

# Ohio State Studying Air Quality On Large Livestock Farms

COLUMBUS, Ohio — Air quality on and around large livestock farms is the focus of an ongoing Ohio State University study.

Researchers LingYing Zhao and Mike Brugger of the Depart-

ment of Agricultural, Biological and Environmental Engineering, and Glen Arnold, assistant professor and agriculture agent for Ohio State University Extension in Putnam County, started gathering air quality data at three

large farms in March. The team also collected data in June and will again in August.

The research is being conducted at a 600-cow dairy operation, a swine finishing facility with 1,000 hogs, and a poultry

farm with nearly 100,000 birds. Researchers are examining gas levels, particulate emission, and odor concentration, and they plan to collect similar information at three other large farms in 2004.

“We’re studying typical farms in Ohio to gain a glance at what’s happening,” said Zhao, an assistant professor specializing in animal facilities and environment. The research will help provide information to farmers and re-

searchers on air quality on and surrounding large animal facilities.

The researchers are measuring three gases — ammonia, hydrogen sulfide and carbon dioxide — as well as odor and dust. They’re collecting data at 14 points in and around the facilities, up to 500 feet downwind from the main facility. Two types of equipment are used for each measurement to get the most accurate readings possible. They are also collecting information on weather conditions, which can have a strong effect on emissions.

“We know that farmers and workers are exposed to gases and dust particles in livestock buildings,” Zhao said. “High level of air pollutants can result in farmers suffering acute symptoms or chronic symptoms, including a cough and tightening of the lungs. Lung function can decrease during the period of exposure. But there’s limited data on the amount of air emissions inside and outside of buildings or around manure storage areas.”

Zhao, who previously worked for the Center for Odor Emission Controls at the University of Illinois as a post-doctoral researcher, said she realized early in her career that air quality problems could spell trouble for the sustainability of large livestock facilities. With more such facilities being built, a solid base of information is necessary for owners and operators to run their farms without adversely affecting air quality, and to lead to a greater understanding among farmers, neighbors and policy makers of the livestock production environment.

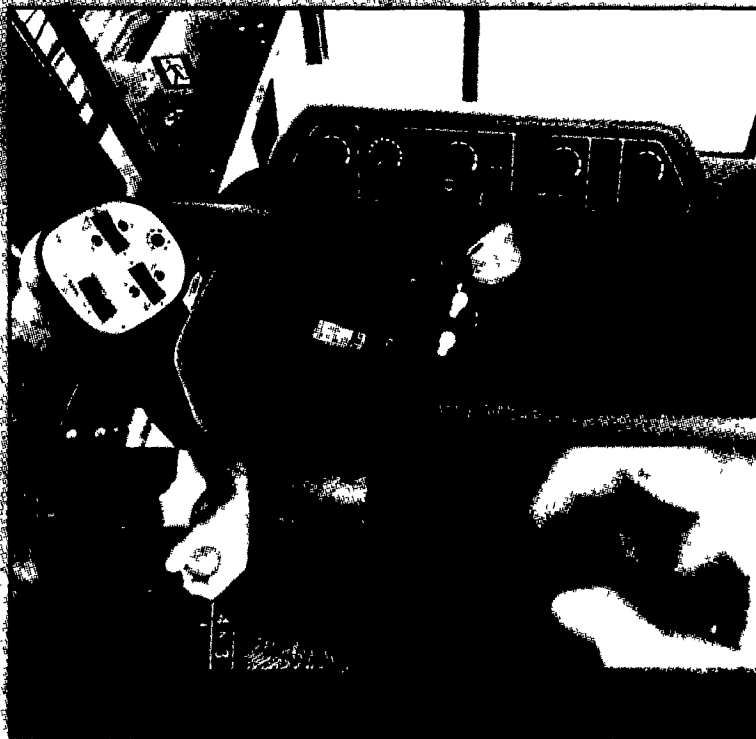
The research is being funded by the Great Lakes Center for Agricultural Safety and the university’s Ohio Agricultural Research and Development Center.



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- Along with the issue will be family farm features on who is exhibiting.
- Also planned for pages of Section A: the complete All-American schedule and additional highlights