to Modern Views of Nutrition Seminar
- 1972 “Regulation of conversion of feed carbon to animal protein” to Nutritional Science Council Symposium
- 1976 “Dietary cholesterol and atherosclerosis” to Iowa Science Teachers Short Course
- 1977 “Fat deposition in cattle” to Department of Food Technology
- 1977 “Can we control our blood cholesterol?” at Iowa Science Teachers Short Course
- 1979 “Growth patterns of different types of cattle as related to fat deposition and marketing alternatives” to Iowa Cattle Feeders Day
- 1980 “Lipogenesis in ruminants” to Veterinary Pharmacology and Physiology Department
- 1980 “Animal products in human nutrition” to Iowa Dairy Products Association meeting
- 1981 “Milk fever in dairy cows” at the 1981 Large Dairy Herd Management Seminar
- 1982 “The process of fattening: Why do some cattle get fatter than others” to ISU 1982 Cattle Producers Day
- 1982 “Physiological and metabolic aspects of animal growth” to Veterinary Pharmacology and Physiology Department
- 1982 “The porcine stress syndrome” to Biochemistry-Biophysics Department
- 1984 “Differences among mitochondria for energy transfer in mice and dairy cattle” to Colloquium in Agricultural Biotechnology
- 1984 “Animal products and cholesterol metabolism” to Iowa Food and Nutrition Seminar
- 1984 “Cholesterol and you” to Kildeettes group
- 1984 “Does diet composition alter low-density lipoprotein metabolism?” to MCDB 698 Seminar Program

- 1985 “Growth hormone” to Iowa Dairy Management Seminar
- 1985 “Diet and cholesterol metabolism” to Biochemistry-Biophysics Department
- 1985 “Basic metabolism—How end products are metabolized and species differences” to Veterinary Pharmacology and Physiology Department
- 1985 “Cholesterol and you” to Area Production Livestock Specialists
- 1986 “Diet and lipoprotein metabolism” to Current Issues in Nutrition of Nutritional Sciences Council
- 1986 “Biotechnology and Animal Agriculture” to Iowa State University Annual Extension Conference
- 1987 “Agricultural biotechnology” to ISU Dairy Science Club
- 1987 “Biotechnology Council Sponsored Activities at ISU” to Department of Animal Sciences
- 1987 “Biotechnology in Iowa--Emphasis on Animal Production” to College Week at ISU
- 1987 “Biotechnology and Iowa” to 4-H Conference Workshop
- 1988 “Application of biotechnology to plant and animal agriculture” to Upper Midwest Honors Conference
- 1988 “Application of biotechnology to animal agriculture” to College Days '88
- 1988 “Application of biotechnology to animal biotechnology” to Presidents of local chapters of Iowa Cattleman's Association
- 1988 “Use of growth hormone in the dairy industry” to ten-week course to visiting Pakistani students
- 1988 “Use of growth hormone by the dairy industry” to Department of Animal Science
- 1989 “Hormonal control of carbohydrate, lipid, and protein metabolism”. Two hours of lecture to freshmen veterinary students in VIP 349
- 1989 “Research in nutritional physiology.” One hour lecture to An. Sci. 318 class
- 1989 “Eat to your heart's content” to Department of Physiology and Pharmacology
- 1989 “Application of biotechnology to animal agriculture” to Science in Agriculture Awareness

Program of College of Agriculture

- 1989 “Eat to your heart’s content” as Honor Lecture of ISU Sigma Xi Chapter
- 1989 “A novel method to produce low cholesterol foods” to Department of Animal Science
- 1989 “Current research on diet and blood cholesterol concentration” to Olmsted County, Minnesota 4-H'ers visit to Iowa State University
- 1989 “Application of biotechnology to plant and animal agriculture” to alumni of Iowa State University Chapter of Alpha Gamma Rho fraternity
- 1989 “Biotechnology at Iowa State University” to ISU Cyclone Aides
- 1989 “A novel method to produce low cholesterol foods” to Iowa Poultry Symposium
- 1989 “Biotechnology at Iowa State University” to Iowa high school vocational agriculture teachers attending a continuing education program
- 1989 “Application of biotechnology to animal agriculture” to College Days '89
- 1989 “Gender issues relative to advising” as a panel member during ISU Women's Week Program
- 1990 “Agricultural biotechnology” to Alpha Zeta Honorary Fraternity
- 1990 “Designing animal-derived foods at Annual Initiation Banquet of Gamma Chapter of Phi Zeta (Honor Society of Veterinary Medicine)
- 1990 “Application of biotechnology to agriculture” at Agriculture Career Day at ISU
- 1990 “Changing animals and animal products to meet dietary guidelines” to Current Issues in Nutrition program
- 1990 “Application of biotechnology to animal agriculture” as part of Summer Scene 1990 at Iowa State University (In Maintenance Shop of Memorial Union)
- 1990 “Application of biotechnology to animal agriculture” to Vocational Agriculture teachers attending conference at Iowa State University
- 1990 “Modification of animal products” to Seminar Series of ISU Parents Weekend 1990
- 1990 “Application of biotechnology in agriculture” to Iowa Talent Search, Fall Career Days for Gifted 7th and 8th Graders
- 1991 Nutritional Physiology Research to Iowa Farm Bureau Federation Dairy Advisory Committee

