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Rank Professor of Aquaculture

Education

B.S. University of Tennessee 1980
 M.S. University of Tennessee 1983
 Ph.D. Texas A&M University 1987

Positions

Professor (1997-), Associate Professor (1993-1997), Assistant Professor (1989-1993),
 Department of Forestry and Natural Resources, Purdue University
 Assistant Professional Scientist/Field Station Director, Illinois Natural History Survey (1987-
 1989); Adjunct Assistant Professor, University of Illinois, Department of Animal
 Sciences (1988-1989)
 Research Associate, Texas A&M University, Aquacultural Research Center (1986-1987)

Professional Affiliations

World Aquaculture Society
 United States Chapter - Charter Member
 Session Chair – 1992, 2004, 2005
 Program Chair – 2006
 International Working Group on Crustacean Nutrition
 European Aquaculture Society
 American Society for Nutritional Sciences (formerly American Institute of Nutrition)
 Comparative Nutrition Society
 Society for Integrative and Comparative Biology (formerly American Society of Zoologists)
 USDA North Central Regional Aquaculture Center
 Technical Committee/Research, 1988-2003, 2014-
 Executive Committee, 1991
 Chair, 1993-1995, 1995-1997, 2015-
 Chair, Salmonid Work Group, 1990-1993, 1996-2000
 Chair, Crayfish Work Group, 1991-1996
 Chair, Tilapia Work Group, 1998-2000
 Chair, Nutrition Work Group, 2005-2007
 National Advisory Committee, 1995-1997
 Indiana Aquaculture Association
 Board of Directors, 1994
 American Fisheries Society (1981-1993)

President, Texas A&M University Chapter, 1985
 Vice-President, Texas A&M University Chapter, 1984
 Membership Concerns Committee, Chair, 1992
 Sigma Xi, Gamma Sigma Delta

Associate Editor, Progressive Fish-Culturist, 1991-1993, 1993-1995
 Associate Editor, Journal of the World Aquaculture Society, 1997-2001
 Associate Editor-Nutrition, National Catfish Information Database
 Associate Editor, British Journal of Nutrition, 2002-2007
 Associate Editor, North American Journal of Aquaculture, 2004-2006
 Editor, Journal of Applied Aquaculture, 2007-2009
 Editorial Board, Journal of Ocean University of China, 2011-2016

Awards

Outstanding Paper Presentation, American Oil Chemists' Society Annual Meeting, 2000
 Excellence in Soybean Research, Illinois Soybean Association, 2002
 Who's Who in Agriculture Higher Education, 2003

Courses Taught

Aquaculture 1989-
 Fisheries Biology and Management 1989-1997
 Fisheries Field Practicum 1989-
 Aquatic Animal Nutrition 1993-2010
 Least-Cost Feed Formulation 1993-
 Fish Physiology 1998-

Guest Lectures

Worlds Forests and Society, 2004-
 Population Growth: The Global Challenge, 2015-

Committee Assignments

Faculty Senate, 1996-1999, 1999-2002
 Nominating Committee, 1997-1999
 Faculty Affairs, 1999-2002
 Post-Tenure Review, 2002
 University Promotions, Standing, 1999-2002
 Architectural and Landscape Design and Planning, University, 2015-2020
 Censure and Dismissal, University, 2015-2018
 Agenda and Policy, School of Agriculture, Standing, 1990-1993
 Secretary, 1991
 Curriculum and Student Relations, College of Agriculture, Standing, 2009-2012
 Center for Alternative Agriculture, Steering Committee-
 School of Agriculture, Standing, 1989-1995

Grievance- School of Agriculture, Standing, 1990-1992, 1994-1995
 Academic Professional Advancement, 2015-
 Aquaculture Facilities Planning, Ad Hoc, School of Agriculture, 1990-1992
 Curriculum- Department of Forestry and Natural Resources,
 Standing, 1989-1992, 1993-1995, 2008-
 Chair, 2015-
 Building Space Allocation and Improvement- Department of Forestry and Natural Resources,
 Standing, 1994-, Chair, 1995-1998
 Analytical Equipment- Department of Forestry and Natural
 Resources, Standing, 1989-1993, 2014-
 Hazard Management- Department of Forestry and Natural
 Resources, Standing, 1990-, Chair 1998-2000
 Budget and Steering, Department of Forestry and Natural
 Resources, Standing, 1992-1995

REVIEWS

Journals

Journal of Nutrition, British Journal of Nutrition, BMC Genomics, The Protein Journal, Scientific Reports (Nature), Journal of the World Aquaculture Society, Aquaculture, Aquaculture Nutrition, Comparative Biochemistry and Physiology, Journal of Comparative Physiology, Aquatic Living Resources, Progressive Fish-Culturist (North American Journal of Aquaculture), Amino Acids, Aquaculture Research, Journal of Fish Biology, Transactions of the American Fisheries Society, Asian Fisheries Science, The Prairie Naturalist, Journal of Aquaculture in the Tropics, International Association of Astacology, Critical Reviews in Fisheries Science, Aquacultural Engineering, Journal of Applied Aquaculture, Journal of Crustacean Biology, Annales Zoologici Fennici, Ecological Engineering, Journal of Aquatic Animal Health, Journal of Agricultural and Food Chemistry, Marine Biotechnology, Zebrafish, Lakes and Reservoirs: Research and Management, African Journal of Agricultural Research, American Association for Laboratory Animal Science, Anais de Academia Brasileira de Ciencias, Animal Feed Science and Technology, Journal of Experimental Zoology

Books

American Fisheries Society, Aquaculture, volume 1, by G. Barnabe.
 Prentice Hall, Fisheries Conservation and Management, chapters 3-6, by M. Ross.

Proposals

USDA, NRI, NIFA, Agricultural Research Service, SBIR, North Central Regional Aquaculture Center, Southern Regional Aquaculture Center, Northeastern Regional Aquaculture Center, Center for Tropical and Subtropical Aquaculture, North Central Region Sustainable Agriculture Research and Education Program

US Department of Commerce/NOAA, SBIR, Illinois-Indiana Sea Grant Program, Texas Sea Grant Program, Ohio Sea Grant Program, Wisconsin Sea Grant Program, Michigan Sea Grant

Program, Virginia Sea Grant Program, Delaware Sea Grant Program, Mississippi-Alabama Sea Grant Consortium, Saltonstall-Kennedy Program

US Department of State, Civilian Research and Development Foundation for the Independent States of the Former Soviet Union, International Science and Technology Center and Science and Technology Center in Ukraine

National Research Council, Office of International Affairs, Board on Science and Technology for International Development

US AID, Pond Dynamics/Aquaculture Collaborative Research Support Program

Michigan Great Lakes Protection Fund

American Association for the Advancement of Science, King Abdulaziz City for Science and Technology

Illinois Soybean Operating Board

Louisiana Board of Regents

Greater Minnesota Corporation

National Coastal Resources Institute

South Carolina, Experimental Program to Stimulate Competitive Research and Institutional Development Awards (EPSCoR), NASA, Research and Awards Program (REAP)

Review Teams and Panels

NSF, SBIR, Marine Biotechnology

USDoC, SBIR, Aquaculture

USDA, Southern Regional Aquaculture Center

Joint Subcommittee on Aquaculture, Effluents Task Force

University of Arkansas System

USDA, NIFA, Aquaculture Research

USDA, ARS

PUBLICATIONS

1. Brown, P.B., R.J. Strange, and K.R. Robbins. 1985. Protein digestibility coefficients for yearling channel catfish fed various high-protein feedstuffs. *Progressive Fish-Culturist* 47:94-97.
2. Robinson, E.H., S.D. Rawles, P.B. Brown, H.E. Yette, and L.W. Green. 1986. Dietary calcium requirement of channel catfish, *Ictalurus punctatus*, reared in calcium-free water. *Aquaculture* 53:263-270.
3. Brown, P.B., C.D. Williams, E.H. Robinson, D.M. Akiyama, and A.L. Lawrence. 1986. Evaluation of methods for determining in vivo digestion coefficients for adult red swamp crayfish, *Procambarus clarkii*. *Journal of the World Aquaculture Society* 17:19-24.
4. Hubbard, D.M., E.H. Robinson, P.B. Brown, and W.H. Daniels. 1986. Optimum ratio of dietary protein to energy for red crayfish (*Procambarus clarkii*). *Progressive Fish-*

