

Hongwei Xin

Professor

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Education

Ph.D. Interdepartmental Area of Engineering, 1989
University of Nebraska-Lincoln

M.S. Agricultural Engineering, 1985
University of Nebraska-Lincoln

B.S. Agricultural Engineering, 1982
Shenyang Agricultural University, China

Honors and Awards

ASAE New Holland Young Researcher Award, 2001

Mid-Central ASAE Young Member of the Year
Award, 2001

Iowa Section ASAE Young Engineer of the Year
Award, 2001

ASAE Paper Awards; 2000-2002, 1998, and 1997

Research Award for Foreign Specialist; Ministry
of Ag, Forestry, and Fisheries; Japan, 2000

Featured in the ISU Campaign "Advancing
Technology to Become the Best," 2000

Recent Publications

Chepete, H. J. and H. Xin. 2002. Heat and
moisture production of poultry and their housing
systems: *Literature review. Transactions of the
ASHRAE* 108(2):448-466.

Xin, H., Puma, M.C., R.S. Gates, and D. U. Ahn.
2002. Effects of drinking water temperature on
laying hens subjected to warm cyclic environ-
ments. *Poultry Science* 81:608-617.

Yanagi, Jr., T., H. Xin, and R. S. Gates. 2002. A
research facility for studying poultry responses
to heat stress and its relief. *Applied Engineering
in Agriculture* 18(2):255-260.

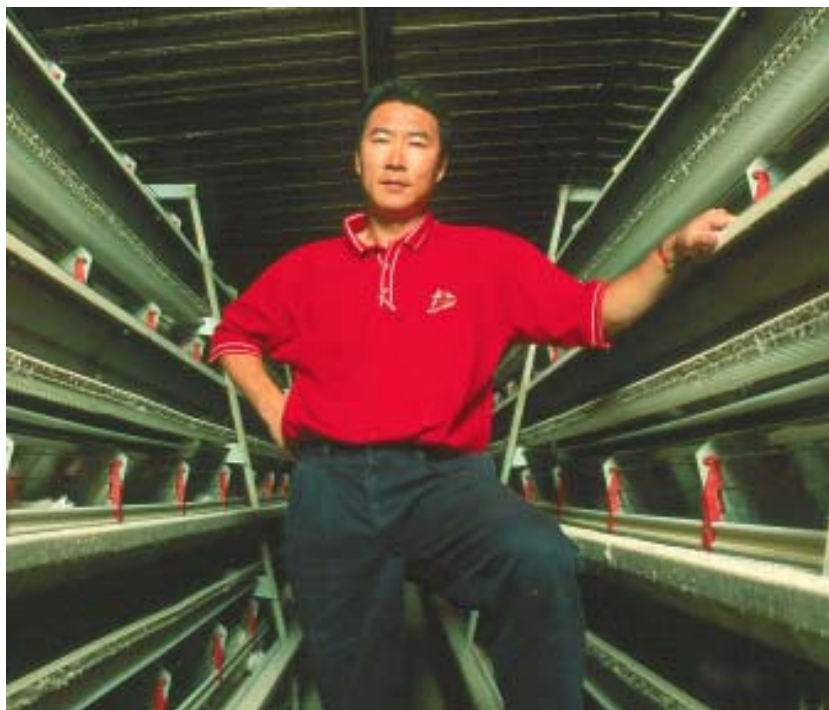
Yanagi, Jr., T., H. Xin, and R. S. Gates. 2002.
Optimization of partial surface wetting to cool
caged laying hens. *Transactions of the ASAE*
45(4):1091-1100.

Ikeguchi, A. and H. Xin. 2001. Field evaluation of
a sprinkling system for cooling commercial
laying hens in Iowa. *Applied Engineering in
Agriculture* 17(2):217-221.

Puma, M.C., H. Xin, R.S. Gates, and D. J.
Burnham. 2001. An instrumentation system for
measuring feeding and drinking behavior of
poultry. *Applied Engineering in Agriculture* 17(3):
365-374.

Zhang, Q. and H. Xin. 2001. Responses of piglets
to creep heat type and location in farrowing
crate. *Applied Engineering in Agriculture* 17(4):
515-519.

Xin, H., I. L. Berry, G. T. Tabler, and T. A. Costello.
2001. Heat and moisture production of poultry
and their housing system: *Broilers. Transactions
of the ASAE* 44(6):1853-1859.



Research and Extension

Dr. Xin's research and extension thrusts aim to quantify the impacts of biophysical factors on production performance, bioenergetics, behavior, physiology and well-being of livestock and poultry; enhance animal well-being and production efficiency via application of biosensors for improved housing environment control; and improve air quality in livestock and poultry production facilities. The mission of his programs is to advance the science and technology in the preceding areas by conducting an aggressive research and mentoring program; serve the animal industry and the affected citizens of the state by providing or investigating solutions to current and emerging issues through an effective, integrated research and outreach program; and strive for national and international recognitions in terms of program scope, quality, and impact through active engagement and leadership in national and global affairs.

Current Projects

Currently Dr. Xin's research group is working on the following projects: (1) Evaporative cooling of poultry by direct surface wetting, (2) Effects of biophysical and management factors on poultry ingestion behavior, (3) Quantifying and reducing ammonia emission from poultry facilities, (4) Evaluating various instruments and means to measure aerial ammonia emission from confined animal facilities, (5) Measuring and updating heat and moisture production rates to improve the design and operation of environmental control systems in poultry and swine facilities, (6) Developing thermal comfort indexes for swine and poultry, (7) Using computer imaging to improve environment control and animal well-being in swine production, and (8) Applying thermal imaging to the detection of animal health.

Other Professional Interests

American Society of Agricultural Engineers (ASAE)

Associate Editor of Structure & Environment (SE) Division (1994 - present)

American Society of Heating, Refrigerating and Air-Conditioning Engineers
(ASHRAE)

Association of Overseas Chinese Agricultural, Biological, and Food Engineers
(AOCABFE)

Poultry Science Association (PSA)

International collaborations