

## ARKANSAS



ARS scientists at the Dale Bumpers Small Farms Research Center in Booneville are finding new ways to control gastrointestinal nematodes in sheep and goats without the need for chemical dewormers. This work is important to farms where dewormer resistance has become prevalent. Identifying breeds that are naturally resistant, developing grazing management strategies, and the use of small doses of copper oxide wire particles are some of the new technologies developed by this group to control these gastrointestinal nematodes.

A team of scientists at the Poultry Production and Product Safety Research Unit in Fayetteville, working with both industry and university partners, developed a novel method of identifying beneficial bacteria that when fed to poultry out-compete pathogens in the gut, substantially reducing the risk of human food borne contamination and improving the health of poultry. This technology has been licensed to a company and tested in millions of birds, resulting in notable reduction in pathogen contamination, mortality, and improved health of young birds. It is estimated this technology increased meat production by \$6 million for every 300 million birds treated in the US/year.



Scientists at the Harry K. Dupree Stuttgart National Aquaculture Research Center, Stuttgart, in cooperation with Harbor Branch Oceanographic Institution, Ft. Pierce, FL, raised juvenile Florida pompano fish to market-size in a low salinity production-scale recirculating system. Low-salinity recirculating systems can eliminate the need for marine aquaculture to be located near limited and expensive coastal land, thereby expanding opportunities for marine aquaculture to rural communities.

The Delta Obesity Prevention Research Unit in Little Rock, has successfully implemented and evaluated 6-month nutrition and physical activity interventions for adults in Arkansas and Mississippi. Results indicate significant health improvements increased with increasing minutes walked per day. This indicates that community-based participatory methods can be effective in rural Delta communities.



Researchers at the Dale Bumpers National Rice Research Center in Stuttgart are exploring diverse species that are related to cultivated rice for traits that can be used to improve rice commercial cultivars. Two wild species, *Oryza nivara* and *O. meridionalis*, have been found to have high levels of resistance to sheath blight disease that causes significant yield losses for rice farmers in the southern US. Genetic markers are being developed so that new disease-resistant rice cultivars can be developed.

Researchers at the Arkansas Children's Nutrition Center in Little Rock, in collaboration with other university scientists, have shown in human studies that consuming fruits and vegetables high in antioxidants with every meal can help maintain the levels of antioxidants in the blood. This discovery highlights the need to add fruits and vegetables containing antioxidants with every meal.