- Culturist 48:233-237.
5. Robinson, E.H., D. LaBomascus, P.B. Brown, and T.L. Linton. 1987. Dietary calcium and phosphorus requirements of Oreochromis aureus reared in calcium-free water. *Aquaculture* 64:267-276.
 6. Brown, P.B., D.A. Davis, and E.H. Robinson. 1988. An estimate of the dietary lysine requirement of juvenile red drum. *Journal of the World Aquaculture Society* 19:109-112.
 7. Brown, P.B., and E.H. Robinson. 1989. Comparison of 26 and 30 percent protein feeds for channel catfish. *Progressive Fish-Culturist* 51:149-151.
 8. Brown, P.B., A. Emery, A.L. Lawrence, and E.H. Robinson. 1989. Digestible energy values for red swamp crayfish and evaluation of dietary associative effects in practical feeds. *Journal of the World Aquaculture Society* 20:122-126.
 9. Brown, P.B., E.H. Robinson, and G. Finne. 1989. Nutrient concentrations of catfish feces and practical diets after immersion in water. *Journal of the World Aquaculture Society* 20:245-249.
 10. Brown, P.B., M.L. Hooe, and D.H. Buck. 1989. Preliminary evaluation of baits and traps for harvesting orconectid crayfish from earthen ponds. *Journal of the World Aquaculture Society* 20:208-213.
 11. Brown, P.B., W.H. Neill, and E.H. Robinson. 1990. Preliminary evaluation of whole body energy changes as a method of estimating maintenance energy needs of fish. *Journal of Fish Biology* 36:107-108.
 12. Brown, P.B., M.L. Hooe, and W.G. Blythe. 1990. Preliminary evaluation of production systems and forages for culture of Orconectes virilis, the northern or fantail crayfish. *Journal of the World Aquaculture Society* 21:53-58.
 13. Brown, P.B., M.L. Hooe, P. Tazik, and W.G. Blythe. 1990. Consumption and apparent dry matter digestibility of aquatic macrophytes by male and female crayfish (Orconectes virilis). *Aquaculture* 89:55-64.
 14. Reigh, R.C., E.H. Robinson, and P.B. Brown. 1991. Effects of dietary magnesium on growth and tissue magnesium content of blue tilapia Oreochromis aureus. *Journal of the World Aquaculture Society* 22:192-200.
 15. Brown, P.B., and E.H. Robinson. 1992. Vitamin D studies with juvenile channel catfish (Ictalurus punctatus) reared in calcium-free water. *Comparative Biochemistry and Physiology* 103A:213-219.
 16. Brown, P.B., J.E. Wetzel, II, A. Spacie and A. Konopka. 1992. Evaluation of naturally-occurring organisms as food for juvenile crayfish (Procambarus clarkii). *Journal of the World Aquaculture Society* 23:211-216.
 17. Griffin, M.E., P.B. Brown and A. Grant. 1992. Dietary lysine requirement of juvenile hybrid striped bass. *Journal of Nutrition* 122:1332-1337.
 18. Brown, P.B., M.R. White, D.L. Swann and M.S. Fuller. 1993. A severe case of ectoparasitism due to Epistylis sp. in pond-reared orconectid crayfish. *Journal of the World Aquaculture Society* 24:116-120.
 19. Brown, P.B., M.E. Griffin and M.R. White. 1993. Experimental and practical diet evaluations with juvenile hybrid striped bass. *Journal of the World Aquaculture Society* 24:80-89.

20. Brown, P.B. and G.K. Konoval. 1993. Length, weight, and width relationships of form 1 Orconectes virilis. *Journal of the World Aquaculture Society* 24:112-115.
21. Brown, P., T. Beard, P. Pristas, R. Jacobson and M. Hinton. 1993. Should we eat these fish? A situational ethics survey of AFS members. *Fisheries* 18:19-24.
22. Wetzel, J.E., II and P.B. Brown. 1993. Growth and survival of juvenile Orconectes virilis and O. immunis at different temperatures. *Journal of the World Aquaculture Society* 24:339-343.
23. Swann, D.L., J.R. Riepe, J.D. Stanley, M.E. Griffin and P.B. Brown. 1994. Cage culture of hybrid striped bass in Indiana and evaluation of diets containing three levels of dietary protein. *Journal of the World Aquaculture Society* 25:281-288.
24. Griffin, M.E., M.R. White and P.B. Brown. 1994. Total sulfur amino acid requirement and cysteine replacement value for juvenile hybrid striped bass (Morone saxatilis x M. chrysops). *Comparative Biochemistry and Physiology* 108A:423-429.
25. Griffin, M.E., K.A. Wilson and P.B. Brown. 1994. Dietary arginine requirement of juvenile hybrid striped bass. *Journal of Nutrition* 124:888-893.
26. Griffin, M.E., K.A. Wilson, M.R. White and P.B. Brown. 1994. Dietary choline requirement of juvenile hybrid striped bass. *Journal of Nutrition* 124:1685-1689.
27. Wu, Y.V., R. Rosati, D.J. Sessa and P. Brown. 1994. Utilization of protein-rich ethanol co-products from corn in tilapia feed. *Journal of the American Oil Chemists Society* 71:1041-1043.
28. Brown, P.B., R. Leader, S. Jones and W. Key. 1995. Preliminary evaluations of a new water-stable feed for culture and trapping of spiny lobsters (Panulirus argus) and fish in the Bahamas. *Journal of Aquaculture in the Tropics* 10:177-183.
29. Brown, P.B. 1995. Physiological adaptations in the gastrointestinal tract of crayfish. *American Zoologist* 35:20-27.
30. Wu, Y.V., R. Rosati, D.J. Sessa and P. Brown. 1995. Utilization of corn gluten feed by Nile tilapia. *Progressive Fish-Culturist* 57:305-309.
31. Wu, Y.V., R. Rosati, D.J. Sessa and P. Brown. 1995. Evaluation of corn gluten meal as a protein source in tilapia diets. *Journal of Agricultural and Food Chemistry* 43:1585-1588.
32. Brown, P.B. 1995. Using whole-body amino acid patterns and quantitative requirements to rapidly develop diets for new species such as striped bass (Morone saxatilis). *Journal of Applied Ichthyology* 11:342-346.
33. Brown, P.B., K.A. Wilson, J.E. Wetzel, II, and B. Hoene. 1995. Increased densities result in reduced weight gain of crayfish Orconectes virilis. *Journal of the World Aquaculture Society* 26:165-171.
34. Riche, M., M.R. White, and P.B. Brown. 1995. Barium carbonate as an alternative indicator to chromic oxide for use in digestibility experiments with rainbow trout. *Nutrition Research* 15:1323-1331.
35. Brown, P.B. 1995. A review of nutritional research with crayfish. *Journal of Shellfish Research* 14:20-28.
36. Wu, Y.V., K. Warner, R. Rosati, D.J. Sessa and P.B. Brown. 1996. Sensory evaluation and composition of tilapia (Oreochromis niloticus) fed diets containing protein-rich ethanol

