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EXECUTIVE SUMMARY

Dr. Douglas G. Overhults
Associate Extension Professor

Extension Products

Activity	Number
<i>Educational Materials</i>	
Publications	
National & regional	2
UK Cooperative Extension	21
Departmental & web published	11
Building plans	5
Power Points, slide sets, & videotapes	27
Web sites	2
<i>Direct Educational Programs</i>	
Workshops, clinics & training	49
County & regional clientele meetings	>200
Field days, exhibits, & demonstrations	43
Clientele visits	>500
<i>Mass Media</i>	
Radio & TV programs	179
Magazine & newsletter articles	49
News releases & media interviews	85
<i>Invited Presentations</i>	
In state	15
Out of state	25

Grants and Contracts

Role	# of projects	Amount
Principal Investigator	8	\$ 458,668
Co-Principal Investigator	8	\$ 1,312,464
Collaborator	4	\$43,150
Total	20	\$ 1,814,282

Research Publications

Category	Number
Refereed Articles	21
Abstracts	15
Conference Proceedings	30
Technical papers/reports	58

Teaching

Course	Title	Semester	Students	Note
BAE 625	Advanced Environmental Control – Animal Housing Systems	Spring 2010	7	Team teaching this course

- Full member of the Graduate Faculty
- Graduate Student Advising

Major Advisor: 2 M.S. (in progress)

Other Advisory Committees: 1 M.S. – Shu Hui Zhang, completed 1992

Service

Committees	Number
Leadership role – national	14
Membership - national	19
Department	12
College	5
Other	3

- Site evaluation, engineering design, and/or construction supervision for 11 construction projects (est. cost > \$2 million) at the West Kentucky 4-H Camp and the West Kentucky Research and Education Center.
- Design Team – Kentucky Swine Development & Training Center

NARRATIVE STATEMENT OF PROGRAM

Dr. Douglas G. Overhults
Associate Extension Professor

Livestock, poultry, and grain production are some of Kentucky's leading agricultural commodities and represent a large portion of the state's agricultural economy. Corn, soybean, and wheat production has long been an important source of Kentucky farm income, especially in the western half of the state. Historically, swine production was one of our most significant livestock enterprises although it has declined substantially in recent years. Broiler production was non-existent for nearly a half century before it was re-established in 1990. Today, Kentucky Agricultural Statistics lists poultry as the farm product that generates the state's largest cash receipts. All of our grain and livestock farms have confronted, adapted to, and adopted enormous technological, economic, and social changes over the course of my career. Through that time, it has been my goal to provide information, education, training, and tools that would enable our producers to continue the successful, profitable, sustainable farm operations that support their families and the economy of our state and nation.

My extension and research program has been conducted from an off campus experiment station which has a multidisciplinary faculty. This location has given me an excellent opportunity to have very direct and frequent interactions with farmers, extension agents, and other clientele, thereby gaining a good perspective of their technical and educational needs. The multidisciplinary faculty association has also been a valuable asset and a significant influence in my program development. Technology and education, whether it is engineering related or from another discipline, is almost always adopted within the context of a broad set of production and management parameters. Routine collaboration with colleagues in other disciplines has added strength and relevance to my programs and has allowed me to contribute engineering expertise to their programs as well.

Over the years, my program emphasis has shifted and evolved, beginning with an emphasis on grain storage systems and transitioning to a swine housing focus after completion of my Ph.D. As environmental issues increased in importance, a significant part of my program was directed toward manure management and regulatory issues. With the more recent growth in the poultry industry, a major part of my program has shifted to address engineering needs in that industry. While those areas have been the primary underpinning of my program, other

projects developed at different times to address a specific need or program. Following, briefly, are some areas of focus and accomplishment.

- ◆ **Kentucky Poultry Energy Efficiency** (2008 – 2010) – A project funded by the Governor’s Office of Agricultural Policy (KY) was initiated to conduct on-farm energy assessments on a sample of broiler production farms in Kentucky. Assessments were conducted on 42 farms to determine current energy use and to identify potential energy saving improvements. Results from all farms were summarized and made available to all growers through workshops, conferences, a website (<http://www.poultryenergy.com>), newsletter, and printed materials. This project has led to additional work in providing energy assessments for poultry growers who have applied for cost share funds from both the USDA Rural Energy for America Program and for energy efficiency funds through the Kentucky Governor’s Office of Agricultural Policy. A total of 33 assessments have been provided for growers who have requested cost share assistance for energy efficiency improvements that had a total estimated cost of about \$1.75 million. Total grant funds requested in those applications was about \$420,000 and over 90% of the applications submitted were approved.
- ◆ **Broiler House Ammonia Emissions Monitoring** (2006 -2009) – A continuous gaseous and particulate emissions monitoring system was installed at two farm locations in Kentucky and operated to monitor emissions from each site for a one year period. This was a joint project with a team at Iowa State University and was funded by Tyson Foods. The project provided one of only two sets of broiler farm data in EPA’s National Air Emissions Monitoring Study (NAEMS). In addition to the data obtained, a major outcome was the development of an extensive quality assurance plan (QAPP) for all aspects of the project. Since this study was near completion before the NAEMS study began, the QAPP developed for this project became a primary reference and benchmark for all of the studies in the NAEMS project. Data from this project showed that ammonia emissions from these test sites were much lower than EPA had previously estimated.
- ◆ **Air Emissions Consent Agreement** (2005 – 2006) - Multidisciplinary programs were developed and provided to Kentucky livestock producers to assist them in evaluating their potential participation in EPA’s proposed consent agreement related to reporting gaseous emissions from livestock and poultry housing under the CERCLA & EPCRA reporting laws and regulations. EPA initiated the consent agreement as part of a plan that included a national study to measure gaseous and particulate emissions from various types of livestock housing. Printed materials and a website were developed and a series of regional meetings were conducted to inform and educate producers about potential participation in the consent agreement.
- ◆ **ENRI Air Quality Focus Group** (2005 – 2006, Co-chair) – A multidisciplinary, multiprogram focus group was formed to develop educational programs that would

address air quality issues in Kentucky. Efforts were directed primarily toward open burning and alternative fuels. "Train-the-trainer" materials were developed and workshops were conducted to reach Extension agents and regulatory personnel.

- ◆ **Kentucky Master Cattleman Program** (2004 – 2008) – This statewide intensive educational program was developed by the UK Beef group and consisted of 12, 4-hour instructional modules. The "Environmental Stewardship" module was originally developed by other UK agricultural engineers. After the original developer left our department, I worked with another faculty member to revise the material and I taught part of the sessions for three years. The Kentucky Master Cattleman program has been one of the most successful and well received educational programs that the UK Cooperative Extension Service has provided for beef cattle producers. It has had over 300 participants per year. The team was recognized with the "Outstanding Extension Program" Award from the Association of Kentucky Extension Specialists in 2005.
- ◆ **Hay Storage** (2003 – 2008) – The Kentucky Agricultural Development Board added a "Hay, Straw, and Commodity Storage Program" to their array of cost-share programs in 2003. As a requirement of that program, participants were to attend an educational program provided by UK Cooperative Extension. Educational resources and supporting publications were assembled and made available through a new website (http://www.bae.uky.edu/ext/Hay_Storage/) that was developed. Two agent training sessions were conducted and approximately 35 other programs were presented to producers and extension agents. County Extension Agents also used the PowerPoint presentation and other materials for numerous local educational programs. Through this program, Kentucky farmers have invested over \$35 million in new or renovated storage facilities. Storage capacity for an estimated 500,000 tons of hay has been constructed through this program and estimated ongoing savings to Kentucky farmers in the form of reduced hay spoilage is in excess of \$3 million per year.
- ◆ **Composting for Dead Animal Disposal** (2003 – 2006) – Information was developed and used to educate producers about sizing, constructing, and operating swine mortality composters. Technical data and consultation was provided to assist the KY Department of Agriculture in developing regulations to specify the design and operating parameters that producers will have to follow when using composting as a method for dead animal disposal.
- ◆ **Animal Waste Focus Group** (1998 – 1999) – This interdisciplinary and multiprogram group from the College of Agriculture conducted an analysis of the animal manure nutrients produced and the potential for crops to use those nutrients on a county by county basis. Two publications providing mapping and data were published. Agents in all programs of each Extension area were trained to use the manure nutrient analysis as an information source for local officials, producers and other interest groups.

- ◆ **Kentucky Swine Development & Training Center** (1995 – 2005) – A matching grant of \$870,000 was received from USDA/CSRS to construct new swine facilities at the West Kentucky Research & Education Center for demonstration, applied research, and hands-on training programs to enhance Kentucky swine production. I was part of the KSDTC project team that developed complete building designs, construction plans, and written specifications. The total budget for the project was \$1.75 million. After three rounds of bidding and re-design, no bids fell within the project budget. Subsequently, funds were re-allocated to construct a feed mill in support of animal research at the UK Animal Research Center.
- ◆ **Broiler House Environmental Control** (1990 – 1996) – This project began as broiler production began to expand into Kentucky. A new prototype electronic ventilation control system was installed in one of the first new broiler houses that were constructed. The house was instrumented and compared to a house with mechanical controls. Results showed energy savings sufficient to pay for the controller. The project was a bit ahead of its time but served as a good demonstration of the potential for electronic controllers. Gradually, nearly all broiler growers have come to rely on electronic controllers to operate ventilation, feed, and lighting systems in their production houses.
- ◆ **Fires in Dark Fired Tobacco Barns** (1986 – 1991) – Dark fired tobacco is cured with smoke inside the barns. Each year some barns are destroyed by fire associated with the curing process but for reasons that are unknown. This project began as an investigation to determine if flammable gases accumulated in the barn during the curing process. No conclusive evidence of flammable gases was found but the gas monitoring work led to an effort to develop an alternative method of generating smoke in the barn. A mechanical smoke generator was developed and field tested. It showed potential for reducing the fuel requirements and for eliminating much of the need for having smoldering fires inside a barn. Leaf quality, however, was not judged as acceptable.
- ◆ **Structures, equipment, construction, and environmental modification systems for livestock buildings** (1982 – present) – Coordinated interdisciplinary development of building designs, construction plans, and management recommendations for farrow to finish swine production facilities (both the building plans and the associated agent training program were recognized with ASAE Blue Ribbon Awards in the Plans/Blueprints, and Extension Methods categories) ; Initiated annual statewide school for farm builders and equipment dealers; organized and conducted 3 building renovation workshops – Designed installations and conducted field trials and on farm demonstrations of automatic curtain controllers in swine buildings; designed and demonstrated drip, evaporative, and sprinkler cooling systems; developed computer analysis to predict seasonal energy use and evaluate economic feasibility of heat exchangers; designed, constructed and tested a low cost heat exchanger for swine buildings; organized and conducted an educational seminar for veterinarians at the Mid America Veterinary Conference.