Meeting

- 1991 “Potential biotechnologies for livestock production” to conference on Animal Agriculture in Iowa, sponsored by Iowa Business Council
- 1991 “Agriculture biotechnology” to ISU Summer Ag Biotechnology Workshop
- 1991 “Undergraduate research” to Pres. Jischke's leadership class of outstanding freshman scholars
- 1991 “Agricultural biotechnology” to ISU students attending a program for Talented and Gifted
- 1992 “Why your mother is most important” to Department of Veterinary Pharmacology and Physiology
- 1992 “Biotechnology and animal agriculture” to Biology 102 class
- 1992 “Removal of cholesterol from food” to Assembly of Iowa Heart Association
- 1992 “What is DNA?” to gifted Iowa students attending Investigations Series Conference of OPTAG at Iowa State University
- 1992 “Basics of biotechnology” and “Applications of biotechnology to animal agriculture and human medicine” to a nationally televised live satellite videoconference as ISU's entry into the National Technological University program market
- 1993 “Strategies for cholesterol reduction” in Toxicology Seminar Series at Iowa State University
- 1993 “Removing cholesterol from foods” to Initiation Banquet of local Chapter of Sigma Xi at Iowa State University
- 1993 “Agricultural biotechnology” to high school students visiting science in Agriculture Day at Iowa State University
- 1993 “Biotechnology in agriculture” to youth from O'Brien county in ISU Meats Laboratory
- 1993 “Why your mother is most important” H. Hughes Dukes Club at Iowa State University
- 1994 “Exploring fats and cholesterol in foods” to 8th and 9th graders in OPTAG program at Iowa State University
- 1994 “Current research on dietary cholesterol and dietary fat” to ISU Extension Annual Conference
- 1994 “Food nutrients and their functions,” “Digestion of nutrients”, and “Interrelationships of nutrients and diseases” to College for Seniors at Scheman Continuing Education Building

- 1995 “Seeking excellence in your degree program” to Beta Sigma Psi fraternity
- 1995 “Does your blood cholesterol care what you eat?” to Modern Views of Nutrition seminar program of ISU Nutritional Sciences Council
- 1995 “Use of cholesterol reductase by the dairy industry” to Iowa Dairy Products Association
- 1995 “Use of cholesterol reductase by the sheep industry” to the Iowa Sheep and Wool Promotion Board
- 1995 “Exploring fats and cholesterol in foods” to 8th and 9th graders in OPTAG program at Iowa State University
- 1995 “Current research activities with dairy products” to representatives of Dairy Management Inc.
- 1996 “Does your cholesterol care what you eat?” to Osborn Club at Iowa State University
- 1996 “Does your cholesterol care what you eat?” to annual meeting of American Heart Association-Iowa Affiliate
- 1997 “Can cholesterol reductase be used to decrease your blood cholesterol?” to Dept. of Biochemistry-Biophysics
- 1997 “Using fats in dairy rations” and “Effects of feeding on milk fat” to Dairy Nutrition Workshop
- 1997 “Application of biotechnology to agriculture” to Science in Agriculture Program of College of Agriculture
- 1997 “Three popular molecules in animal agriculture” to Dept. of Veterinary Physiology and Pharmacology
- 1998 “To be the best that you can be” to Beta Sigma Psi social fraternity
- 1998 “The cholesterol reductase story” to Animal Genetics and Biotechnology Group at ISU
- 1998 Introduction to National Symposium on the Nutrient Requirements of Swine
- 1998 “Exciting developments about use of conjugated linoleic acid in human medicine and animal agriculture” to Dukes Club of ISU
- 1998 “Food nutrients and their functions” to College for Seniors, Scheman Building (4.5 hours)
- 1998 “Remarks” to Fall Commencement of ISU graduate students

- 1999 “Ongoing CLA research in the Animal Science Department” to Dept. of Animal Science
- 1999 “Increasing conjugated linoleic acid in animal products” to Iowa Food Industry Day, which was hosted by Dept. of Food Science and Human Nutrition
- 1999 “Setting research priorities in animal agriculture” to Animal Genetics and Biotechnology Group at ISU
- 1999 “Improving the healthfulness of milk” at the Third ISU Annual Conference on CLA
- 2000 “Improving the healthfulness of milk” at the Third ISU Annual Conference on CLA
- 2000 “My current research activities” to Department of Biochemistry, Biophysics and Molecular Biology
- 2000 “Conjugated linoleic acid: A component of animal fat with human health benefit” to ISU Sigma Xi as Honor Lecturer
- 2001 “On being a Christian and a Scientist” to group of SCAVMA members
- 2001 “Exciting developments in cholesterol reductase and CLA research” to Beta Beta Beta Honor Society
- 2002 “Update on vitamin D₃ and beef tenderness” to Meat Science Group
- 2002 “Potential use of *Eubacterium coprostanoligenes* to decrease plasma cholesterol” to Dept. of Veterinary Microbiology and Preventative Medicine
- 2003 “Clinical use of stem cells” at ISU Chapter of Beta Beta Beta
- 2004 “The excitement of research” at ISU Chapter of Beta Beta Beta
- 2004 “My visions for our department” to faculty of Department of Biochemistry, Biophysics, and Molecular Biology
- 2004 “Academic excellence” to Beta Sigma Psi fraternity
- 2004 “Turning points in my professional career” to new assistant professors at Iowa State University
- 2004 “Importance of your scholarship” at All-Greek Academic Recognition Ceremony of Collegiate Panhellenic Council/Interfraternity Council, Memorial Union
- 2005 “DNA and the human genome” and “Clinical uses of stem cells” to College for Seniors at ISU (2 classes)

- 2005 “Pork and cholesterol issues” to Mexican journalists visiting Iowa State University
- 2005 “Food nutrients and their functions” to College for Seniors at ISU (2 classes)
- 2005 “Clinical use of stem cells” at symposium sponsored by ISU Microbiology Club, Ames, IA
- 2007 “Clinical use of stem cells” to ISU Osborn Club
- 2007 “Research program of Nutritional Physiology Group” to ISU Biochemistry Club
- 2007 “Research program of Nutritional Physiology Group” to ISU Iota Nu Chapter of Beta Beta Beta
- 2007 “Fatty liver/ketosis in dairy cattle” to Iowa Feed and Nutrition Seminar, Ames, IA
- 2010 “Conducting nutritional biochemistry research” to ISU undergraduate Biochemistry Club
- 2011 “My research during the past decade” to ISU Genetics Club, Ames, IA
- 2011 “My research during the past decade” to ISU Biology Club, Ames, IA
- 2012 “My current research activities” to ISU Biochemistry Club
- 2013 “Preparing for your future” to Graduate Student Club in Animal Science Department
- 2014 “Intentional strategies for increasing faculty recognition at the departmental level” to Workshop on Enhancing Faculty Recognition, Ames, IA
- 2014 “You too could become a professor” to ISU Biochemistry Club
- 2014 “Etiology and prevention of fatty liver and ketosis in dairy cattle” to Dept. of Biomedical Sciences, ISU
- 2015 “What it takes to get that first faculty position” to ISU Post-doctorate Association
- 2016 “Where did all the time go” to ISU Biochemistry Club
- 2017 “Revisiting vitamin D and beef tenderness” to 2017 NSC Summer Lectureship
- 2018 “M.E. Ensminger and the Ensminger Room in Kildee Hall” to ISU Chapter of Alpha Zeta
- 2019 “Highlights of My Research Program” to ISU Biochemistry Club