- by-products from corn. *Journal of Aquatic Food Product Technology* 5:7-16.
37. Tudor, K.W., R.R. Rosati, P.D. O'Rourke, Y.V. Wu, D. Sessa and P.B. Brown. 1996. Technical and economical feasibility of on-farm fish feed production using fishmeal analogs. *Aquacultural Engineering* 15:53-65.
 38. Riche, M. and P.B. Brown. 1996. Absorption of phosphorus from feedstuffs fed to rainbow trout. *Aquaculture* 142:269-282.
 39. Wu, Y.V., R.R. Rosati and P.B. Brown. 1996. Effect of diets containing various levels of protein and ethanol coproducts from corn on growth of tilapia fry. *Journal of Agricultural and Food Chemistry* 44:1491-1493.
 40. Brown, P.B., M.R. White, J. Chaille, M. Russell and C. Oseto. 1996. Evaluation of three anesthetic agents for crayfish (*Orconectes virilis*). *Journal of Shellfish Research* 15:433-435.
 41. Brown, P.B., K. Dabrowski and D.L. Garling, Jr. 1996. Nutrition and feeding of yellow perch (*Perca flavescens*). *Journal of Applied Ichthyology* 12:171-174.
 42. Brown, P.B., K.A. Wilson, Y. Hodgkin, and J. Stanley. 1997. Use of soy protein concentrates and lecithin products in diets fed to coho and Atlantic salmon. *Journal of the American Oil Chemists Society* 74:187-194.
 43. Wu, Y.V., R.R. Rosati and P.B. Brown. 1997. Use of corn-derived ethanol coproducts and synthetic lysine and tryptophan for growth of tilapia (*Oreochromis niloticus*) fry. *Journal of Agricultural and Food Chemistry* 45:2174-2177.
 44. Brown, P.B., R. Twibell, Y. Jonker and K.A. Wilson. 1997. Evaluation of three soybean products in diets fed to juvenile hybrid striped bass *Morone saxatilis* x *M. chrysops*. *Journal of the World Aquaculture Society* 28:215-223.
 45. Twibell, R.G. and P.B. Brown. 1997. Dietary arginine requirement of juvenile yellow perch. *Journal of Nutrition* 127:1838-1841.
 46. Twibell, R.G., K.A. Wilson and P.B. Brown. 1998. Effect of acclimation temperature and temperature changes on molting and survival of ablated and nonablated crayfish *Orconectes virilis*. *Journal of the World Aquaculture Society* 29:23-30.
 47. Adelizi, P.D., R.R. Rosati, K. Warner, Y.V. Wu, T.R. Muench, M.R. White and P.B. Brown. 1998. Evaluation of fish meal-free diets for rainbow trout, *Oncorhynchus mykiss*. *Aquaculture Nutrition* 4:255-262.
 48. Twibell, R.G. and P.B. Brown. 1998. Optimum dietary crude protein for hybrid tilapia *Oreochromis niloticus* x *O. aureus* fed all-plant diets. *Journal of the World Aquaculture Society* 29:9-16.
 49. Wu, Y.V., R.R. Rosati, and P.B. Brown. 1998. Effects of lysine on growth of tilapia fed diets rich in corn gluten meal. *Cereal Chemistry* 75:771-774.
 50. Wu, Y.V., K.W. Tudor, P.B. Brown and R.R. Rosati. 1999. Substitution of plant proteins or meat and bone meal for fish meal in diets of Nile tilapia. *North American Journal of Aquaculture* 61:58-63.
 51. Riche, M., and P.B. Brown. 1999. Incorporation of plant protein feedstuffs into fish meal diets for rainbow trout increases phosphorus availability. *Aquaculture Nutrition* 5:101-105.
 52. Donahue, D.W., R.C. Bayer, J.G. Riley, A.A. Bushway, P.B. Brown, R.A. Hazen, K.E.

- Moore and D.A. deBruyne. 1999. The effect of soy-based diets on weight gain, shell hardness and flavor of the American lobster (Homarus americanus). *Journal of Aquatic Food Product Technology* 8:69-77.
53. Twibell, R.G. and P.B. Brown. 2000. Dietary choline requirement of juvenile yellow perch (Perca flavescens). *Journal of Nutrition* 130:95-99.
 54. Kasper, C.S., M.R. White and P.B. Brown. 2000. Choline is required by tilapia when methionine is not in excess. *Journal of Nutrition* 130:238-242.
 55. Twibell, R.G., K.A. Wilson and P.B. Brown. 2000. Dietary sulfur amino acid requirement of juvenile yellow perch fed the maximum cystine replacement value for methionine. *Journal of Nutrition* 130:612-616.
 56. Twibell, R.G., B.A. Watkins, L. Rogers and P.B. Brown. 2000. Dietary conjugated linoleic acids alter hepatic and muscle lipids in hybrid striped bass. *Lipids* 35:155-161.
 57. Twibell, R.G. and P.B. Brown. 2000. Effects of dietary carnitine on growth rates and body composition of hybrid striped bass (Morone saxatilis male x M. chrysops female). *Aquaculture* 187:153-161.
 58. Wu, Y.V., R. Rosati, K. Warner and P. Brown. 2000. Growth, feed conversion, protein utilization, and sensory evaluation of Nile tilapia fed diets containing corn gluten meal, full-fat soy, and synthetic amino acids. *Journal of Aquatic Food Product Technology* 9:77-87.
 59. Floreto, E.A.T., Deanna L Prince, Paul B. Brown and Robert C. Bayer. 2000. The biochemical profiles of shell diseased American lobsters, Homarus americanus Milne Edwards. *Aquaculture* 188:247-262.
 60. Floreto, Eric A.T., Robert C. Bayer and Paul B. Brown. 2000. The effects of soybean-based diets, with and without amino acid supplementation, on growth and biochemical composition of juvenile American lobster, Homarus americanus. *Aquaculture* 189:211-235.
 61. Wu, Y.V., K. Tudor, P.B. Brown and R.R. Rosati. 2000. Growth response of tilapia fed diets rich in high-lysine corn and corn gluten. *Journal of Aquatic Food Product Technology* 9:19-28.
 62. Floreto, E.A.T., Paul B. Brown and Robert C. Bayer. 2001. The effects of krill hydrolysate-supplemented soya-bean based diets on the growth, colouration, amino and fatty acid profiles of juvenile American lobster, Homarus americanus. *Aquaculture Nutrition* 7:33-43.
 63. Kemeh, S. and P.B. Brown. 2001. Evaluation of different stocking densities for hybrid striped bass in small-scale recirculation systems. *North American Journal of Aquaculture* 63:234-237.
 64. Kestemont, P., E. Vandeloise, C. Mélard, P. Fontaine and P. B. Brown. 2001. Growth and nutritional status of Eurasian perch Perca fluviatilis fed graded levels of dietary lipids with or without added ethoxyquin. *Aquaculture* 203:85-99.
 65. Twibell, R.G., B.A. Watkins and P.B. Brown. 2001. Dietary conjugated linoleic acids and lipid source alter fatty acid composition of juvenile yellow perch, Perca flavescens. *Journal of Nutrition* 131:2322-2328.
 66. Selden, G.L., P.B. Brown, A.C. Ostrowski, R.A. Flores and L.A. Johnson. 2001.