- ◆ **Biomass fuels for grain drying** (1982 – 1986) – Designed and constructed dewpoint control system for corn cob drying studies; conducted research project to develop data and equations to describe thin layer drying characteristics of corn cobs; field tested a commercial gasifier fueled by corn cobs and wood chips for drying corn; conducted field trial to evaluate response of pigs and chickens to grain dried with biomass fuel; installed on farm demonstration of biomass gasifier for grain drying.
- ◆ **Agricultural Engineering Plan Service** (1982 – present) Changed format for plan distribution from 18"x24" blueprints to letter size photo copies; organized the 400 active blueprints by commodity into 10 books which were distributed to County Extension officers; and added 48 handbooks and fact sheets from Midwest Plan Service and Northeast Regional Ag. Engineering Service to the Plan Service distribution.
- ◆ **Pesticide applicator certification** (1975 -1977) – Member of team that developed the first applicator certification program for Kentucky – Developed 2 slide sets and cassette tapes on application equipment and its calibration; prepared publication on aerial application of pesticides; prepared equipment and calibration sections of private applicator training manual; and conducted training for all Kentucky County Extension Agents on application equipment and calibration.
- ◆ **Grain drying, handling, and storage** (1972 – 1978 & 1982 – 1988) – Cooperated in the development and testing of computer simulations to design and analyze grain handling systems; conducted 3 day training workshops for extension agents and producers on the use of computers for planning grain systems – workshops encompassed the use of more than 10 computer programs to analyze planning & design of storage systems, harvest & drying systems, and stored grain management (program was recognized with an ASAE Blue Ribbon Award for Extension Methods); provided program support for annual workshop for grain equipment dealers; conducted 1 day teleconference on maintaining stored grain quality with entomologists and ag. economists for producers in 6 locations; organized and conducted white corn quality seminar.

- ◆ Have participated in 4 regional research projects
Served as Secretary and Chairman of one project
- ◆ Provided site evaluation, design assistance, consultation &/or construction supervision for various College of Agriculture construction projects with a value in excess of \$2,000,000
- ◆ Court appointed expert for case involving construction of broiler production facilities in Kentucky
- ◆ Certified assessor for the National Pork Producers Association's "On-Farm Odor and Environmental Assessment" program.
- ◆ Twice served as Chairman of the Structures & Environment Division of ASABE and served as Chairman of 6 other ASABE committees
- ◆ Received Outstanding Service Award from the Kentucky Pork Producers Association
- ◆ Five ASABE Blue Ribbon Awards for Extension Educational Aids and two "Certificates of Excellence" from the American Agronomy Society for an Extension publication
- ◆ Serve as education chair for the KY/TN chapter of the National Frame Builders Association – was part of the organizing group that organized the chapter

CURRICULUM VITAE

Douglas G. Overhults, Ph.D., P.E.
Associate Extension Professor
Biosystems & Agricultural Engineering Department
University of Kentucky

CONTACT INFORMATION

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COLLEGE EDUCATION

Bachelor of Science Major	University of Kentucky, 1970 Agricultural Engineering
Master of Science Major Thesis	University of Kentucky, 1975 Agricultural Engineering Drying rate and oil quality of soybeans as related to harvest and drying conditions.
Ph.D. Major/Field Dissertation	University of Nebraska-Lincoln, 1982 Engineering/Bioenvironmental Infrared heat for weanling pigs: A bioenergetics analysis

PROFESSIONAL EXPERTISE AND RESPONSIBILITY:

Engineering design, analysis and educational programs related to swine and poultry production systems, including structures, equipment, environmental modification and control, energy use, manure handling and disposal, and grain storage and feed processing

PROFESSIONAL EXPERIENCE

- 1988 -Present Associate Extension Professor; University of Kentucky, Agricultural Engineering Department. Responsible for developing and implementing statewide extension education programs related to swine and poultry housing systems. Extension and research programs have focused on environmental modification and control systems, design and construction, manure systems, and alternative curing methods for dark fired tobacco.
- 1982-88 Assistant Extension Professor; University of Kentucky, Agricultural Engineering Department. Responsible for management of the Agricultural Engineering Plan Service and for conducting a statewide education and research program on swine housing systems. Also, conducting research on drying and storing corn cobs for biomass fuel.
- 1978-82 Visiting Extension Specialist; University of Nebraska-Lincoln, Agricultural Engineering Department. Granted leave from the University of Kentucky to develop and complete a Ph.D. degree program. Performed research in solar collector design, animal calorimetry, and environmental influences on young pigs. Taught an Agricultural Mechanization course in Livestock Production Systems.
- 1972-78 Extension Agricultural Engineer; University of Kentucky, Agricultural Engineering Department. Developed and implemented a statewide educational and research program related to confinement swine facilities and to grain drying and handling systems. Extensively involved in interdisciplinary and intradepartmental teams for both research and extension programs.
- 1971-72 Graduate Research Assistant; University of Kentucky, Agricultural Engineering Department. Conducted research project on the thin layer drying characteristics of soybeans and the effects of high temperature drying on soybean oil quality. Academic program emphasis on statistics, heat and mass transfer, and processing biological products.
- 1968-70 (summers) Field Reporter; USDA, Ohio County (KY) ASCS. Measured and reported planted acreages for tobacco or feed-grain allotments and provided on-farm supervision for the destruction of excess crop acreages.

ENGINEERING REGISTRATION

Registered Professional Engineer (KY, No. 10370)

EXTENSION PROGRAMMING

Extension Publications (34)

1. Coffey, R., D.G. Overhults, and A. Pescatore. 2005. Air Emissions Consent Agreement. University of Kentucky, Animal and Food Sciences Department. Electronic publication at URL:
<http://www.uky.edu/Ag/AnimalSciences/nutrientmanagement/nutrientmanagement.html>
2. Burdine, K.H., D.G. Overhults, and R. Trimble. 2005. The economics of hay Storage. Agricultural Economics Extension No. 2005-01D, University of Kentucky.
3. Coffey, R., J. Taraba, D. Amaral-Phillips, R. Gates, W. Crist, D.G. Overhults, T. Pescatore, and K. Casey. 2005. Animal feeding operations air emissions consent agreement and national monitoring study fact sheet. UK Cooperative Extension Service.
4. Bridges, T.C., L.W. Turner, R.S. Gates, and D.G. Overhults. 2004. Assessing the benefits of misting-cooling systems for growing/finishing swine in Kentucky as affected by environment and pig placement date. University of Kentucky Cooperative Extension Service. No. AEN-83.
5. McNeill, S.G. and D.G. Overhults. 2002. Moisture and handling shrink factors for grain. Electronic publication at URL: http://www.bae.uky.edu/ext/Grain-Storage/shrink_factors.htm
6. Coffey, R.D., G.R. Parker, K.M. Laurent, and D.G. Overhults. 2000. Sampling Animal Manure. University of Kentucky, Cooperative Extension Service. No. ID-148.
7. Animal Waste Focus Group. 1999. Assessment of the Potential for Livestock and Poultry Manure to Provide the Nutrients Removed by Crops and Forages in Kentucky. University of Kentucky, Cooperative Extension Service. No. IP-56.
8. Animal Waste Focus Group. 1999. Potential for Livestock and Poultry Manure to Provide the Nutrients Removed by Crops and Forages in Kentucky. University of Kentucky, Cooperative Extension Service. No. IP-57.
9. McNeill, S.G. and D.G. Overhults. 1997. Harvesting, drying, and storing wheat. Chapter 10 in Wheat Management in Kentucky. University of Kentucky, Cooperative Extension Service. No. ID-125.

10. Rasnake, M., D. Overhults, and V. Case. 1997. Livestock Waste Sampling and Testing. University of Kentucky, Cooperative Extension Service. No. ID-123.
11. Overhults, D.G. and S.G. McNeill. 1996. Drying considerations for the 1996 corn crop. University of Kentucky Ag. Engineering Department, No. AEU-80.
12. McNeill, S.G. and D.G. Overhults. 1996. Operational considerations for harvesting corn above 25% moisture content. University of Kentucky, Biosystems and Agricultural Engineering Department, No. AEU-79.
13. Rasnake, M., T. Pescatore, and D. Overhults. 1995. Poultry Litter Handling and Storage. University of Kentucky, Cooperative Extension Service. No. ID-117.
14. Overhults, D.G. 1994. Notes on wiring greenhouses for tobacco float plants. University of Kentucky Ag. Engineering Department, No. AEU-70.
15. McNeill, S.G. and D.G. Overhults. 1992. Harvesting, Drying and Storing, Chapter 7 In: Canola Production and Management. University of Ky. Cooperative Extension Service, No. ID-114.
16. Gates, R.S., and D.G. Overhults. 1991. Electronic Controls for Broiler Houses. University of Ky. Ag. Engineering Department, AEU-56 and Cooperative Extension Service, AEN-71.
17. Gates, R.S., D.G. Overhults, L.W. Turner, and R.L. Fehr. 1991. Transient surge protection for agricultural facilities. University of Ky. Ag. Engineering Department, AEU-58 and Cooperative Extension Service, No. AEN-70.
18. Overhults, D.G., and R.S. Gates. 1991. Electronic Controls for Swine Buildings. University of Ky. Ag. Engineering Department, No. AEU-57.
19. Bridges, T.C., G.M. White, and D.G. Overhults. 1990. Aeration design principles for flat grain storage. Fact Sheet No. AEN-67, University of Kentucky Cooperative Extension Service.
20. Overhults, D.G., L.W. Turner, S.G. McNeill, L.R. Piercy, and G.M. Turner. 1988. Temporary silage storage. University of Ky. Ag. Engineering Department, AEU-41.
21. Meyer, V.M., R.W. Hansen, B. Holmes, and D.G. Overhults. 1987. Insulation for swine housing. Fact Sheet No. PIH-65, Pork Industry Handbook. Cooperative Extension Service, Purdue Univ., Lafayette, IN.

