Jim Lytle

Duplicating on-farm conditions is an important part of David Wise's catfish health research.

Research helps keep catfish and poultry thriving

Innovation is a hallmark of Mississippi agriculture, and nowhere is that more evident than in the rise of two of the state's newest major commercial farm enterprises—catfish and poultry.

Catfish were once only found in natural bodies of water, including rivers and streams, as well as in a few farm ponds. That began to change in the 1960s, and today Mississippi's farms are home to more than 100,000 water acres of catfish ponds, each yielding about 4,600 pounds of fish annually.

MAFES research in support of Mississippi's catfish industry ranges from development of new varieties to computer software for use in managing catfish production.

Catfish research is conducted on MSU's Starkville campus, the Thad Cochran National Warmwater Aquaculture Center in Stoneville, the Coastal Aquaculture Center in Gulfport and on the farms of cooperating producers.

A generation ago, most poultry production in Mississippi consisted of throwing a few handfuls of shelled corn to a flock of birds in the backyard of the farmhouse. Times have changed! In 2001, Mississippi commercial poultry operations produced 765 million chickens and 490 million eggs.

Research support for Mississippi's poultry industry includes projects ranging from nutrient needs for birds to waste management.

Program touches all aspects of fish health

When it comes to keeping channel catfish healthy, there's not many bases not covered by the Applied Fish Health Management Program.

"The objective of the research program is to develop treatment and management strategies for controlling infectious and noninfectious diseases affecting channel catfish," said MAFES fisheries biologist David Wise. "Long-term goals are to define management practices that maximize production and profitability of commercially raised catfish."

Wise and other scientists with the program conduct their research at the Thad Cochran National Warmwater Aquaculture Center and in the research ponds of the Delta Research and Extension Center, as well as the ponds of cooperating producers.

Marco Nicovich

Jim Lytle

One aspect of the program is development of experimental models to induce bacterial, viral, parasitic and fungal infection in catfish.

"Developing disease challenge models is a priority research area that can be used to study pathogenesis and treatment of these problems in the field and laboratory," Wise said.

Other projects target specific diseases and parasites that threaten the health of fish and economic well-being of producers.

In addition to the staff at the Stoneville facility, scientists with the U.S. Department of Agriculture and MSU's College of Veterinary Medicine participate in the program.

Research eases stress on chickens

Work, relationships and a host of other variables cause stress in people, but what stresses animals?

A team of researchers led by MAFES poultry scientist Paul Thaxton is letting chickens "tell" them what produces stress in their lives. Their initial work was with broilers, and the team is currently studying laying hens.

"We've collected data on chickens in a variety of environments—from a completely open space to close confinement," Thaxton said, adding that the most important factor in keeping a chicken "happy" is not the type of confinement, but rather its "social" situation.

"If you want to see a layer exhibit classic severe stress response, simply fix her environment so she can't see another chicken," he said. "Chickens are social animals—they naturally live in flocks. To be 'happy,' they want and need to have close interactions with other chickens."

Once complete, the research will provide producers with information on the type of environments that will help make their birds more productive by keeping them from becoming "stressed out."

The research is being conducted in the Department of Poultry Science at MSU and is one of several projects in support of state's poultry industry.

Marco Nicovich

Paul Thaxton studies causes of stress in chickens