- Evaluation of soybean meal-red blood cell coextruded feed ingredient in diets fed to rainbow trout, Oncorhynchus mykiss. *Journal of the World Aquaculture Society* 32:409-415.
67. Brown, P.B., K.A. Wilson and B. Hoene. 2002. Physical and nutritional stability of a new crustacean food. *Journal of Aquaculture in the Tropics* 17:147-153.
 68. Harvey, C.J., P.C. Hanson, T.E. Essington, P.B. Brown and J.F. Kitchell. 2002. Using bioenergetic models to predict stable isotope ratios in fishes. *Canadian Journal of Fisheries and Aquatic Sciences* 59:115-124.
 69. Bharadwaj, A.S., N.L. Gould, P.B. Brown, M.R. White and A. Moore. 2002. Evaluation of experimental and practical diets for walleye Stizostedion vitreum. *Journal of the World Aquaculture Society* 33:244-253.
 70. Bharadwaj, A., W.R. Brignon, N.L. Gould, P.B. Brown and Y.V. Wu. 2002. Evaluation of meat and bone meal in practical diets fed to juvenile hybrid striped bass Morone chrysops x M. saxatilis. *Journal of the World Aquaculture Society* 33:448-457.
 71. Kasper, C.K., M.R. White and P.B. Brown. 2002. Betaine can replace choline in diets fed to juvenile Nile tilapia, Oreochromis niloticus. *Aquaculture* 205:119-126.
 72. Brown, P.B., J.E. Wetzel, J. Mays, K.A. Wilson, C.S. Kasper and J. Malison. 2002. Growth differences between stocks of yellow perch (Perca flavescens) are temperature dependent. *Journal of Applied Aquaculture* 12:43-56.
 73. Kasper, C.S. and P.B. Brown. 2003. Growth improved in juvenile Nile tilapia fed phosphatidylcholine. *North American Journal of Aquaculture* 65:39-43.
 74. Wan, P., C.R. Santerre, P.B. Brown and D.C. Deardorff. 2003. Chlorpyrifos residues before and after cooking of catfish fillets. *Journal of Food Science* 68:12-15.
 75. Gould, N.L., M.M. Glover, L.D. Davidson and P.B. Brown. 2003. Dietary flavor additives influence consumption of feeds by yellow perch, Perca flavescens. *Journal of the World Aquaculture Society* 34:412-417.
 76. Pangle, K.L. T.M. Sutton, and P.B. Brown. 2003. Evaluation of practical and natural diets for juvenile lake herring. *North American Journal of Aquaculture* 65:91-98.
 77. Twibell, R.G., K.A. Wilson, S. Sanders and P.B. Brown. 2003. Evaluation of experimental and practical diets for bluegill (Lepomis macrochirus) and hybrid bluegill (L. cyanellus x L. macrochirus). *Journal of the World Aquaculture Society* 34:487-495.
 78. Twibell, R.G., M.E. Griffin, B. Martin, J. Price and P.B. Brown. 2003. Predicting dietary essential amino acid requirements for hybrid striped bass. *Aquaculture Nutrition* 9:373-382.
 79. Brown, P.B., K.A. Wilson, Y. Jonker and T.E. Nickson. 2003. Glyphosate-tolerant canola meal is equivalent to the parental line in diets fed to rainbow trout. *Journal of Agricultural and Food Chemistry* 51:4268-4272.
 80. Gonzales, J.M. and P.B. Brown. 2006. Nile tilapia Oreochromis niloticus as a food source in Advanced Life Support Systems: initial considerations. *Advances in Space Research* 38:1132-1137.
 81. D'Souza, N., D.I. Skonberg, D.A.J. Stone and P.B. Brown. 2006. Effect of soybean meal-based diets on the product quality of rainbow trout fillets. *Journal of Food Science* 71:337-342.

82. Gonzales, J.M., A.H. Hutson, M.E. Rosinski, P.B. Brown, Y.V. Wu and T.F. Powless. 2007. Evaluation of fish meal-free diets for first feeding Nile tilapia, Oreochromis niloticus. *Journal of Applied Aquaculture* 19:89-99.
83. Gatlin, D.M., III, F.T. Barrows, P. Brown, K. Dabrowski, T.G. Gaylord, R.W. Hardy, E. Herman, G. Hu, A. Krogdahl, R. Nelson, K. Overturf, M. Rust, W. Sealey, D. Skonberg, E.J. Souza, D. Stone, R. Wilson and E. Wurtele. 2007. Expanding the utilization of sustainable plant products in aquafeeds: a review. *Aquaculture Research* 38:551-579.
84. Kasper, C.S., B.A. Watkins and P.B. Brown. 2007. Evaluation of two soybean meals fed to yellow perch (Perca flavescens). *Aquaculture Nutrition* 13:431-438.
85. Markovich, M.L., N.V. Rizzuto and P.B. Brown. 2007. Diet affects spawning in zebrafish, Danio rerio. *Zebrafish* 4:69-74.
86. Gonzales, J.G. and P.B. Brown. 2007. Nutrient retention capabilities of Nile tilapia (Oreochromis niloticus) fed bio-regenerative life support system (BLSS) waste residue. *Advances in Space Research* 40:1725-1734.
87. Brown, P.B., Billie Jo Brown, Steve Hart, Jennifer Curry and Alison Hittle-Hutson. 2008. Comparison of soybean-based practical diets containing 32, 36, or 40% crude protein fed to hybrid striped bass in earthen culture ponds. *North American Journal of Aquaculture* 70:128-131.
88. Bharadwaj, A.S., K.L. Pangle, T.M. Sutton and P.B. Brown. 2008. Nitrogen excretion in fed and fasted lake sturgeon. *North American Journal of Aquaculture* 70:132-137.
89. Quagraine, K., S. Hart, and P. Brown. 2008. An exploratory study of farmers' view on aquaculture development in Indiana. *Journal of Extension* 46:2RIB4.
90. Quagraine, K., S. Hart, and P. Brown. 2008. Consumer acceptance of locally grown food: The case of Indiana aquaculture products. *Aquaculture Economics and Management* 12:54-70.
91. Masagounder, Karthik, J.D. Firman, R.S. Hayward, Sangsoo Sun, and P.B. Brown. 2009. Apparent digestibilities of common feedstuffs for bluegill Lepomis macrochirus and largemouth bass Micropterus salmoides using individual test ingredients. *Aquaculture Nutrition* 15:29-37.
92. Gonzales, J.M., Jr., B.A. Lowry, P.B. Brown, C.A. Beyle, L. Nyochemberg. 2009. The effects of fibrous waste pretreatment on the growth of Nile tilapia (Oreochromis niloticus) fed bio-regenerative life support (BRLS) plant waste residues. *Advances in Space Research* 43:1243-1249.
93. Hart, S.D., B.J. Brown, N.L. Gould, M.L. Robar, E.M. Witt and P.B. Brown. 2010. Predicting optimal dietary essential amino acid profile for growth of juvenile yellow perch with whole body amino acid concentrations. *Aquaculture Nutrition* 16:248-253. doi: 10.1111/j.1365-2095.2009.00659.x
94. Hart, S.D., A.S. Bharadwaj and P.B. Brown. 2010. Soybean lectins and trypsin inhibitors, but not oligosaccharides or the interactions of factors, impact weight gain of rainbow trout (Oncorhynchus mykiss). *Aquaculture* 306:310-314. doi 10.1016/j.aquaculture.2010.03.027

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Brown, P.B., Y. Hodgins, K. Wilson and J. Stanley. 1996. Review of lecithin in aquaculture and evaluation of three commercial lecithin products in diets fed to coho and Atlantic salmon. 87th Annual Meeting of the American Oil Chemists Society, Indianapolis, IN.

Brown, P.B. 1996. Shrimp farming and aquaculture. 68th Indiana Electric Technology Conference. Indianapolis, IN.

Brown, P.B. and M. Riche. 1996. Availability of phosphorus in feedstuffs fed to rainbow trout. VII International Symposium on Nutrition and Feeding of Fish. College Station, TX.

Wu, Y.V., R.R. Rosati and P.B. Brown. 1997. Parallel cage and aquarium studies of Nile tilapia (Oreochromis niloticus) fed diets rich in corn-derived ethanol coproducts. World Aquaculture '97, Seattle, WA.

Twibell, R.G., K.A. Wilson and P.B. Brown. 1997. Effect of acclimation temperature and temperature changes on molting and survival of ablated and nonablated crayfish, Orconectes virilis. World Aquaculture '97, Seattle, WA.

Kasper, C.S., K.A. Wilson and P.B. Brown. 1997. Interaction of methionine and choline in juvenile tilapia. World Aquaculture '97, Seattle, WA.

Brown, P.B. and R.G. Twibell. 1997. Dietary arginine requirement of juvenile yellow perch. World Aquaculture '97, Seattle, WA.

Brown, P.B., R.G. Twibell and J. Weigel. 1997. Minimum dietary crude protein for tilapia fed diets free of fish meal. World Aquaculture '97, Seattle, WA.

Y.V. Wu, R.R. Rosati and P.B. Brown. 1997. Effects of lysine and arginine on growth of tilapia fed diets rich in corn gluten meal. American Association of Cereal Chemists 82nd Annual Meeting, San Diego, CA.