22. Overhults, D.G. and S.G. McNeill. 1987. Grain drying and storage--Quick reference chart. Agricultural Engineering Update No. AEU-34, University of Kentucky, Agricultural Engineering Department.
23. DeShazer, J.A. and D.G. Overhults. 1983. Infrared heat and the weaned pig. In: 1983 Nebraska Swine Report, p. 19-20. Cooperative Extension Service, University of Nebraska, Lincoln, NE.
24. VanFossen, L. and D.G. Overhults. 1979. Floor heat for swine. Fact Sheet No. 66, Pork Industry Handbook. Cooperative Extension Service, Purdue Univ., Lafayette, IN. (*received ASAE Blue Ribbon Award*)
25. Overhults, D.G. 1976. Aerial application of pesticides. University of Kentucky Cooperative Extension Service.
26. Loewer, O.J., Jr., G.M. White, and D.G. Overhults. 1976. Economics of drying, storage and feed processing: Part IV- Feed processing. Fact Sheet No. AEN-41, University of Kentucky Cooperative Extension Service.
27. Loewer, O.J., Jr., G.M. White, and D.G. Overhults. 1975. Economics of drying, storage and feed processing: Part III- Storage considerations. Fact Sheet No. AEN-35, University of Kentucky Cooperative Extension Service.
28. Loewer, O.J., Jr., G.M. White, and D.G. Overhults. 1975. Economics of drying, storage and feed processing: Part II- Drying. Fact Sheet No. AEN-34, University of Kentucky Cooperative Extension Service.
29. Loewer, O.J., Jr., G.M. White, and D.G. Overhults. 1975. Economics of drying, storage and feed processing: Part I- Operational considerations. Fact Sheet No. AEN-33, University of Kentucky Cooperative Extension Service.
30. Loewer, O.J., Jr., H.E. Hamilton, and D.G. Overhults. 1974. Layout of grain storage and handling facilities. Fact Sheet No. AEN-1, University of Kentucky Cooperative Extension Service.
31. Hamilton, H.E., O.J. Loewer, Jr., and D.G. Overhults. 1973. Harvesting, drying and storing soybeans. Fact Sheet No. AEN- 25, University of Kentucky Cooperative Extension Service.
32. Loewer, O.J., Jr., D.G. Overhults, and H.E. Hamilton. 1973. Low temperature drying-methods and management. Fact Sheet No. AEN-22, University of Kentucky Cooperative Extension Service.

33. Loewer, O.J., Jr., D.G. Overhults, and H.E. Hamilton. 1973. Low temperature drying-use and limitations. Fact Sheet No. AEN-23, University of Kentucky Cooperative Extension Service.
34. Loewer, O.J., Jr., D.G. Overhults and H.E. Hamilton. 1973. Chemical preservation of grain. Fact Sheet No. AEN-21, University of Kentucky Cooperative Extension Service.

Building Design Plans (5)

*[Designs by R.L. Fehr and D.G. Overhults, drafting by B.E. Plaster]
[ASABE Blue Ribbon Award]*

1. Swine Gestation Building. Plan No. 726-35, Agricultural Engineering Plan Service, University of Kentucky. 1978.
2. Swine Finishing Building. Plan No. 726-34, Agricultural Engineering Plan Service, University of Kentucky. 1978.
3. Swine Growing Building. Plan No. 726-33, Agricultural Engineering Plan Service, University of Kentucky. 1978.
4. Swine Nursery Building. Plan No. 726-32, Agricultural Engineering Plan Service, University of Kentucky. 1978.
5. Swine Farrowing Building. Plan No. 726-31, Agricultural Engineering Plan Service, University of Kentucky. 1978.

Popular Press Articles (39)

1. Overhults, D.G. and E. Wheeler. 2007. Buying fans? Compare the right facts. *Frame Building News* 19(4): 40-43. National Frame Building Association.
2. Overhults, D.G. 1989. Contributions to "Agricultural Engineering Briefs", a monthly feature published in *The Kentucky Farmer*, Vol. 125:
 - Fan motor failures
 - A maintenance shop
3. Overhults, D.G. and G. A. Duncan. 1988. Replacing rusty roofs. *Kentucky Farmer* 124(7).

4. Overhults, D.G. 1988. Contributions to "Agricultural Engineering Briefs," a monthly feature published in The Kentucky Farmer, Vol. 124:
Environmental management for nursery pigs,
Kentucky will host National Rural Builder's Show,
Metal framing connectors, and
Cool stored grain.
5. Overhults, D.G., L.W. Turner, and G.A. Duncan. 1987. Installing roof trusses on farm buildings. Kentucky Farmer 123(7):6-7.
6. Turner, L.W. and D.G. Overhults. 1987. Building or buying wood trusses. Kentucky Farmer 123(6):14.
7. Overhults, D.G. 1987. Winter operation of ventilation systems. Kentucky Farmer 123(2):17.
8. Overhults, D.G. 1987. Contributions to "Agricultural Engineering Briefs," a monthly feature published in The Kentucky Farmer, Vol. 123:
Pigs need adequate space,
Semitransparent penetrating stains,
Electrical wiring in livestock buildings, and
Corrosion resistant nails.
9. Overhults, D. G. 1986. Meeting the challenge of change. Kentucky Farmer 122(7).
10. Turner, L.W., L. Piercy, D.G. Overhults, G.A. Duncan, and C. Christensen. 1986. EPA sets new guidelines for treatment and use of treated wood. Kentucky Farmer 122(6):12.
11. Overhults, D.G. 1986. Contributions to "Agricultural Engineering Briefs," a monthly column published in The Kentucky Farmer, Vol. 122:
Removing moisture from livestock buildings,
National farm builder's show,
Good concrete,
Screened air inlets,
See solutions to engineering problems in agriculture, and
Contractors and electricians can use new handbook.
12. McNeill, S.G. and D.G. Overhults. 1985. What's your corn harvesting strategy. Kentucky Farmer 121(9):8-9.

13. Overhults, D.G. 1985. Contributions to "Agricultural Engineering Briefs," a monthly column published in The Kentucky Farmer, Vol. 121:
Farm building construction,
Time to check summer ventilation systems,
More choices in roofing and siding,
Farm building foundations,
Drip cooling systems,
Movable grain storage walls,
New waste management book, and
Accurate and responsive ventilation controls.
14. Overhults, D.G. 1984. Spend your concrete dollars wisely. Kentucky Farmer 120(6):18-19.
15. Turner, G.M. and D.G. Overhults. 1983. Increase forage quality with forage moisture testers. Kentucky Farmer 119(5):14.
16. Overhults, D.G. 1982. Planning--engineers key to livestock housing. Kentucky Farmer 118(11):20-21.
17. Duncan, G.A., D.G. Overhults and R.L. Fehr. 1977. Strong winds show building faults. Kentucky Farmer, February 1977.
18. Loewer, O.J., Jr., T.C. Bridges, and D.G. Overhults. 1977. Using the computer to analyze grain storage facilities. Agric. Engr. 58(1):42-43.
19. Absher, C.A. and D.G. Overhults. What's chance for grain on grass feeding. Livestock Breeder Journal, June 1976.
20. Overhults, D.G. 1976. What's a hog house? Kentucky Farmer, June 1976.

Newsletter Articles (10)

1. Overhults, D.G. 2009. Energy efficiency cost share funds. Cheeps and Chirps 2(4). Kentucky Poultry Federation, Winchester, KY. web published at URL:
http://www.ca.uky.edu/poultryprofitability/Cheeps_and_Chirps.html
2. Gates, R.S., S. Ford and D.G. Overhults. 2009. The ability to seal summer ventilation is important during cold weather. Cheeps and Chirps 2(1). Kentucky Poultry Federation, Winchester, KY. web published at URL:
http://www.ca.uky.edu/poultryprofitability/Cheeps_and_Chirps.html

3. Gates, R.S. and D.G. Overhults. 2008. How much attic insulation? Cheeps and Chirps 1(4). Kentucky Poultry Federation, Winchester, KY. web published at URL: http://www.ca.uky.edu/poultryprofitability/Cheeps_and_Chirps.html
4. Overhults, D.G., R.S. Gates, and J. Jacob. 2008. Poultry house evaluation service progress. Cheeps and Chirps 1(3). Kentucky Poultry Federation, Winchester, KY. web published at URL: http://www.ca.uky.edu/poultryprofitability/Cheeps_and_Chirps.html
5. Overhults, D.G. 2008. Poultry house evaluation service progress. Cheeps and Chirps 1(2). Kentucky Poultry Federation, Winchester, KY. web published at URL: http://www.ca.uky.edu/poultryprofitability/Cheeps_and_Chirps.html
6. Overhults, D.G. 2008. Cold cathode lighting for broiler houses. Cheeps and Chirps 1(2). Kentucky Poultry Federation, Winchester, KY. web published at URL: http://www.ca.uky.edu/poultryprofitability/Cheeps_and_Chirps.html
7. Overhults, D.G. 2007. What's in your attic? Cheeps and Chirps 1(1). Kentucky Poultry Federation, Winchester, KY. web published at URL: http://www.ca.uky.edu/poultryprofitability/Cheeps_and_Chirps.html
8. Overhults, D.G. 2007. Fuel saving tips. Cheeps and Chirps 1(1). Kentucky Poultry Federation, Winchester, KY. web published at URL: http://www.ca.uky.edu/poultryprofitability/Cheeps_and_Chirps.html
9. Overhults, D.G. 2007. Poultry house evaluation service. Cheeps and Chirps 1(1). Kentucky Poultry Federation, Winchester, KY. web published at URL: http://www.ca.uky.edu/poultryprofitability/Cheeps_and_Chirps.html
10. Overhults, D.G. 2003. Change in permits for stormwater discharge from construction sites. In Environmental and Natural Resource Issues Newsletter, Winter 2003. University of Kentucky Cooperative Extension Service.

Slide sets, manuals, videotapes

As primary developer:

1. Broiler Production / Part 2 - Ventilation (videotape) – University of Kentucky, Cooperative Extension Service, 1993. (*received ASAE Blue Ribbon Award*)
2. Pesticide Application Equipment -- A set of 98 slides with accompanying cassette tape. University of Kentucky, Cooperative Extension Service, 1976.
3. Calibration of Pesticide Application Equipment -- A set of 68 slides with accompanying cassette tape. University of Kentucky, Cooperative Extension Service, 1976.

As contributing author:

1. Broiler Production / Parts 1,3, & 4 - (videotapes) – University of Kentucky Cooperative Extension Service, 1993
2. Apply Pesticides Correctly -- A training and information guide for private applicator certification. University of Kentucky, Cooperative Extension Service, 1976.
3. Management of On-Farm Stored Grain -- A 92 page guide to proper storage, inspection, and management of grain stored on farms. University of Kentucky, Cooperative Extension Service, 1987.

Computer Programs

Turner, L.W., D.G. Overhults, D. Amaral-Phillips, and J. Zulovich. 1993. TMRPLAN - Spreadsheet program written in Quattro PRO to assess the economic feasibility of a particular dairy operation adopting a TMR feeding system.