b. off-campus

- 1971 “Lipogenesis in beef cattle” at Univ. of IL., Urbana, IL
- 1971 “Lipogenesis in beef cattle” at Luther College, Decorah, IA
- 1972 “Dietary cholesterol and atherosclerosis” at Univ. of Wis., Oshkosh, WI
- 1972 “Dietary cholesterol and atherosclerosis” at Lawrence Univ., Appleton, WI
- 1974 “Dietary cholesterol and atherosclerosis” at Grinnell College, Grinnell, IA
- 1974 “Diet, cholesterol, and heart disease” to National Feed Ingredients Association Convention, Lake Geneva, WI
- 1976 “Etiology and prevention of ketosis and milk fever in dairy cows” to Minnesota Nutrition Conference, St. Paul, MN
- 1976 “Megavitamins” at Osteopathic Medicine College, Des Moines, IA
- 1976 “Dietary cholesterol and atherosclerosis” at William Penn College, Oskaloosa, IA
- 1976 “Hormones and hormone action” at annual meeting of American Dairy Science Association
- 1977 “Role of prostaglandins in control of lipolysis in bovine adipose tissue” and “Control of incidence of milk fever with low-calcium diet” to Upjohn Co., Kalamazoo, MI
- 1977 “Diet, cholesterol, and atherosclerosis” to Monmouth College, Monmouth, IL
- 1977 “Diet, cholesterol, and atherosclerosis” to Clarke College, Dubuque, IA
- 1977 “Diet, cholesterol, and atherosclerosis” to Marycrest College, Davenport, IA
- 1977 “Fatty acid synthesis in ruminants” and “Diet, cholesterol and atherosclerosis” at Wartburg College, Waverly, IA
- 1979 “Academic Quadrathlon” at annual meeting of American Association of Animal Science
- 1979 “Growth patterns of different types of cattle as related to fat deposition and marketing alternatives” to Iowa Cattle Feeder's Day at Sheldon, IA
- 1981 “Neuronal mechanisms involved in the porcine stress syndrome” to Pharm. Dept. at Univ. of Nebraska, Omaha, NE
- 1982 “Physiological and metabolic systems important to animal growth: An overview” at first Int. Symp. on Animal Growth in Guelph, Ontario, Canada

- 1984 “Does diet composition alter LDL metabolism?” Hormel Institute of University of Minnesota, Austin, MN
- 1985 “Cholesterol and you” at Beef Seminar of Iowa Hamilton County Beef Cattle Association, Webster City, IA
- 1985 “Cholesterol and you” at Spouses Symposium at 1985 annual meeting of American Poultry Science Association, Ames, IA
- 1985 “Cholesterol and you” at University of Tennessee, Knoxville, TN
- 1985 “An overview of physiological and metabolic systems important to animal growth” at University of Tennessee, Knoxville, TN
- 1985 “Basic metabolism - how end products are utilized and specie differences” at the 1985 Nutrition Institute of National Feed Ingredients Association, Chicago, IL
- 1985 “Diet and heart disease research in the Nutritional Physiology Section of Department of Animal Science at ISU” at Iowa Cattlemen's Association Research and Education Committee, Des Moines, IA
- 1985 “Diet/health” at Youth Beef Industry Congress, Omaha, NE
- 1986 “Cholesterol and you” at Golden K Kiwanis Club of Ames, IA
- 1986 “Agricultural biotechnology--Emphasis on animal biotechnology” to Iowa Organization of Women for Agriculture Conference in Des Moines, IA
- 1987 “Biotechnology, what it means for animal science” to Iowa Pork Congress, Des Moines, IA
- 1987 “Animal models used in the study of diet effects on serum, lipoproteins and lipids” at annual meeting of Federation of American Societies for Experimental Biology in Washington, D.C.
- 1987 “Agricultural biotechnology” to CAL Young Farmers at Latimer, IA
- 1987 “Biotechnology, what it means for animal science” to Radcliffe Kiwanis Club, Radcliffe, IA
- 1987 “Application of biotechnology to plant and animal science” to Multi-County Biotech Meeting, Nora Springs, IA
- 1987 “Biotechnology, what's ahead in pork production” to 6th Annual North Iowa Pork Industry Day, Mason City, IA
- 1988 “How will advances in biotechnology affect animal agriculture in Iowa?” at Rotary Club,