Brown, P.B. and P. Adelizi. 1997. New soy-based food delivery system for crustaceans: preliminary results with Panulirus argus. Martinique '97, Island and Tropical Aquaculture. Les Trois Ilets, Martinique, French West Indies.

Brown, P.B. 1997. Recent developments in perch nutrition. Martinique '97, Island and Tropical Aquaculture. Les Trois Ilets, Martinique, French West Indies.

Kestemont, P., E. Vandeloise, P.B. Brown, C. Melard and P. Fontaine. 1997. Effects of casein-based diets containing different levels of lipids on survival, growth and nutritional status of Eurasian perch Perca fluviatilis. Martinique '97, Island and Tropical Aquaculture. Les Trois Ilets, Martinique, French West Indies.

Brown, P.B. 1997. Review of research with soybeans and lobsters. Producers' Natural Processing, Inc., Board of Directors Meeting, West Lafayette, IN.

Brown, P.B. 1997. Aquacultural Research. Hugh O'Bryan Youth Leadership Conference, West Lafayette, IN.

Brown, P.B. 1997. Aquaculture Research at Purdue University. National Association of Institutional Agribusinesses. Indianapolis, IN.

Brown, P.B., K.A. Wilson and R.G. Twibell. 1998. Dietary sulfur amino acid requirement and cysteine replacement value for juvenile yellow perch. World Aquaculture '98. Las Vegas, NV.

Cartwright, D.D., B. Watkins, J. Burgess, K. Warner, R. White Y. Jonker and P.B. Brown. 1998. Dietary lipid requirements of juvenile yellow perch. World Aquaculture '98. Las Vegas, NV.

Kasper, C.S. and P.B. Brown. 1998. Interaction of methionine and choline in juvenile tilapia. World Aquaculture '98. Las Vegas, NV.

Kemeh, S. and P.B. Brown. 1998. Evaluation of different densities for hybrid striped bass in a small scale recirculation system. World Aquaculture '98. Las Vegas, NV.

Twibell, R.G., D.D. Cartwright, K.A. Wilson and P.B. Brown. 1998. Dietary lysine requirement of juvenile yellow perch. World Aquaculture '98. Las Vegas, NV.

Kasper, C.S. and P.B. Brown. 1999. Essentiality of dietary phosphatidylcholine for juvenile tilapia. Aquaculture America '99. Tampa, FL.

Bharadwaj, A. and P.B. Brown. 1999. Growth response of rainbow trout fed fish meal and plant based diets. Aquaculture America '99. Tampa, FL.

Twibell, R.G. and P.B. Brown. 1999. Dietary choline requirement of juvenile yellow perch. Aquaculture America '99. Tampa, FL.

Bharadwaj, A. and P.B. Brown. 2000. Evaluation of experimental and practical diets for walleye Stizostedion vitreum. Aquaculture America 2000. New Orleans, LA.

Kasper, C. and P.B. Brown. 2000. Mineral supplementation facilitates an increased concentration of soybean meal in practical diets fed to hybrid striped bass Morone saxatilis x M. chrysops. Aquaculture America 2000. New Orleans, LA.

Twibell, R.G., B.A. Watkins, L. Rogers, and P.B. Brown. 2000. Dietary conjugated linoleic acids alter hepatic and muscle lipids in hybrid striped bass. Aquaculture America 2000. New Orleans, LA.

Brown, P.B., Y.V. Wu, D. Sessa, and R. Rosati. 2000. Plant protein and lipid sources in diets fed to aquatic animals. 91st American Oil Chemists Society Annual Meeting, San Diego, CA, (Outstanding Paper Presentation).

Brown, P.B. 2000. Percids – The American experience. Aqua 2000. Nice, France.

Brown, P.B. 2000. The search for vegetable-based diets for aquaculture species – any progress? Ohio State University, Columbus, OH.

Bharadwaj, A.S. and P.B. Brown. 2001. Bioavailability and flux of minerals in rainbow trout fed fish meal based and fish meal free diets. Aquaculture 2001, Orlando, FL.

Brown, P.B. 2001. Yellow perch aquaculture and nutrition. Ohio Aquaculture Association Annual Meeting. Wooster, OH.

Twibell, R.G., B.A. Watkins and P.B. Brown. 2002. Dietary conjugated linoleic acids and lipid source alter juvenile yellow perch, Perca flavescens. Aquaculture America '02, San Diego, CA.

Selden, G.L., P.B. Brown, A.C. Ostrowski, R.A. Flores, and L.A. Johnson. 2002. Evaluation of soybean meal-red blood cell coextruded feed ingredient in diets fed to rainbow trout, Oncorhynchus mykiss. Aquaculture America '02, San Diego, CA.

Bharadwaj, A.S., N.L. Gould, W.R. Brignon, Y.V. Wu and P.B. Brown. 2002. Evaluation of meat and bone meal in diets for hybrid striped bass Morone saxatilis male x Morone chrysops female. Aquaculture America '02, San Diego, CA.

Brown, P.B. 2002. Feeds and feeding of fish. Indiana Aquaculture Association Annual Meeting, Indianapolis, IN.

Brown, P.B. 2002. Purdue research update. Indiana Aquaculture Association Annual Meeting, Indianapolis, IN.

Brown, P.B. 2002. Fish biology and aquaculture in the classroom. Indiana High School Agriculture Teachers Annual Conference, West Lafayette, IN.

Brown, P.B. 2002. Dietborne metal toxicity in aquatic food webs. Society of Environmental Toxicology and Chemistry, Pellston Workshop on the Role of Dietary Exposures in the Evaluation of Risk of Metals to Aquatic Organisms. Fairmont Hotsprings, British Columbia, Canada.

Brown, P.B. 2003. Nutrition and feeding of yellow perch. Aquaculture America, Louisville, KY.

Kasper, C.S., B.A. Watkins and P.B. Brown. 2003. Evaluation of two soybean meals fed to yellow perch, Perca flavescens. Aquaculture America, Louisville, KY.

Pangle, K., T.M, Sutton and P.B. Brown. 2003. Evaluation of practical diets for juvenile lake herring Coregonus artedj. Aquaculture America, Louisville, KY.

Bharadwaj, A., B.A. Watkins and P.B. Brown. 2003. The effects of dietary lipids on lipid composition of liver and muscle in rainbow trout Oncorhynchus mykiss. Aquaculture America, Louisville, KY.

Brown, P.B., D. Cartwright, R.G. Twibell, A. Bharadwaj and B.A. Watkins. 2003. Dietary lipid studies with yellow perch (Perca flavescens). Percis III, Madison, WI.

Brown, P.B. 2003. Appropriate species for pond culture in Indiana. Annual Meeting of the Indiana Aquaculture Association, Indianapolis, IN.

Brown, P.B. 2003. Soybean meal use in freshwater fish diets. Oceanic Institute Aquaculture Interchange Program, Honolulu, HI.

Alleman, James E., P.B. Brown, C.C. Glass, B.C. Joern and J.C. Volenec. 2004. Coordinated Biochemical Stabilization and Resource Recovery with Human-, Plant-, and Food-Derived ALS Solid Wastes. Habitation 2004, Orlando, FL.

Brown, P.B. 2004. Nutrition of yellow perch Perca flavescens. Aquaculture 2004, Honolulu, HI.

Brown, P.B. 2004. Soy-in-Aquaculture – A managed research initiative linking agricultural sectors. Aquaculture 2004, Honolulu, HI.

Bharadwaj, A.S., S.D. Hart, S. Fitzgerald and P.B. Brown. 2004. The effects of dietary soybean lectins on weight gain, body composition and gut histology in Atlantic salmon. Aquaculture 2004, Honolulu, HI.

Gonzalez, J.M., Y.V. Wu, T. Powless and P.B. Brown. 2004. Evaluation of fish meal-free practical diets for first feeding Nile tilapia Oreochromis niloticus. Aquaculture 2004, Honolulu, HI.

Hart, S.D., A.S. Bharadwaj, M.L. Robar, R. Nachreiner, S. Fitzgerald and P.B. Brown. 2004. The effects of dietary soybean lectin on weight gain, body composition, serum insulin levels and gut histology in rainbow trout. Aquaculture 2004, Honolulu, HI.