Invited Presentations

Out of State (15)

1. Overhults, D. G. 2010. Broiler Farm Energy Assessments – Take a bite out of rising energy costs. North Carolina Broiler Supervisors Short Course. April 15, 2010. Sanford, NC.
2. Overhults, D. G. 2010. All Fans Are Not Created Equal – Cost and management impacts. North Carolina Broiler Supervisors Short Course. April 15, 2010. Sanford, NC.
3. Overhults, D. G. 2009. Energy Efficiency to Grow Your Business. National Frame Building Expo. Nashville, TN, Feb, 2009.
4. Overhults, D. G. 2008. Field Observations of Ventilation Fan Performance. 2008 Poultry Housing Short Course. November 18-20, 2008. Auburn University, Auburn, AL.
5. Overhults, D. G. 2008. Energy Auditing Poultry Housing. 2008 Poultry Housing Short Course. November 18-20, 2008. Auburn University, Auburn, AL.
6. Overhults, D. G. 2007. Engineering – A Construction Power Tool. National Frame Builders Association - Frame Building Expo. Columbus, OH, Feb 28 – Mar 2, 2007.
7. Overhults, D. G. 2006. Environmental Systems & Facilities Planning – presented as an instructor for a Continuing Professional Development session at the ASABE Annual International Meeting of ASABE. Portland, OR, July 6, 2006.
8. Overhults, D. G. 2006. Animal Waste Storage and Application Systems. National Frame Builders Association - Frame Building Expo. March 1-3, 2006, Nashville, TN.
9. Overhults, D. G. and E. Wheeler. 2006. Ventilation Fan Performance. National Frame Builders Association - Frame Building Expo. March 1-3, 2006, Nashville, TN.
10. Overhults, D. G. 2005. Environmental Systems & Facilities Planning – presented as an instructor for a Continuing Professional Development session at the ASABE Annual International Meeting of ASABE. Tampa, FL, July, 2005.
11. Overhults, D. G. 2001. Rural construction trends. Farm & Rural Risk Conference, Indiana Insurance Association. Indianapolis, IN. 2001.
12. Overhults, D. G. 2000. High pressure mist cooling systems for swine and poultry. Southern Region Agricultural Engineers Workshop. Savannah, GA, September, 2000.
13. Overhults, D. G. 1996. Basics of mechanical ventilation for poultry houses. North Carolina Poultry Flock Supervisors Short Course. Raleigh, NC, 1996.

14. Overhults, D. G. 1991. Manure handling systems. "Ask the Expert" program at the World Pork Expo. Des Moines, IA, 1991.
15. Overhults, D. G. 1985. Handling and storing soybean seed. Summer Grower Conference, Asgrow Seed Co. Matthews, MO, 1985.

In State (25)

1. Overhults, D. G. 2009. Trimming Your Energy Bill. 2010 Grower Educational Conference – Kentucky Poultry Federation. March 12-13, 2010, Murray and Owensboro, KY.
2. Overhults, D. G. 2009. Poultry House Evaluation Service. 2009 Producer Educational Conference – Kentucky Poultry Federation. March 21, 2009, Bowling Green, KY.
3. Overhults, D. G. 2008. Ammonia Emissions from Kentucky Broiler Houses. 2008 Producer Educational Conference – Kentucky Poultry Federation. March 1, 2008, Owensboro, KY.
4. Overhults, D. G. 2006. Stray voltage: Pieces of the puzzle. Presented at the Stray Voltage Awareness Workshop, Bowling Green, KY, November, 2006.
5. Overhults, D.G. 2004. Environmental stewardship. Master Cattleman Hands-on Field Day. Versailles, KY. Nov. 2004.
6. Overhults, D. G. 2004. Measuring hay temperature. Kentucky Alfalfa Conference. Cave City, KY. Feb. 2004.
7. Overhults, D. G. 2000. Peak performance ventilation. Joint meeting of the KY & TN Poultry Federations, Bowling Green, KY. 2000.
8. Overhults, D. G. 1999. Composting swine mortality. Kentucky Pork Producers Association Annual Meeting, Owensboro, KY. 1999.
9. Overhults, D. G. 1998. On-Farm odor and environmental assessment program. Ky. Ag. Water Quality Authority, Frankfort, KY. 1998.
10. Overhults, D. G. 1996. Mastering the ventilation system. Kentucky Poultry Conference, Owensboro, KY.
11. Overhults, D. G. 1996. Respiratory and hearing screening tests. Kentucky Pork Producers Association Annual Meeting, Owensboro, KY.

12. Overhults, D. G. 1995. Manure management options. AGRI-21 Workshop (Tennessee Valley Authority). Kenlake State Park, Aurora, KY.
13. Overhults, D. G. 1995. Characteristics of large swine and poultry farms. Agricultural Electricity Use Short Course developed by the National Food & Energy Council. Lexington, KY.
14. Overhults, D. G. 1995. Standby generator sizing. Agricultural Electricity Use Short Course developed by the National Food & Energy Council. Lexington, KY, 1995.
15. Overhults, D. G. 1995. Making farm visits and energy recommendations. Agricultural Electricity Use Short Course developed by the National Food & Energy Council. Lexington, KY, 1995.
16. Overhults, D. G. 1995. Broiler litter handling systems. Kentucky Poultry Waste Management Conference, Owensboro, KY. 1995.
17. Overhults, D. G. 1994. Life and breath in the barn. Kentucky Pork Producers Association Annual Meeting, Owensboro, KY. 1994.
18. Overhults, D. G. 1994. Energy use in tunnel ventilated broiler houses. Kentucky Poultry Federation Annual Meeting, Lake Barkley State Park, Cadiz, KY. 1994.
19. Overhults, D. G. 1993. Operating your ventilation system. 1993. Avian Farms Grower Training, Monticello, KY.
20. Overhults, D. G. and G. R. Parker. 1992. Facilities for new producers. Kentucky Pork Producers Association Annual Meeting, Owensboro, KY.
21. Overhults, D. G. and L. W. Turner. 1992. Equipment for processing waste newspaper. Conference on Agricultural Uses of Waste Newspaper. Lexington, KY.
22. Overhults, D. G. and L. W. Turner. 1992. Equipment and facilities for TMR feeding programs. Kentucky Dairymen's Conference, Louisville, KY.
23. Overhults, D. G. 1991. Principles of ventilation. Kentucky Poultry Federation Annual Meeting, KY Dam Village State Park, Gilbertsville, KY.
24. Overhults, D. G. and R. L. Fehr. 1987. Energy saving potential for heat exchangers in swine buildings. Kentucky Swine Conference.
25. Overhults, D. G. and S. G. McNeill. 1986. Fires in dark fired tobacco barns. Western Dark Fired Growers Association Annual Meeting. Murray, KY. August, 1986.

Recent County, Area, State Extension Presentations

1. Overhults, D. G. 2010. Recharge Your Electric Project (4-H Leaders Forum). Lexington, KY. Feb., 2010
2. Overhults, D. G. 2003 - 2008. Barns for Bales. Presented approximately 35 times to over 1000 producers in various counties in support of the KY Ag. Development Board model program for "Hay, Straw, and Commodity Storage.
3. Overhults, D. G. 2003 - 2006. Environmental Stewardship (Master Cattleman Program). Presented 10 times to approximately 300 producers in various counties.
4. Overhults, D. G. 2006. Recharge Your Electric Project (4-H Leaders Forum). Lexington, KY. 2/24/06
5. Overhults, D. G. 2006. Grain & Commodity Storage Facilities. Hartford, KY. 3/20/06
6. Overhults, D. G. 2006. Water Source Development. Hartford, KY. 10/12/06
7. Overhults, D. G. 2005. Reducing Ammonia Emissions in Broiler Houses. Kentucky Poultry Federation Grower Workshops. Dixon, KY. 1/18/05
8. Overhults, D. G. 2005. Reducing Ammonia Emissions in Layer Houses. Kentucky Poultry Federation Grower Workshops. Clarksville, TN. 2/1/05
9. Overhults, D. G., R. Coffey, & T. Pescatore. 2005. EPA Air Emissions Consent Agreement. Presented at 7 regional meetings to approximately 175 producers.
10. Overhults, D. G. 2004. Hay storage construction. Purchase Area Cattleman's Field Day. Paducah, KY. Sept. 2004.
11. Overhults, D. G. 2004. Kentucky agricultural development board model hay storage program. Princeton, KY, March 2004.
12. Plug into electricity. 4-H Leaders Forum, Lexington, KY, Feb. 2004.
13. Water source development. Hardinsburg, KY. March 2004
14. Bicudo, J., D.G. Overhults, and T. Dowdy. Hay storage for Kentucky farms. Annual meeting of the Kentucky Agricultural Development Fund. Lexington, KY. April 2003.

15. Planning for a multi-purpose activities center. Calhoun, KY, March 2003.
16. K.D. Casey, T. Pescatore, and D.G. Overhults. 2003. Demonstration of the FANS testing unit. Perdue Growers Field Day. Hartford, KY. May 2003.
17. Kentucky agricultural development board model hay storage program. Lexington, KY. March 2003.

AWARDS AND HONORS

Membership in Honorary Societies

Gamma Sigma Delta (Honor Society of Agriculture)
Sigma Xi (Scientific Research Society)
Epsilon Sigma Phi (National Extension Honorary)
Alpha Epsilon (Agricultural Engineering Honorary)
Omicron Delta Kappa (Leadership Honorary)

Awards

Wethington Award – University of Kentucky, 2008
Wethington Award – University of Kentucky, 2007
Wethington Award – University of Kentucky, 2006
KASEP Outstanding Program Award. 2005. presented to the Master Cattleman team for the Master Cattleman program.
Outstanding Service Award - Kentucky Pork Producers Assoc. - 1997

ASAE Blue Ribbon Awards for Educational Aids (6)

Broiler Production / Part 2 - Ventilation (Videotape 1993)
Aeration Design Principles for Flat Storage (Extension Publications, 1991)
Floor heat for swine. Pork Industry Handbook Fact Sheet No. 66 (Extension Publications, 1980)
A complete swine production system: A set of six blueprints for farrow to finish facilities (Plans and Blueprints, 1979)
A complete swine production system: Agent training (Extension Methods, 1979)
Agent and farmer training in grain drying and storage technology through the use of computers (Extension Methods, 1976).

American Society of Agronomy “Certificate of Excellence”

“... Wheat Management in Kentucky,” U. of KY No. ID- 125. — 1998
“A Comprehensive Guide to Wheat Management in Kentucky,” U. of KY No. ID-125 (revised).
2010

GRANTS AND CONTRACTS

Pending

1. Overhults, D.G. Improved Building Design and Energy Efficiency to Reduce the Impact on Climate Changes. \$271,774. Part of a Coordinated Agricultural Project (CAP) proposal (Integrated, Sustainable Midwest Approaches to Climate Change for the Pork Industry) to the USDA National Institute of Food and Agriculture by the U.S. Pork Center of Excellence. Overall project is for 5 years and involves 13 institutions with 3 institutions cooperating on the energy efficiency component. Total proposed project funding is \$19,536,870. Total proposed energy efficiency part of funding is approx. \$2,600,000.

