

MSU institute head joins agriculture task force



The director of a Mississippi State University institute has been named to a U.S. Department of Agriculture task force.

Agriculture Secretary Ann Veneman appointed Alan Wood, director of the Life Sciences and Biotechnology Institute, to the eight-member Research, Education and Economics Task Force. The group is comprised of scientists from a variety of disciplines, including medicine, agriculture and biotechnology.

The 2002 Farm Bill created the task force, which is conducting a review of USDA's Agricultural Research Service to evaluate the merits of establishing one or more national institutes focused on food and agricultural science. It will report its findings to Veneman and the U.S. House and Senate Agriculture Committees by the fall of 2003.

Wood received his bachelor's degree in biology from Middlebury College in Vermont and a master's and doctorate in virology from Purdue University.

He came to MSU in 2001 as the first director of the Life Sciences and Biotechnology Institute. His previous work includes biologically based pest management research at the Boyce Thompson Institute at Cornell University and leadership of a U.S. Forest Service team studying the use of biological pest control agents in forests.



Marco Nicovich

Biological engineer Joel D. Bumgardner, left, and visiting researcher Frank Walboomers prepare cells for use in a study of how mechanical loading by implant devices affects surrounding bone tissues. Dr. Walboomers conducted research in MSU's Department of Agricultural and Biological Engineering during a three-week visit from the University Medical Center in Nymegen, the Netherlands. He is an assistant professor in the center's Biomaterials Department, headed by Dr. John A. Jansen.

NIH grant supports dental implant research

A National Institutes of Health grant is funding a project by MAFES biological engineer Joel Bumgardner to study the effects of mechanical loading by dental implants on adjacent bone and bone cells. The grant is through the NIH's National Institute of Dental and Craniofacial Research.

Co-investigators for the project are MAFES biological engineers Steve Elder and Jerome Gilbert.

The information being generated by the NIH-supported research, Bumgardner said, will be important in designing bone implants.

"When an implant is placed in bone, it changes the local biomechanical environment, which in turn affects bone response," he said. "Since tissues grow in intimate contact with implant surfaces *in vivo*, it is essential to study how cells respond to implant surface strains under well characterized loading conditions."



Marco Nitovich

LOU D'ABRAMO

2002 Outstanding MAFES Worker

The recipient of the 2002 Outstanding MAFES Worker Award has a succinct explanation of his goal during almost two decades of aquaculture research.

"A lot of what we do is aimed at making producers more efficient with the intent of improving economic return," said MAFES aquaculturist Lou D'Abramo.

With that goal in mind, D'Abramo's 19-year career at Mississippi State has focused on research that provides economical alternatives for catfish and other aquaculture producers to introduce diversity and more competitive crop products for the aquaculture industry.

In presenting the award at the annual MAFES/MSU Extension Service Conference, Mississippi Chemical Corp. Vice President Joe Ewing noted, "Not content to just do the research and publish the results, though he is an accomplished author and editor, he wants commercial producers to see the results and to have their input into the next experimental steps."

D'Abramo, a past-president of the World Aquaculture Society, has developed several diets and feeding strategies for shellfish and finfish that have resulted in lower production costs. His breakthrough research in larval fish and shrimp feeds through successful substitution of live feeds with cost-effective formulated diets is a significant step toward solving one of the principal problems that has chronically limited progress in the global aquaculture industry.

His research results are being put into practice at Nature's Catch, a hybrid striped bass production facility in Clarksdale, Mississippi. He also has developed new management practices

for crayfish with the potential to allow producers to almost quadruple the current per-acre production of these crustaceans in the Louisiana industry. The crayfish production practices are now in a commercial verification phase in Mississippi and Alabama.

D'Abramo, however, does not embrace the "more is always better," philosophy.

"Current aquaculture practices in the United States need to evolve to a different level," he said. "We must not only diversify and be innovative in product technology, but also concentrate on efficiency through wise use of available natural resources, through the prevailing goal of improving environmental stewardship."

With that in mind, he is continuing his research with hybrid striped bass, prawns and other species with the potential to offer diversity and efficient use of resources to traditional aquaculture enterprises, including catfish production.

His freshwater shrimp research has played an important role in the more than 300,000 pounds of freshwater shrimp that were produced in the United States in 2002, culminating in the formation of the Freshwater Prawn and Shrimp Growers Association, which includes members in Mississippi and five other Southern states, in early 2002.

The annual Outstanding MAFES Worker Award is sponsored by Yazoo City-based Mississippi Chemical Corp., which produces and markets the three primary crop nutrients used by farmers for high-yield agriculture: nitrogen, phosphorus and potassium.