Markovich, M. and P.B. Brown. 2004. Evaluation of larval zebrafish Brachydanio rerio diets. 2004. Aquaculture 2004, Honolulu, HI.

Bharadwaj, A., S. Hart, B.J. Brown, Y. Li, B. Watkins and P. Brown. 2005. Comparison of the metabolism of linolenic acid (18:3n-3) and stearidonic acid (18:4n-3) in hybrid striped bass. Aquaculture America 2005, New Orleans, LA.

Brown, B.J., P.B. Brown, S. Hart, J. Curry and A. Hittle-Hutson. 2005. Comparison of practical diets containing 32, 36 or 40% crude protein fed to hybrid striped bass in earthen culture ponds. Aquaculture America 2005, New Orleans, LA.

D'Souza, N., D.I. Skonberg, R.W. Hardy and P.B. Brown. 2005. Effect of soybean meal-based diets on quality of rainbow trout and Atlantic salmon fillets. Aquaculture America 2005, New Orleans, LA.

Gonzales, J.M., Jr. and P.B. Brown. 2005. Quantitative and qualitative characterizations of the nutritional impact Nile tilapia Oreochromis niloticus may offer in an advanced life support system. Aquaculture America 2005, New Orleans, LA.

Markovich, M. and P. Brown. 2005. Aflatoxins in Fish Feeds. Aquaculture America 2005, New Orleans, LA.

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Markovich, M. and P. Brown. 2005. Evaluation of diets for breeding zebrafish Danio rerio. Aquaculture America 2005, New Orleans, LA.

Brown, P.B. 2005. Soy-in-Aquaculture – a managed research initiative. Aquaculture America 2005, New Orleans, LA

Hart, S.D., and P.B. Brown. 2005. Soy-in-aquaculture: A managed research initiative. California Aquaculture Association - Northern Regional Meeting, Sacramento, CA

Burger, E.K., Hayward, R.S., Brown, P.B. and Berg, E.P. 2005. Effect of creatine supplementation on Lepomis macrochirus (bluegill sunfish). International Congress of Meat Science and Technology, Baltimore, MD.

Gonzales, J. and P.B. Brown. 2005. Retention of nutrients by Nile tilapia (Oreochromis niloticus) fed advanced life support systems (ALSS) waste residues. Proceedings from the 35th International Conference on Environmental Systems (ICES), Rome, Italy. SAE Technical Paper 2005-01-2917.

Brown, P.B. 2007. Recent advances in yellow perch nutrition. World Aquaculture Society Annual Meeting, San Antonio, TX.

Bharadwaj, Anant S., Yong Li, Bruce A. Watkins and Paul B. Brown. 2007. Dietary lipids affect bone and spinal cord lipid composition in rainbow trout. World Aquaculture Society Annual Meeting, San Antonio, TX.

Hart, S.D., A.S. Bharadwaj and P.B. Brown. 2007. The effects and interactions of dietary soybean lectins, trypsin inhibitors and oligosaccharides on rainbow trout (Oncorhynchus mykiss). World Aquaculture Society Annual Meeting, San Antonio, TX.

Bharadwaj, A. S., Hart, S. D., and Brown, P. B. 2007. Research update – Salmonids. Soy-In-Aquaculture Stakeholders Meeting, San Diego, CA.

Bharadwaj, A. S. and Brown, P. B. 2008. Soy use in salmonid feeds: research update. USB-Aquaculture Industry Coalition Meeting, Lake Buena Vista, FL.

Bharadwaj, A.S., Baumgarner, B. L., and Brown, P. B. 2008. The effects of feed deprivation on differential protein expression in tissues of rainbow trout. Aquaculture America 2008, Lake Buena Vista, FL.

Bharadwaj, A.S. and P.B. Brown. 2008. Soy protein concentrate use in Atlantic salmon diets. Global Soy in Aquaculture Conference, Busan, South Korea.

Baumgarner, B.L., A.S. Bharadwaj, Z. Pei, and P.B. Brown. 2008. The effect of dietary ration and fasting on global proteomic expression in rainbow trout. Fish Growth Symposium, Portland, OR.

Brown, P.B. 2008. Fish nutrition research at Purdue University. Purdue Chapter of the American Fisheries Society, West Lafayette, IN.

Brown, P.B. 2009. Omics: Potential new tools for understanding globale climate change impacts. US-China Workshop on Climate-Energy Nexus, Oak Ridge, TN.

Amberg, J., J. Webber and P.B. Brown. 2010. Soy protein concentrate in practical diets for yellow perch (*Perca flavescens*); growth and expression of stress related genes. World Aquaculture Society Annual Meeting, San Diego, CA.

Pei, Z., J.D. Webber, A.S. Bharadwaj, B.R. Cooper and P.B. Brown. 2010. Metabolomic analysis reveals diverse metabolic effects of cholesterol and lecithin supplementation to soybean meal-based diets on juvenile pacific white shrimp *Litopenaeus vannamei*. World Aquaculture Society Annual Meeting, San Diego, CA.

Brown, P.B., J. Meyer, B. Baumgarner, Z. Pei, Y.F. Leung, L.Y. Zhang, D. Zhang, G. DePalma. 2010. Protein expression in developing wildtype and *yng* zebrafish embryos assessed by multiple proteomic platforms. 9th International Meeting on Zebrafish Development and Genetics, Madison, WI.

Patillo, D.A., C.E. Hicks, J.E. Wetzal, P.B. Brown, R.A. Rode, J.E. Morris. 2012. Evaluation of the newly-developed, least-cost experimental diet for bluegill at commercial densities. World Aquaculture Society Annual Meeting, Las Vegas, NV.

Keller, C.E.M., F.C. Zhou, P.B. Brown, A.S. Jannasch, A.S. Chan, A.M. Roumani, M.S. Sepulveda. 2012. Metabolomic insights into eye abnormalities in the zebrafish model of fetal alcohol spectrum disorders and the potential importance of vitamin A. Fishing for Answers: Zebrafish Models of Human Development and Disease 2012, 5th Annual Zebrafish Disease Models Meeting, Suzhou Dushu Lake Conference Center.

Ivan, L., D. Ryan, R. Rode, P. Brown and T. Hook. 2012. Egg size variation in yellow perch. Annual meeting of the International Association for Great Lakes Research, Cornwall, Ontario.

- Brown, P.B. 2013. Expanding the utilization of sustainable plant products in aquafeeds. Brazilian Society of Animal Science, 50th Annual Meeting, Campinas, Brazil.
- Brown, P.B. 2013. Nutritional needs of bass and perch. China-US Forum on the Innovation in Perch and Bass Production. Huazhong Agricultural University, Wuhan, China.
- Brown, P.B. 2013. Application of metabolomics and proteomics in aquaculture nutrition. Yangtze River Fisheries Research Institute, Chinese Academy of Fisheries Science, Wuhan, China.
- Brown, P.B. 2013. Nutrigenomics: A theoretical framework for studying nutrition, reproduction and health of wild and cultured fish. Institute of Hydrobiology, Chinese Academy of Science. Wuhan, China.
- Brown, P.B. 2014. Sustainable fish diets for the 21st century using soybean protein. North Central Regional Aquaculture Conference, Toledo, OH.
- Pattilo, D.A., C.E. Hicks, J.E. Wetzel, P.B. Brown, R. Rode and J.E. Morris. 2014. Evaluation of the newly-developed least-cost experimental diet for bluegill at commercial densities. North Central Regional Aquaculture Conference, Toledo, OH.
- Brown, P.B. 2015. Nutritional needs of tilapia and hybrid striped bass. Indiana Aquaculture Association Annual Meeting, West Lafayette, IN.
- Brown, P.B. 2015. Advanced food production systems. President's Council Back to Class, Purdue University, West Lafayette, IN
- Brown, P.B. 2015. The –Omics Revolution – Applications in Sustainable Aquafeeds. 4th World Congress on Aquaculture and Fisheries, Qingdao, China.
- Brown, P.B., 2015. Rapid increases in production, slow research progress – how can we keep pace with our farmers? Jiangsu University, Yancheng, China.
- Brown, P.B. 2015. Where is aquaculture going and can we lead the effort? Freshwater Fisheries Research Center, Wuxi, China.
- Brown, P.B. 2016. Contemporary issues in marine biology. Marine Biology Club, Purdue University.
- Brown, P.B. 2016. Quality feed quality fish: Best management practices for aquafeeds. 2nd North Central Aquaculture Conference, Milwaukee, WI.