As principal investigator:

1. Overhults, D.G., PI, R.Gates, and A. Pescatore, CoPI's. Poultry House Evaluation Service. Kentucky Poultry Federation. 10/1/2007 – 12/31/2010, \$395,566.
2. Overhults, D.G. Field Measurement of Broiler Heat and Moisture Production. Subcontract from Iowa State University. Nationally competitive overall project funding (\$124,572) from ASHRAE to principal investigator, Dr. H. Xin of Iowa State University. Additional collaborators are Drs. J.D. Harmon and J.L. Sell at Iowa State University and Dr. I.L. Berry at the University of Arkansas. 1999 – 2001. \$12,100
3. Overhults, D.G., PI and R.S. Gates. Testing of Time Integrated Variable Control in Tunnel Ventilated Broiler Housing. Funded as a sub-contract from a USDA/SBIR grant to Research Concepts, Inc., Lenexa, KS., 7/1/1995 - 6/30/1998, \$32,702.
4. Overhults, D.G, L.W. Turner, R.S. Gates, R.L. Fehr, and G.R. Parker. Enhancing Kentucky livestock and poultry production through environmental control. UK Cooperative Extension Service. 1990-1991, \$5,000.
5. Overhults, D.G. and J.A. DeShazer. Infrared heating as an energy management and conservation tool in pig nurseries. Nebraska Inter-Industry Electric Council. 1979-1981, \$2000.
6. Overhults, D.G. and J.A. DeShazer. Environmental requirements for early-weaned pigs. Nebraska Pork Producers Association. 1979, \$2100.

7. Overhults, D.G. (PI). Low-cost Heat Exchangers for Swine Buildings. Tennessee Valley Authority. 1983 – 1987, \$4,650.
8. Overhults, D.G. (PI). Swine Production Systems for Small Farms. Tennessee Valley Authority. 1983 – 1985, \$4,550.

As co-investigator:

1. McNeill, S.G., CoPI, D.G. Overhults, CoPI, M. Montross, CoPI, and S. A. Shearer. Energy Audits for Grain and Poultry Producers in Kentucky. USDA Rural Development – Rural Energy for America Program. \$100,000, 2010 – 2012.
2. Coffey, Richard, PI, and D.G. Overhults. Development and Implementation of a High-Rise Swine Manure Composting Production Facility. KY Agricultural Development Board, 5/10/2008 - 4/30/2009, \$25,000.
3. Gates, R.S., PI, and D.G. Overhults, CoPI. Southeastern Broiler Gaseous and Particulate Matter Air Emissions Monitoring Study. Sub-contract with Iowa State University (total project funding from Tyson Foods). 3/28/2005 – 9/30/2007, \$152,121.
4. Fehr, R.L, PI, and D.G. Overhults, CoPI. Engaging KCES in Reducing Energy Use in Kentucky Agriculture, Southern States Energy Board, 10/1/2005 - 3/31/2007, \$47,543.
5. Montross, M.D., R.S. Gates, S.G. McNeill, G.A. Duncan, and D.G. Overhults. Dew point hygrometers., UK Major Research Equipment Initiative. 1/1/2002 - 12/31/2002, \$9,225.
6. Turner L. W., G. A. Duncan, D.G. Overhults, R. Catchen, and R. Thompson. Plan Service Information Delivery by CD-ROM. Kentucky Cooperative Extension Service Program Enhancement Grant. 1996, \$3925.
7. Parker, G.R., CoPI, and D.G. Overhults, CoPI. 1995. Construction of the Kentucky Swine Development and Training Center. Funded by USDA/CSRS, \$870,090.
8. Miksch, D.E. (PI), W.H. Green, D.G. Overhults, and A.J. Pescatore. Alternative use of newspapers as a poultry and livestock bedding material. UK Cooperative Extension Service, 1990-1991. \$5,000.
9. Gates, R.S.(PI) and D. G. Overhults, CoPI. National Food and Energy Council - Performance of integrated microprocessor systems for environmental control of animal systems. 1989-1990. \$25,000.

10. Overhults, D. G., CoPI, and S. G. McNeill, CoPI. Western Dark Fired Growers Association - Fires in Dark-Fired Tobacco Barns. 1986-1988. \$22,300
11. McNeill, S. G., D. G. Overhults and I. J. Ross. Kentucky Energy Cabinet - On-Farm Evaluation of a Biomass Burning System for Drying Grains. 1985-1986, \$15,500
12. McNeill, S. G., G.M. White, and D. G. Overhults. U. S. Dept. of Agriculture - Storage Characteristics and Drying Properties of Corn Cobs. 1982-1986, \$80,000

REGIONAL (MULTI-STATE) RESEARCH PROJECTS

Systems for Controlling Air Pollutant Emissions and Indoor Environments of Poultry, Swine, and Dairy Facilities. 2004-present. CSREES Multistate Research Project No. S-1025

Systems for Controlling Air Pollutant Emissions and Indoor Environments of Poultry, Swine and Dairy Facilities. 1999-2004. CSREES Regional Project No. S-291.

Interior Environment and Energy Use in Poultry and Livestock Facilities. 1994-1999. CSREES Regional Project No. S-261 (ending 1999) -- Secretary and Chairman, 1998-1999.

Systems for Providing and Controlling Interior Environments for Poultry and Livestock. 1989-1994. CSRS Regional Project No. S-236.

REFEREED PUBLICATIONS

Books and Chapters

1. Moody, L.B., H. Li, R.T. Burns, H. Xin, R.S. Gates, S.J. Hoff, and D.G. Overhults. 2008. Southeastern Broiler Gaseous and Particulate matter Emissions Monitoring Quality Assurance Project Plan. Published as Special ASABE peer reviewed publication. Sections 1-6, pp. 1-27; Sections 7-11, pp. 28-62; Sections 12-17, pp. 63-102; Sections 18-25, pp. 103-135; Appendices A-C, pp. 136-143; Appendix D, pp. 144-162; Appendices J-T, pp. 199-258; Appendix U, pp. 259-289. American Society of Agricultural and Biological Engineers. St. Joseph, MI. Web published at URL:
http://asae.frymulti.com/aqap_handbook.asp?confid=aqap2008

Journal Articles (21)

1. Xin H, H. Li, R.T. Burns, R.S. Gates, D.G. Overhults, and J.W. Earnest. 2009. Use of Co2 Concentration Difference or Co2 Balance to Assess Ventilation Rate of Broiler Houses. *Transactions of the ASABE*. 52:1353-1361.
2. Bridges, T.C., L.W. Turner, R.S. Gates, and D.G. Overhults. 2003. Assessing the benefits of misting-cooling systems for growing/finishing swine as affected by environment and pig placement date. *Applied Engineering in Agriculture*. 19(3):361-366.
3. Turner, L.W., T.C. Bridges, R.D. Coffey, R.S. Gates, G.R. Parker, T.M. Brown-Brandl, and D.G. Overhults. 1998. Comparison of observed and simulated grow-finish swine performance under summer conditions. *Applied Engineering In Agriculture*. 14(3):419-423.
4. Gates, R.S., D.G. Overhults, and S.H. Zhang. 1996. Minimum ventilation for modern broiler facilities. *Transactions of the ASAE* 39(3):1135-1144.
5. Gates, R.S., H. Zhang, D.G. Colliver, and D.G. Overhults. 1995. Regional variation in temperature humidity index for poultry housing. *Transactions of the ASAE* 38(1): 197-205.
6. Wurts, W.A., S.G. McNeill, and D.G. Overhults. 1994. Performance and design characteristics of airlift pumps for field applications. *World Aquaculture* 25(4):51-54.
7. Gates, R.S., D.G. Overhults, R.W. Bottcher, and S.H. Zhang. 1992. Field calibration of a transient model for broiler misting. *Transactions of the ASAE* 35(5):1623-1631.
8. Gates, R.S., L.W. Turner, and D.G. Overhults. 1992. Transient overvoltage testing of environmental controllers. *Transactions of the ASAE* 35(2):727-733.
9. Gates, R.S., D.G. Overhults, and L.W. Turner. 1992. Mechanical backup systems for electronic environmental controllers. *Applied Engineering in Agriculture*. 8(4):491-497.
10. Gates, R.S., D.G. Overhults, L.W. Turner. 1992. A survey of electronic environmental controllers. *Transactions of the ASAE*. 35(3):993-998.
11. Gates, R.S., D.G. Overhults, B.L. Walcott, and S.A. Shearer. 1991. Constant velocity air inlet controller. *Computers and Electronics in Agriculture* 6(1991): 175-190.
12. Bridges, T.C., D.G. Overhults, S.G. McNeill, and G.M. White. 1988. An aeration duct design model for flat grain storage. *Transactions of the ASAE* 31(4):1283-1288.
13. White, G.M., T.C. Bridges, S.G. McNeill, and D.G. Overhults. 1985. Equilibrium moisture properties of corn cobs. *Transactions of the ASAE* 28:280-285.

14. Fehr, R.L., K.T. Priddy, S.G. McNeill, and D.G. Overhults. 1983. Limiting swine stress with evaporative cooling in the southeast. *Transactions of the ASAE* 26: 542-545.
15. Lower, O., T.C. Bridges, G.M. White. 1980. The influence of harvesting strategies and economic constraints on the feasibility of farm grain drying and storage facilities. *Transactions of the ASAE* 468-480.
16. Bridges, T.C., O.J. Loewer, Jr., J.N. Walker, and D.G. Overhults. 1979. A computer model for evaluating corn harvesting, handling, drying and storage systems. *Transactions of the ASAE* 22: 618-621, 629.
17. Bridges, T.C., O.J. Loewer, Jr., and D.G. Overhults. 1979. The influence of harvest rate and drying time on grain drying and storage facility selection. *Transactions of the ASAE* 22: 174-177.
18. Loewer, O.J., Jr., T.C. Bridges, and D.G. Overhults. 1976. Facility costs of centralized grain storage systems utilizing computer design. *Transactions of the ASAE* 19:1163-1168.
19. Loewer, O.J., Jr., T.C. Bridges, and D.G. Overhults. 1976. Computer layout and design of rain storage facilities. *Transactions of the ASAE* 19:1130-1137.
20. Overhults, D.G., G.M. White, H.E. Hamilton, I.J. Ross, and J.D. Fox. 1975. Effect of heated air drying on soybean oil quality. *Transactions of the ASAE* 18:942-945.
21. Overhults, D.G., G.M. White, H.E. Hamilton, and I.J. Ross. 1973. Drying soybeans with heated air. *Transactions of the ASAE* 16:112- 113.

NON-REFEREED PUBLICATIONS

Abstracts (15)

1. Overhults, D.G., A. Pescatore, I.M. Lopes, G.M. Morello, J.P. Jacob, M. Miller, J.W. Earnest, Jr., and R.S. Gates. 2010. Air velocities in poultry houses raising large broilers. 2010 Poultry Science Association Annual Meeting. *Poultry Science* 89(Supp. 1).
2. Overhults, D.G., A. Pescatore, I.M. Lopes, G.M. Morello, J.P. Jacob, J.W. Earnest, Jr., M. Miller, and R.S. Gates. 2010. Overview of lighting in Kentucky broiler houses. 2010 Poultry Science Association Annual Meeting. *Poultry Science* 89(Supp. 1).