- Fort Dodge, IA
- 1988 “How will advances in biotechnology affect your livestock operation?” at Beef Cow Day in Ottumwa, IA
- 1988 “How 'bout that protein in today's lunch?” at annual meeting of American Oil Chemists' Society, Phoenix, AZ
- 1988 “Use of growth hormone in the dairy industry” to Dept. of Animal Science at Korea University, Seoul, Korea
- 1988 “A novel method to produce low-cholesterol meat” to Ames Kiwanis Club of Ames, IA
- 1988 “A novel method to produce low-cholesterol and animal products” to Nutritional Sciences Program Seminar at University of Arizona, Tucson, AZ
- 1988 “Lipid metabolism in growing farm animals” to Dept. of Animal Science at University of Arizona, Tucson, AZ
- 1988 “Application of biotechnology to plant and animal agriculture” to Rep. Tom Tauke's Farm Policy Council Meeting in Cedar Rapids, IA
- 1988 “Use of cholesterol reductase to decrease cholesterol content on animal products used as food” to Miles, Inc., Elkhart, IN
- 1988 “Dietary protein and cholesterol homeostasis” to General Foods USA in Cranbury, NJ
- 1988 “Production of low cholesterol meat” to Ames Town and Country Kiwanis Club of Ames, IA
- 1988 “Use of cholesterol reductase to produce low-cholesterol foods” to G. D. Searle Co., Skokie, IL
- 1989 “Eat to your heart's content” to Ames Association of Retired Persons, Ames, IA
- 1989 “A novel method to produce low-cholesterol foods” to Ames Noon Lions Club, Ames, IA
- 1989 “Eat to your heart's content” to Iowa Section of the American Institute of Chemical Engineers, Cedar Rapids, IA
- 1989 “mtDNA genotypes and milk production” and “Biotechnology and the dairy industry” to annual meeting of Board of Directors of Holstein Association, Minneapolis, MN
- 1989 “A novel method to produce low-cholesterol foods” to Genetics Institute in Cambridge, MA
- 1989 “The impact of biotechnology on food raw materials” to Midwest Food Processing Conference in LaCrosse, WI

- 1989 “Use of cholesterol reductase to decrease cholesterol content of animal products used as food” to Food and Dairy Expo Conference on Preparing for the '90's in Chicago, IL
- 1989 “A description of beta-agonists, PST, and other repartitioning agents” to Conference on New Swine Growth Enhancers in Ames, IA
- 1989 “A novel method to decrease cholesterol content of foods” at ISU Extension Conference at Storm Lake and Sheldon, IA
- 1989 “A novel method to decrease cholesterol content of foods” to Iowa State University Retirees Association at Ames, IA
- 1990 “Use of growth hormone in the dairy industry” to joint meeting of Iowa Dairy Products Association and Iowa Dairy Foods Association in Ankeny, IA
- 1990 “Growth hormone in the dairy industry” to a public hearing on Synthetic Bovine Somatotropin in Dairy Products of the Committee on Agriculture of the Iowa Legislature in Des Moines, IA
- 1990 “Making low-cholesterol foods” to Lions Club of Atlantic, IA
- 1990 “Cholesterol: friend or foe?” to Southwest Iowa Area Cattlefeeder's Day in Oakland, IA
- 1990 “Use of growth hormone in the dairy industry” at Extension Meeting with title of Milk Production in the “90's” in Calmar, IA
- 1990 “Use of growth hormone in the dairy industry” at Extension Meeting with title of Milk Production in the “90's” in Manchester, IA
- 1990 “The use of cholesterol reductase” at conference with title of Fat and Cholesterol Reduced Foods: Technologies and Strategies that was sponsored by International Business Communications and Food Engineering in New Orleans, LA
- 1990 “The use of growth hormone by the dairy industry” to Golden K Kiwanis Club of Ames, IA
- 1990 “Dietary protein and cholesterolemia” at the annual meeting of American Oil Chemists' Society in Baltimore, MD
- 1990 “Use of growth hormone by the dairy industry” to a meeting of the Iowa Dairy Products Association in Ames, IA
- 1990 “Research in Nutritional Physiology Group at ISU” to Iowa Feed and Nutrition Seminar meeting in Ames, IA

- 1990 “Nutritional physiology research program” to extension and national agriculture personnel in Ames, IA
- 1990 “Application of biotechnology to animal agriculture” to Roland Kiwanis Club of Roland, IA
- 1990 “Biotechnology and Agriculture” to biology and chemistry classes at Dunlap High School, Dunlap, IA
- 1990 “Use of an enzyme to decrease the cholesterol content of foods” to Department of Biology and Chemistry, University of Wisconsin - La Crosse, La Crosse, WI
- 1991 “Biotechnology in Agriculture” to Dairy Youth Expo of Iowa Cooperative Extension Service, West Union, IA
- 1991 “New technologies for livestock production” to Agriculture in a Global Economy at Charles City, IA
- 1991 “Being a faculty member at ISU” to Iowa State University--A Combination that Works in West Des Moines, IA
- 1991 “Use of cholesterol reductase” to Ames Home Economists and Homemakers Association in Ames, IA
- 1991 “An enzymatic method to decrease the cholesterol content of animal-derived foods” in symposium at annual meeting of American Oil Chemists Society, Chicago, IL
- 1991 “Association of bovine mitochondrial DNA to milk production traits” to Dekalb Genetics Corp., DeKalb, IL
- 1991 “A novel method to decrease the cholesterol content of animal products” to Dept. of Animal Sciences, Purdue University, West Lafayette, IN
- 1991 “Why is your mother most important?” to ISU Retirees, Ames, IA
- 1991 “Biotechnology and the Christian ethic” to Sunday School class at Memorial Lutheran Church, Ames, IA
- 1992 “Applications of biotechnology to animal and plant agriculture” to 4 biology classes at Cedar Falls High School, Cedar Falls, IA
- 1992 “What happens after your high school years are over?” to annual FFA Parent and Member Banquet of Dunkerton-Jesup FFA Chapter, Jesup, IA
- 1992 “Application of biotechnology to animal and plant agriculture” to science classes at Jesup High School, Jesup, IA