Brown, P.B. 2016. Distillers dried grains in aquafeeds. DDG Aquaculture Seminar, Cairo, Egypt.

Brown, P.B. 2016. Extrusion processing aquafeeds containing DDGS. DDG Aquaculture Seminar, Cairo, Egypt.

Brown, P.B., L. Bo and A. Wang. 2016. Nutrition of Bass and Perch: New research areas for rapid commercial development. 2nd International Perch and Bass Conference Wuhan, China.

Brown, P.B. 2016. Aquaponic food production systems – An essential component of 21st century food supply. World Conference on Aquaculture and Fisheries, Qingdao, China.

Brown, P.B. 2018. Sustainable aquaculture: a long way to go and a short time to get there. 2018 International Conference on Sustainable Global Aquaculture. Bangkok, Thailand.

Brown, P.B. 2018. Sustainable aquaculture: the feed component. 2018 North Central Aquaculture Conference, Aquaculture in the Heartland of the United States. Kansas City, Mo.

Brown, P.B. 2019. You are what you eat. Nutrition and health of fish. Indiana Aquaculture Association Fish Health Workshop, Russiaville, IN.

Brown, P.B.. 2019. Fish nutrition: are we contributing to aquaculture or just doing research. Heilongjiang Fisheries Research Institute, Chinese Academy of Fishery Sciences, Harbin, China.

Brown, P.B. 2019. Experimental approach to rapid dietary development. Freshwater Fisheries Research Institute, Wuxi, China.

GRANTS RECEIVED

Evaluation of crayfish culture in Illinois-- University of Illinois, Campus Research Board, 1 year, 1988, \$6,400

Advancement of yellow perch aquaculture-- USDA North Central Regional Aquaculture Center, 2 years, 1989, \$8,000

Culture technology of salmonids-- USDA North Central Regional Aquaculture Center, 2 years, 1990, \$35,000

Phosphorus digestibility in rainbow trout-- ALKO Biotechnology, 2 years, 1990, \$15,000

Soft-shell crayfish-- a new crop for Indiana-- Indiana Corporation for Science and Technology, New Crops Center, 4 years, 1990, \$51,000

Quantitative measures of the crayfish's ability to digest bacterial cell walls-- Purdue University, Research Apprenticeship Program, 3 months, 1990, \$1,526

Evaluation of hybrid striped bass cage culture-- Purdue University, Center for Alternative Agriculture, 6 months, 1990, \$2,000

Evaluation of hybrid striped bass cage culture-- Illinois-Indiana Sea Grant Program, 6 months, 1990, \$3,000

Evaluation of hybrid striped bass cage culture-- Purdue University, Crossroads '90 Program, 3 years, 1990, \$79,200

Evaluation of canola meal in catfish diets-- Purdue University, Research Assistantship Program, 2 years, 1991, \$24,000

Agriculture and environmental enhancement: Multiple-use wetlands for wildlife and water quality-- S.C. Johnson and Son, Inc., 1 year, 1991, \$30,626

Advancement of yellow perch aquaculture-- USDA North Central Regional Aquaculture Center, 1 year, 1991, \$14,000

XL International Travel Grant-- Purdue University, International Union of Nutritional Scientists V/1 Committee (Fish Nutrition), Biarritz, France, 1 month, 1991, \$950

Juvenile hybrid striped bass production-- Bioproducts, Inc., Warrenton, Oregon, 1991 (feed contribution), \$223

Production of hybrid striped bass in Indiana-- Eagle Products, Mishawaka, IN, 1991 (feed contribution), \$4320

Adding Value to Indiana Fish Production Systems-- Indiana Value-Added Grants Program, Indianapolis, 1 year, 1991, \$11,500

Adding Value to Fish from Indiana Producers-- Indiana Value Added Grants Program, Indianapolis, 2 years, 1991, \$19,800

Evaluation of soy protein concentrates in diets fed to coho salmon-- Central Soya, 6 months, 1992, \$9,800

Organically-grown grains as feeds for fish-- Heartland Organic Foods, Rosholt, South Dakota, 1 year, 1992, \$4,000

Adding value to Indiana fish products- yellow perch-- Indiana Value Added Grants Program, Indianapolis, 2 years, 1992, \$17,800

Culture technology of salmonids-- USDA North Central Regional Aquaculture Center, 2 years, 1992, \$35,000

Crayfish culture in the North Central Region-- USDA North Central Regional Aquaculture Center, 2 years, 1992, \$21,500

Culture of bluegill, crappie and their hybrids-- USDA North Central Regional Aquaculture Center, 1 year, 1992, \$20,500

Evaluation of a new canola line in diets fed to rainbow trout-- Monsanto, 6 months, 1992, \$16,000

Evaluation of soybean products in diets fed to hybrid striped bass-- Indiana Soybean Development Council, 2 years, 1993, \$45,400

XL International Travel Grant-- Purdue University, World Aquaculture '93, Torremolinos, Spain, 1993, \$750

Culture Technology of Hybrid Striped Bass-- USDA North Central Regional Aquaculture Center, 2 years, 1993, \$5,000

Advancement of Yellow Perch Aquaculture-- USDA North Central Regional Aquaculture Center, 2 years, 1993, \$20,000

HACH Turbidimeter-- Gift, Hoosier Cats, Inc., 1993, \$895

Evaluation of yellow perch culture in Indiana-- Purdue University, Crossroads, 2 years, 1993, \$17,000

Evaluation of gustatory stimulants in diets fed to rainbow trout-- Feed Flavors, Inc., 1 year, 1994, \$14,500

Round-up tolerant canola as a feed for rainbow trout-- Monsanto, 1 year, 1994, \$29,600

High-value use of soybeans as feeds for important aquaculture species-- Indiana Soybean Development Council, 1 year, 1994, \$54,000

Culture technology of centrarchids-- USDA North Central Regional Aquaculture Center, 2 years, 1994, \$40,000

Culture technology of salmonids-- USDA North Central Regional Aquaculture Center, 2 years, 1994, \$35,000

Sears chest freezer-- Gift, William Sudlow, 1995, \$500

Whirlpool refrigerator-- Gift, Mr. and Mrs. Robert Wilson, 1995, \$700

Yellow perch aquaculture-- Sea Grant, Non-Recurring National Initiative, 2 years, 1995, \$349,000

XL International Travel Grant-- Purdue University, PERCIS II, Second International Percid Fish Symposium, Vaasa, Finland, 1995, \$1090

Archer-Daniels-Midland-- Gift, 1995, \$9840

Advancement of yellow perch aquaculture-- USDA North Central Regional Aquaculture Center, 2 years, 1995, \$36,000

Culture technology of hybrid striped bass-- USDA North Central Regional Aquaculture Center, 2 years, 1995, \$36,000

Investigation of fish diseases-- Indiana Department of Natural Resources, 2 years, 1996, \$11,275

Maximum incorporation of soybean meal in diets for hybrid striped bass-- Indiana Soybean Development Council, 2 years, 1996, \$55,019

Culture Technology of Sunfish-- USDA North Central Regional Aquaculture Center, 1 year, 1996, \$19,000

Tilapia Aquaculture in the North Central Region-- USDA North Central Regional Aquaculture Center, 1 year, 1996, \$17,600

All-plant diets for rainbow trout-- Midwest Feeds Consortium, 2 years, 1996, \$35,000

Archer Daniels Midland, voluntary support, 1996, \$9,840

Toward sustainable aquaculture productions systems: Optimal media for Nitrosomonas and Nitrobacter in recirculating systems. US Department of Commerce, Saltonstall-Kennedy Program, 1997, 18 months, \$120,700.