3. Overhults, D.G., A. Pescatore, I.M. Lopes, G.M. Morello, J.W. Earnest, Jr., M. Miller, J.P. Jacob, and R.S. Gates. 2010. Using thermal imaging for poultry house energy assessments. International Poultry Scientific Forum, Southern Poultry Science Society Meeting Abstracts, p. 49.
4. Overhults, D.G., A. Pescatore, R.S. Gates, J.P. Jacob, M. Miller, and J. Earnest, Jr. 2009. House characteristics and energy utilization in poultry houses raising small broilers. SPSS 2009 International Poultry Scientific Forum. Poultry Science 88(Supp. 1): 192.
5. Overhults, D.G., A. Pescatore, R.S. Gates, J.P. Jacob, M. Miller, J. Earnest, Jr. 2009. The Kentucky Poultry House Evaluation Service. SPSS 2009 International Poultry Scientific Forum. Poultry Science 88(Supp. 1): 193.
6. Overhults, D.G., A. Pescatore, R.S. Gates, J.P. Jacob, M. Miller, J. Earnest, Jr. 2009. House characteristics and energy utilization in poultry houses raising large broilers. 2009 Poultry Science Association Annual Meeting. Poultry Science 88(Supp. 1): 87.
7. Miller, M., J.P. Jacob, A. Pescatore, D.G. Overhults, R.S. Gates. 2009. Multifacet, grower-driven education program. 2009 Poultry Science Association Annual Meeting. Poultry Science 88(Supp. 1): 65.
8. Burns, R.T., H. Xin, R.S. Gates, H. Li, L.B. Moody, D.G. Overhults, J. Earnest, and S. Hoff. 2007. Continuous monitoring method for ammonia emissions from poultry broiler houses in the United States. Page 152 In: Ammonia Conference Abstract Book.
9. Cantor, A.H., A.J. Pescatore, N.D. Paton, R.S. Gates, D.G. Overhults, C. Wood, K. Ragland, C.M. Baird, and C.A. Spears. 1999. Using distance learning for teaching poultry production. Poultry Sci. 78(Suppl. 1):S55.
10. Gates, R.S., S.H. Zhang, and D.G. Overhults. 1992. Whole-house heat production for commercial broilers. Poultry Science 71, Supp. 1: 131.
11. Gates, R.S., D.G. Overhults, A.J. Pescatore, and A.H. Cantor. 1992. Utility costs for tunnel ventilated broiler housing. Poultry Science 71, Supp. 1: 132.
12. Overhults, D.G., W.C. Maksymowicz, S.G. McNeill, and F.A. Payne. 1991. Finishing dark-fired tobacco with a mechanical smoke generator. Tobacco Abstract 35(5):663.
13. Wurts, W.A., S.G. McNeill, and D.G. Overhults. 1990. Field evaluation of airlift destratifier pumping performance. Abstracts--World Aquaculture 90.

14. Randolph, J.H., S.G. McNeill, G.L. Cromwell, T.S. Stahly, D.G. Overhults, and G.R. Parker. 1984. Nutritional value of corn dried with gas vs. biomass (corncobs) for swine. *Journal Agricultural Science*. 59(Supp. 1):275.
15. Herbek, J.H. and D.G. Overhults. 1979. Effect of swathing wheat on double-crop soybean yields. *Southern Branch of American Society of Agronomy. Abstracts*, p. 4.

Conference Proceedings (30)

1. Amaral, M.F.P., R.S. Gates, D.G. Overhults, I.F.F. Tinôco, H. Li, R.T. Burns, H. Xin, and J.E. Earnest. 2008. Analysis of different methods to compute ammonia concentration and emission rate. *Proceedings of the Eighth International Symposium, Livestock Environment VIII, Sept 1-4, Iguassu Falls, Brazil*. ASABE Publications, St. Joseph MI: ASABE.
2. Burns, R.T., H. Li, H. Xin, R.S. Gates, D.G. Overhults, and J.E. Earnest. 2008. Quantification of particulate emissions from broiler houses in the southeastern United States. *Proceedings of the Eighth International Symposium, Livestock Environment VIII, Sept 1-4, Iguassu Falls, Brazil*. ASABE Publications, St. Joseph MI: ASABE.
3. Burns, R.T., H. Xin, R.S. Gates, H. Li, L.B. Moody, D.G. Overhults, J. Earnest, and S. Hoff. 2007. Continuous Monitoring Method for Ammonia Emissions from Poultry Broiler Houses in the United States. In *Ammonia Emissions in Agriculture (Proceedings of the International Conference on ammonia in Agriculture)*. p. 339-340. Ed. By G. Monteny and E. Hartung. Wageningen Academic Publishers, Wageningen, The Netherlands.
4. Burns, R.T., H. Xin, R.S. Gates, H. Li, D.G. Overhults, L. Moody, and J.W. Earnest. 2007. Ammonia emissions from poultry broiler systems in the southeastern United States. *Proceedings of the International Symposium on Air Quality and Waste Management for Agriculture, Broomfield, CO*. ASABE, St. Joseph, MI. Sept. 15-18.
5. Amaral, M.F.P., R.S. Gates, E.G. Wilkerson, D.G. Overhults, I.F.F. Tinôco, H. Li, R.T. Burns, H. Xin, and J.W. Earnest. 2007. Comparison between two systems for ammonia emission monitoring in broiler houses. *Proceedings of the International Symposium on Air Quality and Waste Management for Agriculture, Broomfield, CO*. ASABE, Joseph, MI. Sept. 15-19.
6. Burns, R.T., H. Xin, H. Li, S. Hoff, L. Moody, R. Gates, D. Overhults, and J. Earnest. 2006. Monitoring system design for the southeastern broiler gaseous and particulate matter air emissions monitoring project. *Proceedings of the Workshop on Agricultural Air Quality: State of the Science*. p. 615-620. June 5-8, 2006, Potomac, MD. web published at URL: <http://ncsu.edu/airworkshop/>

7. Li, H., R.T. Burns, H. Xin, L.B. Moody, R. Gates, D. Overhults, and J. Earnest. 2006. Development of a Continuous NH₃ Emissions Monitoring System for Commercial Broiler Houses. Proceedings of the 99th Air & Waste Management Association Annual Conference & Exhibition. A&WMA, June, 2006.
8. Overhults, D.G. 2004. Measuring hay temperatures. In 24th Kentucky Alfalfa Conference Proceedings, pp. 12-17. University of Kentucky Cooperative Extension Service.
9. Bridges, T.C., L.W. Turner, R.S. Gates, and D.G. Overhults. 2000. Swine performance enhancement with cooling as influenced by summer growth period and weather. In Proceedings of the First International Swine Housing Conference, Des Moines, IA. ASAE, St. Joseph, MI. Oct. 9-11.
10. Turner, L.W., T.C. Bridges, R.D. Coffey, R.S. Gates, G.R. Parker, T.M. Brown-Brandl, and D.G. Overhults. 1998. Comparison of observed and simulated grow-finish swine performance under summer conditions. pp. 1032-1039 In: R.W. Bottcher and S. J. Hoff (Eds.), Livestock Environment V, Proceedings of the Fifth International Livestock Environment Symposium, Bloomington, MN. ASAE, St. Joseph, MI.
11. Turner, L.W., G.A. Duncan, D.G. Overhults, D. Duroww, R. Catchen, and R. Thompson. 1998. CD-ROM plan implementation and delivery for Extension. Pp. 530-536. In: F.S. Zazueta, ed., Proceedings of the 7th International Conference on Computers in Agriculture. Orlando, FL. October 26-30.
12. Overhults, D.C. and R.S. Gates. 1997. Energy requirements for operating tunnel ventilated broiler houses. In: R.W. Bottcher and S.J. Hoff (Eds.), Livestock Environment V, Proceedings of the 5th International Livestock Environment Symposium, Bloomington, MN, ASAE, St. Joseph, MI., pp. 859-864
13. Overhults, D.G. and R.S. Gates. 1997. Energy requirements for operating tunnel ventilated broiler houses. pp. 859-864 In: R.W. Bottcher and S. J. Hoff (Eds.), Livestock Environment V, Proceedings of the Fifth International Livestock Environment Symposium, Bloomington, MN. ASAE, St. Joseph, MI.
14. Gates, R.S., M.B. Timmons, D.G. Overhults, and R.W. Bottcher. 1997. Fuzzy reasoning for environment control during periods of heat stress. pp. 553-562 In: R.W. Bottcher and S. J. Hoff (Eds.), Livestock Environment V, Proceedings of the Fifth International Livestock Environment Symposium, Bloomington, MN. ASAE, St. Joseph, MI.
15. Bottcher, R.W. and D.G. Overhults. 1996. The basics of poultry house ventilation and electrical wiring. In Proceedings of the Poultry Supervisors' Short Course, p. 1-15. Poultry Science Department, North Carolina State University.

16. Spain, J.N., L.W. Turner, D. Amaral-Phillips, J.M. Zulovich, and D.G. Overhults. 1994. An economic feasibility study of adopting total mixed dairy rations. In: Dairy Housing III, Proceedings of the Third National Dairy Housing Conference. ASAE, St. Joseph, MI.
17. Overhults, D.G. and R.S. Gates. 1993. Energy use in tunnel ventilated broiler houses. pp. 339-346 In: E. Collins and C. Boon (Eds.), Livestock Environment IV, Proceedings of the Fourth International Livestock Environment Symposium, Coventry, England. ASAE, St. Joseph, MI.
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20. Turner, L.W. and D.G. Overhults. 1992. Evaluation of equipment for processing waste newspaper. Proceedings of the Conference on Agricultural Uses of Waste Newspaper. University of Kentucky College of Agriculture.
21. Overhults, D.G. 1991. Manure management and water quality concerns. Proceedings of the Kentucky Pork Conference. University of Kentucky Department of Animal Science.
22. McNeill, S.G., D.G. Overhults, G.M. White, and I.J. Ross. 1986. Drying characteristics of whole and broken corncobs. Proceedings of the Sixth Annual Solar, Biomass, and Wind Energy Workshop. U. S. Department of Agriculture.
23. McNeill, S.G. and D.G. Overhults. 1984. Response of swine and poultry to corn dried with biomass. Proceedings of the Fourth Annual Solar and Biomass Workshop, p. 112-115. U.S. Dept. of Agriculture.
24. Turner, G.M. and D.G. Overhults. 1983. Forage Moisture Testers. In Proceedings of the 3rd annual Kentucky Alfalfa Conference, p. 60-61. Cooperative Extension Service, University of Kentucky, Lexington, KY.
25. McNeill, S.G. and D.G. Overhults. 1983. Using corncobs to dry grain on the farm. Proceedings of the Third Annual Solar and Biomass Workshop, p. 258-261. U.S. Dept. of Agriculture.
26. Overhults, D.G. and J.A. DeShazer. 1982. Infrared heat for reducing environmental stress on weaned pigs. In Livestock Environment II (Proc. of the second Int. Livestock Environment Symp.). p. 362-369. American Society of Agricultural Engineers, St. Joseph, MI.