- 1992 “Observations from a tour of the former Soviet Union” to Ames Women's Club of Ames, IA
- 1992 “Use of growth hormone in the dairy industry” to farmers and agribusiness people in Jesup, IA
- 1992 “Application of biotechnology in animal agriculture and use of recombinant growth hormone in the swine industry” to Iowa Grain and Feed Association Conference in Ames, IA
- 1992 “Food fats and health” to Department of Animal Science and Food Science and Human Nutrition, Michigan State University, E. Lansing, MI
- 1992 “Role of mitochondrial DNA in the dairy industry” to Department of Animal Science, Michigan State University, E. Lansing, MI
- 1992 “Regulation of lipid metabolism in meat animals” at Growth Symposium VI, Pittsburgh, PA
- 1992 “The relationship of mitochondrial DNA and milk production” to Department of Animal Sciences, Oregon State University, Corvallis, OR
- 1992 “Use of cholesterol reductase to decrease the cholesterol content of foods and human blood” to Interdepartmental Nutrition Program at Oregon State University, Corvallis, OR
- 1992 “Basic science of biotechnology” and “Applications of Biotechnology in Animal Agriculture and Medicine” in a nationally telecast live satellite videoconference produced by Iowa State University for the National Technological University non-credit program market
- 1992 “Use of a microorganism to decrease your blood cholesterol concentration” to Golden Kiwanis Club of Ames, IA
- 1993 “Use of bacteria to decrease cholesterol content of food and blood” to Kiwanis Club of Nevada, IA
- 1993 “Food fats and cholesterol reduction” to Salmon Memorial Lecture of Department of Animal and Dairy Sciences at Auburn University of Auburn, AL
- 1993 “Use of cholesterol reductase to decrease cholesterol content of foods and blood” to Department of Chemistry at St. Cloud State University, St. Cloud, MN
- 1993 “Use of growth hormone in the dairy industry” to Vocational Agriculture Class at Van Horne, IA
- 1993 “What is biotechnology?” to biology class at Van Horne, IA
- 1993 “Decreasing contents of cholesterol in food and blood” to Wapello County Heart Assoc. in

Ottumwa, IA

- 1993 “Playing God through biotechnology” to Circuit meeting of Lutheran pastors of Central Iowa
- 1993 “Removing cholesterol from food” to Heartland Senior Citizens, Ames, IA
- 1993 “Food fats and health” to USDA National Center for Agricultural Utilization Research in Peoria, IL
- 1993 “Applications of cholesterol reductase in the food industry and in human medicine” to USDA National Center for Agricultural Utilization Research in Peoria, IL
- 1993 “What is this cholesterol?” to Ames Town and Country Kiwanis Club in Ames, IA
- 1993 “Impact of biotechnology of the production of raw food materials” at the International Congress of Nutrition in Adelaide, Australia
- 1993 “Biotechnology in agriculture” to students at Essex High School, Essex, IA
- 1993 “Cholesterol and dairy products” to annual meeting of Iowa Dairy Products Association, Ames, IA
- 1993 “Foods fats and health” to four biology classes at Mt. Pleasant High School, Mt. Pleasant, IA
- 1993 “Food fats and health” to “high school” students in the 2001 Program of Davenport Community School System, Davenport, IA
- 1994 “Overview of carnitine metabolism” to a Carnitine Conference sponsored by Lonza Company, Des Moines, IA
- 1994 “Pork in the diet--Its effect on public health” at Symposium in honor of Virgil W. Hays, Lexington, KY
- 1994 “Cholesterol in dairy products—does it matter?” to annual meeting of Iowa State Dairy Products Association, Ames, IA
- 1994 “BST use in the dairy industry” to high school students at Cedar Falls High School, Cedar Falls, IA
- 1994 “Pork in the diet--its effect on public health” to Institute of Animal Breeding in Kharkov, Ukraine
- 1994 “Graduate education in animal science at Iowa State University” to Institute of Animal Breeding in Kharkov, Ukraine
- 1994 “Regulation of your blood cholesterol concentration” to students and faculty at St. Johns

University in Collegeville, MN

- 1994 “Science and religion” (three classes) to Memorial Lutheran Church, Ames, IA
- 1995 “Food fats and health” to three classes at George-Little Rock High School, George, IA
- 1995 “Food fats and health” to two classes at Sibley-Ocheyedan High School, Sibley, IA
- 1995 “Does your cholesterol care what you eat?” to Regional American Chemical Society and Sigma Xi Banquet at Univ. of Wisconsin-LaCrosse, WI
- 1995 “Does your cholesterol care what you eat?” to Ames Morning Rotary Club, Ames, IA
- 1995 “How to interact with scientific colleagues” at symposium sponsored by Ames Area Association of Laboratory Technicians, Ames, IA
- 1995 “Use of BST in the dairy industry” to two classes at Webster City High School, Webster City, IA
- 1995 “Latest developments in cholesterol reductase research at ISU” to Iowa Dairy Products Association, Ames, IA
- 1995 “Dietary fats and human health” to extension personnel at ISU Extension Training Conference, Ames, IA
- 1996 “Does your cholesterol care what you eat?” to students at Valley High School, West Des Moines, IA
- 1996 “Does your cholesterol care what you eat?” at Department of Chemistry at St. Benedictine/St. John Universities, St. Joseph, MN
- 1996 “Does your cholesterol care what you eat?” at Department of Chemistry at St Cloud State University, St. Cloud, MN
- 1996 “Does your cholesterol care what you eat?” to Sigma XI Chapter, University of Northern Iowa, Cedar Falls, IA
- 1996 “Food fats and health” to three classes at Lenox High School, Lenox, IA
- 1996 “Does your blood cholesterol care what you eat?” to students and faculty at Wartburg College, Waverly, IA
- 1996 “Does your blood cholesterol care what you eat?” to Ames Kiwanis Club, Ames, IA
- 1996 “Use of cholesterol reductase to decrease cholesterol content of foods and blood” at