Advancement of yellow perch aquaculture-- USDA North Central Regional Aquaculture Center, 1997, 2 years, \$48,000.

Improving salmonid aquaculture in the north central region-- USDA North Central Regional Aquaculture Center, 1997, 2 years, \$40,000.

Improving tilapia aquaculture in the north central region-- USDA North Central Regional Aquaculture Center, 1997, 2 years, \$44,000.

Culture of American lobster fed new soybean products. Crohn Family Trust, 1997, 1 year, \$50,000.

Voluntary Support, Producers' Natural Processing, 1997, \$200.

Voluntary Support, American Protein Corporation, 1997, \$4,725.

Voluntary Support, Archer Daniels Midland, 1997, \$7,150.

Voluntary Support, American Protein Corporation, 1997, \$4,725.

Tank Donation, Eli Lilly Research Laboratory, 1998, \$32,749.

Use of soybean products in diets fed to yellow perch—Indiana Soybean Board, 1998, 2 years, \$57,000.

Evaluation of practical and experimental diets fed to walleye—Iowa Department of Natural Resources, 1998, 1 year, \$5,000.

Voluntary Support—Lonza, Inc., 1998, \$3,500.

Use of meat and bone meal in diets fed to hybrid striped bass -- Fats and Proteins Research Foundation, Inc., 2000, 1 year, \$23,881

Soybeans in the American lobster industry -- Indiana Soybean Board, 2000, 1 year, \$49,805

Fish as a source of nutraceuticals – 21st Century Research Fund, 2000, 2 years, \$107,433

AquaSoy Symposium – United Soybean Board, 2001, 1 year, \$13,400

Use of biotechnology by-products in diets fed to fish -- Iowa State University, Biotechnology By-Product Consortium, 2001, 1 year, \$10,436

Yellow perch aquaculture in the North Central Region -- USDA North Central Regional Aquaculture Center, 2001, 3 years, \$89,000

Hybrid striped bass aquaculture in the North Central Region -- USDA North Central Regional Aquaculture Center, 2001, 3 years, \$135,000

Kikkoman waste products as lobster bait – University of Maine, 2002, 2 months, \$22,900

Managed Aquaculture Program – United Soybean Board, 2003, 1 year, \$286,448

Managed Aquaculture Program – Indiana Soybean Board, 2003, 1 year, \$69,000

Minimizing equivalent system mass in Advanced Life Support Systems – NASA, NSCORT, ALS, 2003, 5 years, \$403,701

Voluntary Support—Novus International, 2004, \$7,000

Managed Aquaculture Program – United Soybean Board, 2004, 1 year, \$295,000

Aquaculture in Indiana: Opportunities and Constraints, Indiana Livestock Promotion Board, 2004, 1 year, \$41,500

Voluntary Support—Novus International, 2004, \$7,000

Nutrition, USDA North Central Regional Aquaculture Center, 2004, 2 years, \$65,500

Managed Aquaculture Program – United Soybean Board, 2004, 1 year, \$63,401

Managed Aquaculture Program – United Soybean Board, 2005, 1 year, \$350,000

Largemouth Bass Nutrition, USDA, North Central Regional Aquaculture Center, 2005, 2 years, \$80,000

Voluntary Support – Bliss Industries, 2005, \$7,352

Managed Aquaculture Program – United Soybean Board, 2006, 1 year, \$370,000

Managed Aquaculture Program – United Soybean Board, 2007, 1 year, \$386,444

Domestic Aquaculture Pilot Study – United Soybean Board, 2007, 6 months, \$31,814

Voluntary Support – Archer Daniels Midland, 2007, \$90,000

Partnering for Land-Use Sustainability – Purdue University, Department of Forestry and Natural Resources, 2007, 2 years, \$10,000

Use of soybean products in targeted species for Indiana – Indiana Soybean Alliance, 2008, 1 year, \$77,250

Evaluation of fractionated corn distiller gains in diets for hybrid striped bass – Indiana Corn Marketing Council, 2008, 1 year, \$50,000

Evaluation of soy protein concentrate in diets fed to hybrid striped bass and yellow perch – Indiana Soybean Alliance, 2008, 1 year, \$125,000

Partnering for Land-Use Sustainability – Purdue University, Department of Forestry and Natural Resources, 2009, 1 year, \$3,700

Proteomics and Metabolomics Methods Evaluations: Linking Research Programs across Campus – Purdue University, Bindley Biosciences Center, 2009, 5 months, \$12,000

Bluegill diet verification study – USDA, North Central Regional Aquaculture Center, 2009, 2 years, \$31,200

On-farm hybrid striped bass and largemouth bass nutrition study, Indiana Soybean Alliance, 2009, 1 year, \$30,119

Food webs in the 21st century: exploration of new enabling technologies to understand and predict changes in aquatic food webs and impacts on ecosystems, Illinois-Indiana Sea Grant, 2010, 1 year, \$10,000

Bluegill diet verification study - USDA, North Central Regional Aquaculture Center, 2012, 1 year, \$3,050

International Travel Grant – Purdue Research Foundation, 2015, 4th World Congress on Aquaculture and Fisheries, Qingdao, China, 1 year, \$1000.

Alternative sustainable feeds for the 21st century. AgInno, 2017, 2 years, \$98,000.

D. Woods Thomas Graduate Scholarship, Kirsten Roe, 2 years, \$2,000.

Fiji study abroad program, International Programs in Agriculture, Study Abroad Intercultural Learning (SAIL), Exploratory, 1 year, \$3,000.

CONSULTING ACTIVITIES

Eagle Products, Mishawaka, Indiana, 1990

Nunn Milling, Evansville, Indiana, 1990

Sare-Collins Feed Mill, Brookston, Indiana, 1990
Perch Research International, Saginaw, Michigan, 1991-1992
Heartland Organic Foods, Rosholt, South Dakota, 1991-1993
Robert Leader, Brookston, Indiana, 1991-1993
Jim Phares, Indianapolis, Indiana, 1991-1992
Energenetics, Keokuk, Iowa, 1992
Hubbard Milling, Mankato, Minnesota, 1992
US Food and Drug Administration, Washington, DC, 1992-1994
LDI Manufacturing Company, Logansport, Indiana, 1992
Food Flavors, Inc., Schaumburg, IL, 1993
Gunhus, Grinnel, Klinger, Swenson and Guy, Ltd., Moorhead, MN, 1993
Nelson and Sons, Murray, Utah, 1996
Indiana Aquaculture Association, 1996
Kloubec Aquaculture, Amana, Iowa, 1996-1998
US Feed Grains Council, Washington, DC, 1997
Nature's Catch, Clarksdale, MS, 1998-1999
Illinois State University, Normal, IL, 1999-2006
Charles Scribner's and Sons, New York, NY, 2001-2002
Star Milling, Perris, CA, 2002-
Novus International, Inc., St. Louis, MO, 2002-2006
Windridge Farms, Cambridge, MD, 2004
Marine Biological Laboratory, Woods Hole, MA, 2004-2005
American Soybean Association, St. Louis, MO, 2004
Haworth Press, Nutely, NJ, 2007-2009
AquaManna, Inc., Ladoga, IN, 2007-
American Association for the Advancement of Science, Washington, DC, 2010
Baron Feeds LLC, Uniontown, AL, 2010
San Francisco Bay Brand and Ocean Nutrition, San Francisco, CA, 2012-
Algaeon, Inc., Indianapolis, IN, 2013
Clear Horizons, LLC, Milwaukee, WI, 2014
Viobin, Monticello, IL, 2015
Emergent Aquaculture, LLC, Princeton, NJ, 2015
IdeaConsultora Ltda., Santiago, Chile, 2015
US Grains Council, Washington DC, Egypt program, 2016
Spotlight Feeds, Ho Chi Min City, Vietnam, 2017
Landus Coop LLC, Ames, Iowa, 2018