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30. Benock, G., O.J. Loewer, Jr., J. Bowden, Y. Miyake, T.C. Bridges, and D.G. Overhults. 1978. Simulation of grain flow restrictions in the harvesting-delivery-drying system interface. Proceedings of the International Grain and Forage Harvesting Conference. American Society of Agricultural Engineers, St. Joseph, MI.

Research Project Reports (3)

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2. Gates, R.S. and D.G. Overhults. 1995. Time Integrated Control Variables (TIV) for Summer Heat Stress Relief in Tunnel Ventilated Broiler Housing. Final Report to Research Concepts, Inc. (USDA-SBIR Phase I Grant). Lenexa, KS.
3. Gates, R.S., L.W. Turner, and D.G. Overhults. 1992. Performance of microporcessor controllers. Final report of Project No. 2782-4 prepared for the National Rural Electric Cooperative Assoc. and Electric Power Research Institute, Palo Alto, CA 94304. EPRI TR-100175, 40 pp.

Technical Papers & Reports (55)

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2. Lopes, I.M., D.G. Overhults, G.M. Morello, J. Earnest, R.S. Gates, A. Pescatore, J. Jacob and M. Miller. 2010. Assessing Air Leakage in Commercial Broiler Houses. Presented at the ASABE Annual International Meeting, Paper No. 1009236, Pittsburgh, PA, June 20-23.
3. Burns, R.T., H. Li, H. Xin, R.S. Gates, D.G. Overhults, J. Earnest, and L.B. Moody. 2008. Greenhouse Gas (GHG) Emissions from Broiler Houses in the Southeastern United States. Presented at the ASABE Annual International Meeting, Paper No. 084649, Providence, RI, June 29 – July 2.
4. Li, H., R.T. Burns, H. Xin, R.S. Gates, S.Trabue, D.G. Overhults, L. Moody, and J. Earnest. 2008. Hydrogen Sulfide and Nonmethane Hydrocarbon Emissions from Broiler Houses in the Southeastern United States. Presented at the ASABE Annual International Meeting, Paper No. 084417, Providence, RI, June 29 – July 2.
5. Overhults, D.G., R.S. Gates, A. Pescatore, and M. Miller. 2008. Energy assessments for broiler houses. Presented at the ASABE Annual International Meeting, Paper No. 080027, Providence, RI, June 29 – July 2.
6. Xin, H., H. Li, R.T. Burns, R.S. Gates, D.G. Overhults, J.W. Earnest, L.B. Moody, and S.J. Hoff . 2006. Use of CO₂ Concentrations or CO₂ Balance to Estimate Ventilation Rate of Modern Commercial Broiler Houses. ASABE International Meeting, Portland OR, July 6.
7. Burns, R., H. Xin, R. Gates, H. Li, S. Hoff, L. Moody, D. Overhults and J. Earnest. 2006. Monitoring system design for the southeastern broiler gaseous and particulate matter air emissions monitoring project. Presented at: ESA Workshop on Agricultural Air Quality: State of the Science, Bolger Conference Center, Potomac MD. June 5-8.
8. Overhults, D.G., H. Li, R.S. Gates, H. Xin, and R.T. Burns. 2007. Fan Operations and Building Ventilation Rates in Broiler Houses. Presented at the ASABE Annual International Meeting, Paper No. 074124, Minneapolis, MN, 6/20/07.
9. Overhults, D.G., R.S. Gates, and L.W. Turner. 1999. S-261 Summary – University of Kentucky. Annual report to USDA/CSREES of regional research project activity.
10. Bottcher, R.W., D.G. Overhults, R.S. Gates, and M.B. Timmons. 1999. Field Studies of Time Integrated Variable Control in Broiler Growout Housing. Paper No. 994223 presented at the ASAE Annual International Meeting, Toronto, Ontario Canada, July 18-21. ASAE, St. Joseph, MI.
11. Turner, L.W., G.A. Duncan, D.G. Overhults, K. Perry, and R. Thompson. 1997. Extension plan service information delivery by CD-ROM. Paper No. 975054 presented at the ASAE Annual International Meeting. ASAE, St. Joseph, MI.

12. Overhults, D.G., R.S. Gates, and L.W. Turner. 1997. S-261 Summary: University of Kentucky. Annual report to USDA/CSREES of regional research project activity.
13. McNeill, S.G. and D.G. Overhults. 1997. Tough drying conditions for this fall. Electronic release to County Extension Agents and published electronically on the World Wide Web at <http://www.bae.uky.edu/~doverhul/tough.htm>.
14. Overhults, D.G. 1996. Safety and Troubleshooting Equipment Sources. 1996. Developed for the Respiratory & Hearing Screening tests at the Kentucky Pork Producers Association annual meeting, Owensboro, KY.
15. Overhults, D.G. 1995. Broiler House Planning Notes - Electrical Systems. Presented at the 1995 Southern Region Meeting of Extension Ag. Engineers & Housing Specialists. North Carolina State Univ., Raleigh, NC.
16. Turner, L.W. and D.G. Overhults. 1995. Computer evaluation of planning, adding, or expanding dairy facilities. Presented at the 1995 Southern Region Meeting of Extension Ag. Engineers & Housing Specialists. North Carolina State Univ., Raleigh, NC.
17. Overhults, D.G. and R.S. Gates. 1994. Energy use in tunnel ventilated broiler housing with different controls. Paper No. 944561 presented at the 1994 ASAE International Winter Meeting. ASAE, St. Joseph, MI.
18. Gates, R.S., D.G. Colliver, H. Zhang, and D.G. Overhults. 1994. Livestock heat stress parameters from long term weather data. Paper No. 944017 presented at the ASAE International Summer Meeting. ASAE, St. Joseph, MI.
19. McNeill, S.G., S.A. Thompson, Z.A. Henry, I.J. Ross, and D.G. Overhults. 1993. Effect of broken kernels on the bulk density and packing of corn. Paper No. 934505 presented at the ASAE International Winter Meeting. ASAE, St. Joseph, MI.
20. Gates, R.S., D.G. Overhults, and S.H. Zhang. 1992. Minimum ventilation for broiler housing. Paper No. 924532 presented at the ASAE International Winter Meeting, ASAE, St. Joseph, MI.
21. Turner, L.W., D.G. Overhults, D. Amaral-Phillips, and T.C. Bridges. 1992. TMR facility planning using a spreadsheet. Paper No. 921540 presented at the ASAE International Winter Meeting.
22. Overhults, D.G. 1991. Electrical measurements at two broiler farms. Special report of field study prepared for The Farm Store, Inc. and Seaboard Farms.

23. Overhults, D.G., W.C. Maksymowicz, S.G. McNeill, and F.A. Payne. 1991. Finishing dark-fired tobacco with a mechanical smoke generator. 34th Tobacco Workers Conference.
24. Overhults, D.G. and R.S. Gates. 1991. Electrical wiring for tunnel ventilated broiler houses. Paper No. 914553 presented at the ASAE International Winter Meeting.
25. Overhults, D.G., W. C. Maksymowicz, S.G. McNeill, and F.A. Payne. 1991. Mechanical smoke generator for finishing dark-fired tobacco. Paper No. 916534 presented at the ASAE International Winter Meeting.
26. Gates, R.S., D.G. Overhults, R.W. Bottcher, S.H. Zhang. 1991. Field calibration of a transient model for broiler misting. Paper No. 914561 presented at the ASAE International Winter Meeting.
27. Gates, R.S., D.G. Overhults, and L.W. Turner. 1991. Transient over voltage protection of environmental controllers. Paper No. 91-4035, American Society of Agricultural Engineers, St. Joseph, MI.
28. Gates, R.S. and D.G. Overhults. 1991. Field evaluation of integrated environmental controllers. Paper No. 91-4037, American Society of Agricultural Engineers, St. Joseph, MI.
29. Cromwell, G.L., D.O. Liptrap, G.R. Parker, D.G. Overhults, S.G. McNeill, T.S. Stahly, K.L. Herkleman, and J.L. Randolph. 1989. Effects of heating temperature and cooling rate on the nutritional value of on-farm roasted soybeans for growing-finishing swine. In: 1989 Swine Research Report, p. 39-43, Ed. by G. L. Cromwell. Ag. Experiment Station, University of Kentucky, Lexington, KY.
30. Gates, R.S. and D.G. Overhults. 1989. Constant velocity air inlet controller. Paper No. 89-4556, American Society of Agricultural Engineers, St. Joseph, MI.
31. Overhults, D.G. and R.L. Fehr. 1987. Design and performance of an air to water heat exchanger. Paper No. 87-4508, American Society of Agricultural Engineers, St. Joseph, MI.
32. Turner, L.W., T.C. Bridge,s and D.G. Overhults. 1987. Trblvent: An expert system for troubleshooting livestock ventilation problems. Paper No. 87-4505, American Society of Agricultural Engineers, St. Joseph, MI.
33. Overhults, D.G. and R.L. Fehr. 1987. Estimating the energy saving potential for heat exchangers in swine buildings. In 1987 Swine Research Report, p. 64-66, Ed. by G. L. Cromwell. Ag. Experiment Station Progress Report 299, University of Kentucky, Lexington, KY.