Department of Food Science, Alabama A & M University, Normal, AL

- 1996 “Lipogenesis and lipolysis in bovine adipose tissue” at Satellite Symposium of 8th Animal Science Congress of Asian-Australasian Association of Animal Production in Kyoto, Japan
- 1997 “Use of biotechnology to modify foods from animals” to Department of Biology, University of Northern Iowa, Cedar Falls, IA
- 1997 “Does your cholesterol care what you eat?” to Department of Chemistry, Augsburg College, Minneapolis, MN
- 1997 “Does your cholesterol care what you eat?” to Department of Biology, St. Catherine’s College, St. Paul, MN
- 1997 “Does your cholesterol care what you eat?” to Biology Club at Simpson College, Indianola, IA
- 1997 “Cholesterol reductions through diet manipulation” to Interdepartmental Nutrition Program, Pennsylvania State University, State College, PA
- 1997 “Can cholesterol reductase be used to decrease blood cholesterol?” to ConAgra in Omaha, NE
- 1997 “Does your cholesterol care what you eat?” to Golden K Kiwanis Club, Ames, IA
- 1997 “Does your cholesterol care what you eat?” to Men's Club, St. Andrews Lutheran Church, Ames, IA
- 1997 “Can cholesterol reductase be used to decrease blood cholesterol?” to Chr. Hansen's Co., Milwaukee, WI
- 1997 “Use of biotechnology to modify foods from animals” to four different classes at Jesup High School, Jesup, IA
- 1997 “Use of biotechnology to modify foods from animals” to four different classes at Sioux City East High School, Sioux City, IA
- 1997 “Use of biotechnology to modify foods from animals” to Department of Biology, University of Wisconsin-Stevens Point, Stevens Point, WI
- 1997 “Playing God through biotechnology” to International Students' Group, Memorial Lutheran Church, Ames, IA
- 1997 “Potential use of cholesterol-reducing bacteria in meat processing to IBC's 6th Biennial Conference on Fat and Cholesterol Reduced Foods, Orlando, FL

- 1997 “Update on conjugated linoleic acid application in animal agriculture” to Research and Development, Hormel, Inc., Austin, MN
- 1997 “Does your cholesterol care what you eat?” to Department of Chemistry, Carleton College, Northfield, MN
- 1997 “Does your cholesterol care what you eat?” to Department of Chemistry, St. Olaf College, Northfield, MN
- 1997 “Does your cholesterol care what you eat?” to Golden K Kiwanis Club, Ames, IA
- 1997 “Scholarship” and “Research/Artistic Activities” at ISU Faculty Conference, Grinnell, IA
- 1998 “Effect of vitamin D on pork quality” to Quality and Safety Summit, National Pork Producers Council, Des Moines, IA
- 1998 “Does your cholesterol care what you eat?” to Seminar Program at Valley High School, W. Des Moines, IA
- 1998 “The role of milk in human health: What is fact and what is opinion?” to National Dairy Genetics Workshop, Orlando, FL
- 1998 “Use of biotechnology to modify foods from animals” to five classes at Highland High School, Riverside, IA
- 1998 “Impact of two different dietary fats on the composition of emu oil”, annual meeting of American Oil Chemists Society, Chicago, IL
- 1998 “Application of biotechnology to food production” Laurens-Marathon High School, Laurens, IA
- 1998 “Application of biotechnology to food production”, Winterset High School, Winterset, IA
- 1998 “New technologies for livestock production”, Perry High School, Perry, IA
- 1998 “Exciting development about use of conjugated linoleic acid in human medicine and animal agriculture” Chemistry Dept. of Augsburg College at Minneapolis, MN
- 1998 “Does your cholesterol care what you eat?” (2 classes) and “Application of biotechnology to animal agriculture” (2 classes), Grinnell High School, Grinnell, IA
- 1999 “Subtherapeutic use of antibiotics in animal agriculture” at Conference on Antibiotic Use in Animals: Food Safety and Risk Assessment, Georgetown University, Washington, DC
- 1999 “Modification of the composition of animal-derived foods—Two examples” to Nutritional Science Program at North Carolina State University, Raleigh, NC

- 1999 “Application of biotechnology to agriculture and medicine” to one class at Abraham Lincoln High School, Council Bluffs, IA
- 1999 “Application of biotechnology to agriculture and medicine” to two different classes at College Springs High School, College Springs, IA
- 1999 “Does your cholesterol care what you eat?” and “Applications of biotechnology to agriculture” to four different classes at Manning High School, Manning, IA
- 1999 “Does your cholesterol care what you eat?” to five different classes at Lewis Central High School, Council Bluffs, IA
- 1999 “My research” Ames Town & Country Kiwanis Club, Ames, IA
- 2000 “Does dietary conjugated linoleic acid improve meat quality?” at Symposium on Antemortem manipulation of Meat Quality at annual meeting of Am. Soc. Anim. Sci./Am. Dairy Sci. Assoc. in Baltimore, MD
- 2000 “Careers in animal science and biochemistry” at Ackley-Geneva High School, Ackley, IA
- 2000 “Use of vitamin D₃ to improve beef tenderness” at annual meeting of National Cattlemen's Beef Association, Denver, CO
- 2000 “Does my cholesterol care what I eat?” to Golden K Kiwanis Club, Ames, IA
- 2001 “Cholesterol reduction by a bug?” to Golden K Kiwanis Club, Ames, IA
- 2001 “Our current research on conjugated linoleic acid, vitamin D and beef tenderness, and cholesterol reductase”; Iowa Feed and Nutrition Seminar, Ames, IA
- 2001 “Conjugated linoleic acid and homocysteine--why may they be of significance to human health” to Golden K Kiwanis Club, Ames, IA
- 2001 “Conjugated linoleic acid in animal agriculture” to DeKalb Feed Sales Group, Ames, IA
- 2001 “Natural products called nutraceuticals”, CAST and Science in the 21st Century, a Program in Honor of R.E. Stuckey and T.A. Gruber, Ames, IA
- 2001 “Nutrient requirements of dogs and cats: A new study”, Pet Food Forum, Chicago, IL
- 2001 “Faith and science” to Enabling Conference of Ministers to International Students, Ames, IA
- 2001 “Update on NRC publication on nutrient requirements of dogs and cats” Seventh Workshop in Pet Food Labeling and Regulations. AAFCO, MO Dept. of Agr., Univ. of MO, and