34. Overhults, D.G. and R.L. Fehr. 1986. Predicting heat exchanger energy savings. Paper No. 86-4002, American Society of Agricultural Engineers, St. Joseph, MI.
35. McNeill, S.G., D.G. Overhults, G.M. White and I.J. Ross. 1985. Thin layer drying characteristics of corncobs. Paper No. 85-3565, American Society of Agricultural Engineers, St. Joseph, MI.
36. Overhults, D.G. and G.R. Parker. 1985. A low-investment cooling system for the farrowing house. In: 1985 Swine Research Report, p. 44, Ed. by G. L. Cromwell. Agricultural Experiment Station Progress Report 274, University of Kentucky, Lexington, KY.
37. McNeill, S.G., D.G. Overhults, J.H. Randolph, G.L. Cromwell, and T.S. Stahly. 1984. The use of corn cobs to dry corn for swine. In: 1984 Swine Research Report, p. 56-57, Ed. by G. L. Cromwell. Ag. Experiment Station Progress Report 284, University of Kentucky, Lexington, KY.
38. McNeill, S.G., D.G. Overhults, G.L. Cromwell, and A.H. Cantor. 1984. Response of swine and poultry to corn dried with biomass. Paper No. 84-3017, American Society of Agricultural Engineers, St. Joseph, MI.
39. White, G.M., T.C. Bridges, S.G. McNeill, and D.G. Overhults. 1984. Equilibrium moisture properties of corn cobs. Paper No. 84-3044, American Society of Agricultural Engineers, St. Joseph, MI.
40. McNeill, S.G., G.R. Parker, D.G. Overhults, R.L. Fehr, and K.T. Priddy. 1983. Limiting swine stress with evaporative cooling in Kentucky. In: 1983 Swine Research Report, p. 82- 84, Ed. by G. L. Cromwell. Agricultural Experiment Station Progress Report 274, University of Kentucky, Lexington, KY.
41. McNeill, S.G., D.G. Overhults, G.L. Cromwell, T.S. Stahly, and G.R. Parker. 1983. Using corncobs to dry grain for swine. In 1983 Swine Research Report, p. 85-86, Ed. by G. L. Cromwell. Agricultural Experiment Station Progress Report 274, University of Kentucky, Lexington, KY.
42. Overhults, D.G., J.A. Nienaber, and J.A. DeShazer. 1982. Procedures and measurements for indirect calorimetry. Paper No. 82-4063, American Society of Agricultural Engineers, St. Joseph, MI.
43. Fehr, R.L., K.T. Priddy, S.G. McNeill, and D.G. Overhults. 1982. Limiting swine stress with evaporative cooling. Presented at the 2nd International Livestock Environment Symposium, Ames, IA.

44. Overhults, D.G. and J.A. DeShazer. 1982. Infrared heat for reducing environmental stress on weaned pigs. Presented at the 2nd International Livestock Environment Symposium, Ames, IA.
45. DeShazer, J.A. and D.G. Overhults. 1982. Energy demand in livestock production. Presented at the 2nd International Livestock Environment Symposium, Ames, IA.
46. Overhults, D.G., J.A. DeShazer, K.L. Vacha, and E.G. Veburg. 1980. Inverted trickle solar collector. ASAE National Energy Symposium, Kansas City, MO.
47. Herbek, J.H. and D.G. Overhults. 1979. Effect of swathing wheat on double-crop soybean yields. Presented to the Southern Association of Agricultural Scientists, Agronomy Division, New Orleans, LA.
48. Fehr, R.L. and D.G. Overhults. 1979. A recirculating nipple waterer system. Southeast Regional Meeting Paper, American Society of Agricultural Engineers, St. Joseph, MI.
49. Loewer, O.J., Jr., T.C. Bridges, G.M. White, and D.G. Overhults. 1979. A computer model for determining the economics of on-the-farm drying, storage and feeding processing systems for corn. Paper No. 79-5020, American Society of Agricultural Engineers, St. Joseph, MI.
50. Loewer, O.J., Jr., T.C. Bridges, G.M. White, and D.G. Overhults. 1978. The influence of harvesting strategies and economic constraints on the feasibility of farm grain drying and storage facilities. Paper No. 78-3520, American Society of Agricultural Engineers, St. Joseph, MI.
51. Bridges, T.C., O.J. Loewer, Jr., and D.G. Overhults. 1978. Selection of grain drying and storage facilities as influenced by hauling distance and grain moisture content. Presented at the Southeast Regional Meeting of ASAE.
52. Loewer, O.J., Jr., D.G. Overhults, T.C. Bridges, G.M. White, and I.J. Ross. 1978. Utilizing computers in a grain processing extension program. Paper No. 78-5004, American Society of Agricultural Engineers, St. Joseph, MI.
53. Overhults, D.G., I.J. Ross, and G.L. Cromwell. 1978. Recycling swine waste in a growing-finishing ration. Paper No. 78-4007, American Society of Agricultural Engineers, St. Joseph, MI.
54. Overhults, D.G., G.M. White, H.E. Hamilton, I.J. Ross, and J.D. Fox. 1972. Effect of heated air drying on soybean oil quality. Paper No. 72-816, American Society of Agricultural Engineers, St. Joseph, MI.

55. Overhults, D.G., G.M. White, H.E. Hamilton, and I.J. Ross. 1972. Drying soybeans with heated air. Paper No. 72-322, American Society of Agricultural Engineers, St. Joseph, MI.

PROFESSIONAL SOCIETY MEMBERSHIPS

American Society of Agricultural and Biological Engineers (ASABE)
Council for Agricultural Science and Technology (CAST)
Kentucky Association of State Extension Professionals (KASEP, formerly AKES)
KY Section of ASABE
National Frame Building Association

PROFESSIONAL ACTIVITIES

American Society of Agricultural and Biological Engineers (ASABE) Committees

M-151, Henry Giese Award Jury (1997 - 2001, 2005 – 2010; Chairman 2000-2001, 2008-2010)

Structures & Environment Division (Chairman, 1995-1996, 2004 - 2005)

SE-02, Steering - 1st V. Chairman & Chairman (1994-1996, 2004-2005)

SE-01, Executive - 1st V. Chairman & Chairman (1994-1996, 2004-2005)

SE-06, Program - Chairman (1994-1995)

E -10/2, Meetings / Technical Program (1994-1995)

SE-302, Environment of Animal Structures (member)

Secretary (1986-87, 2000-2001)

V. Chairman (1987-88)

Chairman (1988-89, 2001-2002)

SE-405, Poultry Housing Systems member (1996 - 2001)

SE-404, Swine Housing (member)

Secretary (1985-86 & 1975-76)

V. Chairman (1986-87)

Chairman (1987-88 & 1976-77)

SE-40, Systems Group, Chairman (1992-93)

SE-07/1, Animal Care

SE-04, Paper Awards

Chairman (1985-1986)

Second International Livestock Environment Symposium

Publications Committee (1981-82)

Sixth International Livestock Environment Symposium
Local Arrangements Chairman (2000-2001)
Instructor, ASAE Professional Development Workshop - "GRANARY for Windows,"
ASAE International Meeting, Phoenix, AZ., 1996

Southern Region Plan Exchange Committee

Secretary, Farm Buildings Section (1983-85)
Chairman, Farm Buildings Section (1985-88)

Ky. Section - ASAE

2nd V. Chairman (1984-85)
Chairman Elect (1986)
Chairman (1987)

Kentucky Association of Extension Professionals (formerly AKES)

Awards Committee (1983)
Membership Committee (1986)

Consulting

Consultant to Lewis-King, Attorneys at Law , Nashville, TN. Litigation involving dairy cattle facilities, Defendant. 1999-2000.

Court appointed expert for a special judge in litigation regarding the construction of broiler production houses. 1997.

Review Activities

Internal Reviewer for U. of KY Precision Agriculture Project Proposals, 1999

Technical reviewer for publications in TRANSACTIONS of ASAE and APPLIED ENGINEERING IN AGRICULTURE (1982-present, approx. 15 manuscripts)

CSRS (Cooperative State Research Service)- Review Team for research and extension programs at the University of Nebraska Northeast Research and Extension Center (1987)

Continuing Education

- National Frame Building Expo –
- “Load Tracking – From Surfaces to Soil,” 2/10
- “How Shear Walls Change Ground Line Movement of Post-Frames” 2/10
- “Post Frame Building Performance,” 2/10

- Comprehensive Nutrient Management Plan Development Short Course, 2/08

- National Frame Builders/ASABE Building Design Conference for Engineers, 3/07

- Training & Certification as an Assessor for the On Farm Assessment & Environmental Review program administered by the National Pork Producers Council.

- Training for the Livestock and Poultry Environmental Stewardship Curriculum developed through Midwest Plan Service

- ASAE Continuing Professional Development Workshops –
- Animal Waste Regulations, Training, and Certification Programs,” 7/99
- “Lightning Protection for Agricultural Structures and Rural Residences,” 7/00
- “Measuring and Quantifying Odors,” 8/97
- “Prevention, Mitigation, and Control of Odors,” 8/97

- Swine Mortality Composting Workshop – The Ohio State University and Ohio NRCS, 1995

- Numerous technical updates through attendance and seminars at the World Pork Expo, National Rural Builders Show, International Poultry Exposition, and National Farm Machinery Show

UNIVERSITY, COLLEGE, AND DEPARTMENT SERVICE

College of Agriculture

- Committees & Work Groups
 - Environment & Natural Resource Issues (ENRI) Core Group, (2001 - 2007)
 - Air Quality Focus Group of ENRI, Co-Chair, (2004 – 2006)
 - Animal Waste Focus Group of ENRI, (1998-1999)
 - Extension Conference Planning Committee, 1999
 - Host Planning Committee, Poultry Science Assoc. Annual Meeting, 1995
 - Strategic Planning Committee (1989)

- Design Team for the Kentucky Swine Development & Training Center (1997 – 2002). A 50% matching grant was obtained from USDA/CSRS. Matching funds were received from the Kentucky State Legislature. Total budget was \$1.8 million. The project design was for a complete farrow-to-finish swine facility that would provide both research and training capability at the West Kentucky Research & Education Center. Following three rounds of design, re-design, and bidding, the cost was deemed unacceptable and funds were re-budgeted to construct a feed mill that supports animal research at the UK Animal Research Center.

- Engineering design and supervision associated with construction projects at the West Ky. Research & Education Center. Projects include a feed mill, 2 dark-fired tobacco barns, manure storage tank, pesticide storage & mixing building, machinery storage, and maintenance shop, and pump station/water line extension.

- Site evaluation/construction supervision at West Ky. 4-H Camp
 - Swimming pool (1985)
 - Bath house renovation (1985-86)
 - Multi-purpose facility (1986-87)

- 4-H Programs –
 - Faculty subject matter consultant for electric project
 - Review and update project literature
 - Judge electric exhibits at State Fair
 - Judge records and demonstrations at state contests
 - Volunteer leader training

Biosystems & Agricultural Engineering Department

- 50th Anniversary Planning Committee
- Extension Planning Committee (1982-present)
 - Chairman (1983-1994)
- Undergraduate Curriculum Committee
- Student Recruitment Committee
- Awards Committee
- Coordinator - Ag. Engineering Plan Service (1984-present)
- Departmental Editor for special issue of the KENTUCKY FARMER magazine which contained 12 articles and a cover photo featuring new developments in agricultural engineering. (1983)

West Kentucky Research & Education Center

College of Agriculture All Commodity Field Day

Planning committee (1984 – 2009), Chairman 1994

Meals committee chairman (1998, 2000)

Fund Raising Chairman (2009)

Preview chairman (1990)

Publicity chairman (1986)

Faculty Staff Association Committees

Moderator (Chairman)

Advisory Committee

Operating Procedures

Land Use

Facilities Needs

Pesticide Storage & Safety

Long-Range Planning Committee