Ralston Purina Co., St. Louis, MO

- 2001 “Update on NRC publication on nutrient requirements of dogs and cats” Waltham Symposium on Pet Nutrition, Vancouver, British Columbia, Canada
- 2001 “Stem cells” Memorial Lutheran Church, Ames, IA
- 2001 “Does your body care what you eat?”, “Applications of biotechnology to animal agriculture (2 times), and “Use of stem cells in human medicine” to Bedford High School, Bedford, IA
- 2001 “Update on NRC publication on nutrient requirements of dogs and cats” Annual meeting of AAFCO, Austin, TX
- 2002 “Update on NRC publication on nutrient requirements of dogs and cats” Pet Food Forum, Chicago, IL
- 2002 “Revising the nutrient requirements of dogs and cats: a work in progress” Alltech 18th Annual Symposium, Lexington, KY
- 2002 “Stem cell research” Ames Kiwanis Club, Ames, IA
- 2002 “Stem cell research” Ames Town and Country Kiwanis Club, Ames, IA
- 2002 “Stem cells” St. Paul Lutheran Church, Ames, IA
- 2002 “Tribute: Scientific and education contributions of Dr. J. W. Thomas” ADSA/ASAS annual meeting, Quebec City, Quebec, Canada
- 2002 “Clinical use of stem cells” at Assoc. of Lab. Tech. Symp., Ames, IA
- 2002 “Stem cells” at Iowa District West of Lutheran Church—Missouri Synod pastoral conference, Ames, IA (2 hours)
- 2002 “Clinical use of stem cells” at Prairie High School, Cedar Rapids, IA
- 2002 “Clinical use of stem cells” at Collegiate Presbyterian Church, Ames, IA (2 hours)
- 2003 “Use of glucagon to treat and prevent fatty liver in dairy cattle” Otto and Opal Hill Lecture, Penn State University
- 2003 “A novel probiotic for cholesterol reduction” Dept. of Animal Science, Penn State University
- 2003 “Development of the NRC report on dog and cat nutrition” at annual meeting of ADSA/ASAS, Phoenix, AZ

- 2003 “Use of glucagon to prevent and treat fatty liver in transition dairy cows” at Four-State Applied Nutrition and Management Conference, LaCrosse, WI
- 2003 “Clinical use of stem cells” (2 times) and “Does your cholesterol care what you eat?” to three classes at Keosauqua High School, Keosauqua, IA
- 2003 “Homocysteine as a risk factor for heart disease” at Ames Town and Country Kiwanis Club, Ames, IA
- 2003 “Milk composition and dairy product quality” Iowa Feed and Nutrition Seminar, Ames, IA
- 2003 “Glucagon and bovine ketosis” Iowa Feed and Nutrition Seminar, Ames, IA
- 2003 “Clinical use of stem cells” at Pella High School, Pella, IA
- 2003 “Nutrient requirements of dogs and cats: A project nearing completion” at Pet Food Forum, Chicago, IL
- 2003 “Clinical use of stem cells” at Storm Lake High School (three times) Storm Lake, IA
- 2003 “Our current research activities on CLA” to meeting of Practical Farmers of Iowa, Iowa Arboretum, Luther, IA
- 2003 “Does your cholesterol care what you eat?” at Lincoln High School, Des Moines, IA
- 2003 “Clinical use of stem cells” at Carlisle High School, Carlisle, IA
- 2003 “Does your cholesterol care what you eat?” and “Clinical use of stem cells” at HLV Community Schools, Victor, IA
- 2003 “Clinical use of stem cells” Collegiate Methodist Church, Ames, IA
- 2003 “Does your cholesterol care what you eat?” to 2 classes at Baxter High School, Baxter, IA
- 2003 “Stem cells” Trinity Lutheran Church, Stewardson, IL
- 2004 “Clinical use of stem cells” at Lincoln High School, Des Moines, IA
- 2004 “Development of feeding standards for pets” to Ames Town and Country Kiwanis Club, Ames, IA
- 2004 “Development of an NRC publication on dog and cat nutrition” to Ames Kiwanis Club, Ames, IA
- 2004 “Does your cholesterol care what you eat?” to Science Bound Class at Roosevelt High

School, Des Moines, IA

- 2004 “Clinical uses of stem cells” (1 class) and “Does your cholesterol care what you eat?” (2 classes) at Pocahontas High School, Pocahontas, IA
- 2004 “Clinical use of stem cells” to joint meeting of Lions Clubs of Atlantic and Harlan, IA in Walnut, IA
- 2004 “Clinical uses of stem cells” to three different classes at Linn-Mar High School, Marion, IA
- 2004 “A scientific trip to Belgrade, Serbia and Plovdiv, Bulgaria” to Ames Town and Country Kiwanis, Ames, IA
- 2004 “Clinical uses of stem cells” to Golden K Kiwanis Club of Ames, IA
- 2004 “Clinical uses of stem cells” to two classes at Southeast Polk High School, Runnells, IA
- 2004 “Clinical uses of stem cells” (3 classes) and “Does your cholesterol care what you eat?” (2 classes) at Van Buren High School, Keosauqua, IA
- 2005 “How’s your DNA?” to Golden K Kiwanis Club of Ames, IA
- 2005 “Clinical uses of stem cells” to two classes at Storm Lake High School, Storm Lake, IA
- 2005 “Does your cholesterol care what you eat?” to four classes at Ames High School, Ames, IA
- 2005 “Contributions of animal products to healthy diets” to 2005 Cornell Nutrition Conference for Feed Manufacturers, Syracuse, NY
- 2005 “Does your cholesterol care what you eat?” to a class at Belmond-Klemme High School, Belmond, IA
- 2006 “Nutrition and the chemistry of life” to students at Dike High School, Dike, IA
- 2006 “Clinical uses of stem cells” to ISU retirees
- 2006 “Clinical use of stem cells” at Mary Greeley Hospital, Ames, IA
- 2006 “Dietary modification to enhance beef quality” at Reciprocal Meats Conference, Urbana, IL
- 2006 “Are you what you eat?” at Mariners of Collegiate Presbyterian Church, Ames, IA
- 2006 “Clinical uses of stem cells”, “Chemical basis of life”, and “Does your cholesterol care what you eat?” to students at Benton Community High School, Van Horne, IA

- 2006 “Contributions of animal products to human health” and “What is CAST?” to Department of Animal Sciences, Auburn University, Auburn, IL
- 2006 “Clinical uses of stem cells” to Ames Chapter of National Association of Federal Employees at Ames, IA
- 2006 “Contribution of animal products to human health” and “What is CAST?” to Department of Animal Science at the University of Minnesota, St. Paul, MN
- 2006 “Clinical uses of stem cells” (twice) and “Does your cholesterol care what you eat?” (twice) to four classes at Bettendorf, IA
- 2007 “Clinical uses of stem cells” to Story City Kiwanis Club, Story City, IA
- 2007 “Fatty liver and ketosis” to Iowa Feed and Nutrition Seminar, Ames, IA
- 2007 “Questions on stem cell research” to Memorial Lutheran Church, Ames, IA
- 2007 “Clinical uses of stem cells” to 5 classes at Davis County High School, Bloomfield, IA
- 2007 “Clinical uses of stem cells” to St. Paul Lutheran Church, Ames, IA
- 2007 “Clinical uses of stem cells” to Ames Town and Country Kiwanis Club, Ames, IA
- 2008 “Are you what you eat?” to retirees group at Green Hills Retirement Center of Ames, IA
- 2008 “Clinical uses of stem cells” (3 times) and “Does your body care what you eat?” (2 times) to classes at Van Buren High School in Keosauqua, IA
- 2008 “Are you what you eat?” Memorial Lutheran Church, Ames, IA
- 2008 “Clinical uses of stem cells” to 2 classes at Mt. Vernon High School, Mt. Vernon, IA
- 2008 “Significance of fatty acids in meats” to Practice Farmers of Iowa, Ames, IA
- 2009 “Clinical uses of stem cells” to 6 classes at Ottumwa High School, Ottumwa, IA
- 2009 “Clinical uses of stem cells” to American Association of Laboratory Animal Science (Iowa Brand), Ames, IA
- 2009 “Selected topics in human nutrition” to Golden K Kiwanis Club, Ames, IA
- 2009 “Selected topics in human nutrition” to Ames Town and Country Kiwanis Club, Ames, IA
- 2009 “Clinical uses of stem cells” to 6 classes at Davis County High School, Bloomfield, IA

- 2010 “Prevention and treatment of bovine fatty liver: A role for glucagon” to Interdepartmental Nutrition Program at Texas A&M University, College Station, TX
- 2010 “Clinical uses of stem cells” to Radcliffe Kiwanis Club, Radcliffe, IA
- 2011 “Fundamentals of DNA, genes, and gene expression” to Alumni Association Osher Lifelong Learning Institute (OLLI), Ames, IA
- 2012 “Evaluation of a novel technique to decrease oxidative stress for improved animal performance” at Dept. of Animal Science, Oregon State University, Corvallis, OR
- 2013 “My top ten popular nutrients” to Ames Town and Country Kiwanis Club, Ames, IA
- 2013 “Genetic regulation of bovine milk fatty acid composition: Improving the healthfulness of milk through selection” at George Liepa Sigma Xi Lecture, Eastern Michigan University, Ypsilanti, MI
- 2014 “Etiology and prevention of fatty liver and ketosis in dairy cattle” at Florida Ruminant Nutrition Symposium, Gainesville, FL
- 2014 “Where did all the time go” to Dept. of Animal Sciences, Univ. of Florida, Gainesville, FL
- 2019 “Celebration of 100 years of ‘Nutrient Requirement’ publications at Summit 2019 of National Animal Nutrition Program, Washington DC
- 2019 “My top ten list of nutrition research” at Nutritional Science Program at Ohio State University
- 2020 “In the beginning: First decade of the NC-91 regional project” at the 2020 annual meeting of NCCC210 project.

XIV. REVIEW AND EDITING

I have reviewed numerous manuscripts for colleagues, theses, dissertations, and research grant proposals of colleagues and of other off-campus investigators and have served as a member of departmental review teams and research grant review panels. I have not kept a complete record of these activities. I have served two, 3-year terms on Editorial Board of *Journal of Animal Science*, one, 3-year term on Editorial Board of *Journal of Nutrition* and one, 3-year term on Editorial Board of Veterinary Nutrition. Currently, I am on Editorial Boards of *Nutrition Research* and its Editorial Advisory Board of Recent Research Developments in Nutrition Research. During 1995, I served as Symposium Coordinator for the 1995 American Institute of Nutrition Symposium Proceedings that were published in *J. Nutr.* 126 (45):10075-13545. I coordinated three ASN/ADSA symposia a annual meetings of ADSA.

XV. OTHER ACTIVITIES

1. Determination of chemical composition of a bypass dietary fat (calcium salt of fatty acids) produced by Norel Corporation (Eiler Frederiksen), now Bioproducts, Inc., of Las Vegas, NV on a service-for-fee basis (1994-04).
2. Determination of fatty acid composition and dry matter, total lipid, and cholesterol content of pork chops from pigs of state and national genetic selection projects (NPPC) and for others in Department of Animal Science on a service-for-fee basis (1990-).
3. Determination of lipid and carbohydrate composition of pork from Carl Hamman of Mt. Sterling, OH on a service-for-fee basis (1995-97).
4. Determination of fatty acid composition of milk samples for Land O'Lakes Answer Farm of Webster City, IA (1999-03).
5. Determination of dry matter, total liquid, and fatty acid composition of meats from several livestock producers (*e.g.*, J. Wood, J. Rismann).
6. Determined composition and tenderness of beef from feedlot and grazed cattle of R. Rosmann. Project was supported by funds awarded to Rosmann from Organic Farming Research Foundation.
7. Our laboratory continues to conduct assays of total lipid and fatty acid composition of meat and milk samples from the National Pork Board, companies, and farmers.

Updated January 12, 2021