

# MS Agriculture & Forestry Museum News

By Sandy Havard  
Mississippi Agriculture and  
Forestry Museum

The Mississippi Agriculture and Forestry Museum held the first Kate and Ada Kid's Day Camp on Thursday, July 13, 2006. The youth participated in various educational activities, which included a tour of the Museum, a Leaf Relay, learning 'All About Cheeseburgers', 'Wood Products' and 'Birds of the Forest', creating 'Vegetable Art', and Global Positioning Systems.

The Museum would like to thank the following presenters for their time and expertise: Harold Anderson with the MS Forestry Association; Nancy Strickland and Lee Ann Peters with MS CattleWomen; Deborah Knight, Adam Rohnke, Trey Deloach, and Marc Measells with MSU-Extension Service. The participants also enjoyed a train ride

through the museum complex, a walking tour of the Museum, pony rides, and of course WATER-MELON.

The 2007 Camp is scheduled for July 12 and 13. If you would like

more information or would like to be placed on the mailing list, please contact the Museum at (601) 713-3365 or 1-800-844-8687.



## Got Hay?

In response to concerns over hay supplies this year, a new Mississippi Hay Directory is now online at <http://msucare.com/livestock/beef/mshay.html>  
For more information, contact your local county Extension office or Dr. Jane Parish at 662-325-7466.

## To receive a copy of the Mississippi Beef Cattle Producer Quick Reference For Dealing With Drought

Visit: <http://msucare.com/livestock/beef/drought.html>  
or contact your local county Extension office.



Hard work and creativity paid off for these winners of the 4-H Poultry Barbecue competition held at the Mississippi Farmers' Market on July 10. Commissioner of Agriculture and Commerce Lester Spell met with the contestants and congratulated them for their efforts. Pictured from left are Joshua Boykins, Samantha Wilkinson, Trey Brown, Commissioner Spell, and Demerriel Fuller. With Mississippi ranking fifth nationally in number of broilers produced, the 4-H Poultry Barbecue program provides an expanded 4-H project that will teach both urban and rural youth the art of barbecuing poultry meat, encourage consumption of broilers and to acquaint 4-H members with the importance of the Mississippi poultry industry.

# MSU Researchers Advise Not To Waste 'Waste Rice'

By Karen Brasher  
MSU College of Forest Resources

Millions of ducks and geese depend on waste rice -- grain that escapes combines during harvest -- as a rich source of energy while wintering in major rice-growing states such as Arkansas, California, Louisiana, Mississippi, Missouri and Texas.

Rice producers do not intentionally waste rice, but combines are unable to collect all the rice and some falls to the ground. In fact, recent research conducted in Mississippi State University's Forest and Wildlife Research Center shows that, on average, about 240 pounds per acre, or about five bushels, of rice remains in fields after harvest in the Mississippi Delta.

The study found that between harvest in September and the first major arrivals of waterfowl in mid-to late-November, about 70 percent of the original deposit of waste rice gets further wasted through decomposition and consumption by rodents, birds and insects. Part of the loss is also from rice seedlings that germinate from the fallen grain but die after the first hard freeze.

By early winter, an average of only about 70 pounds an acre remains in harvested rice fields. That may seem like a lot, but when spread over an acre it is near the level at which ducks will stop feeding, said Rick Kaminski, professor and waterfowl ecologist in the Department of Wildlife and Fisheries.

"There is scientific evidence that ducks stop feeding and abandon rice fields when the 'giving-up' density of rice reaches about 45 pounds per acre," Kaminski said. "Additional research was needed to evaluate strategies that might decrease the loss of waste rice."

Kaminski, along with former graduate student and now Ducks Unlimited biologist Jennifer Kross and U.S. Geological Survey scientist Ken Reinecke, tackled the problem of how to conserve waste rice during fall in harvested fields. Ducks Unlimited, MSU's Forest and Wildlife Research Center, the Mississippi Agricultural and Forestry Experiment Station, the North American Wetlands Conservation Council, the U.S. Fish and Wildlife Service, the U.S. Geological Survey, and the states of Mississippi and Arkansas funded the research.

Kross evaluated the effects of postharvest burning, rolling, disking, mowing and no manipulation (control) of rice stubble to determine which strategies conserved the most waste rice. Immediately after harvest, the treatments did not significantly affect the abundance of waste rice, indicating all treatments had a similar starting point in early fall.

"By late fall, however, only standing stubble, burned and mowed paddies contained levels of waste rice above the giving-up density for feeding ducks," Kross said. "Paddies left

in standing stubble contained the most waste rice at 93 pounds per acre, followed by burned at 65 pounds, mowed at 60 pounds, rolled at 45 pounds and disked paddies at 43 pounds."

Dense standing stubble, she noted, may protect waste rice from seed predators and reduce germination of fallen seed, while fire may kill the embryo of waste seeds and prevent them from germinating.



New research by current MSU graduate student Houston Havens has found that while the most waste rice was conserved by leaving fields in standing stubble, ducks and geese do not use those fields as much as those that are burned or rolled and then flooded.

"Perhaps standing stubble may not provide the optimal interspersed vegetation and open water favored by waterfowl," Havens said.

He added that burning conserves the second greatest amount of waste rice, is far more economical than mechanical treatments and remains a legal postharvest field practice in the Delta.

The researchers recommend burning harvested rice fields with a slight head wind. This way, the fire will travel across fields quickly and produce a "patchy" distribution of stubble and open water after flooding.

"In regions of the country where fire is not permitted because of air-quality regulations, the next best strategy appears to be rolling stubble to create openings for ducks and geese to land after fields are flooded," Havens said. "Mowing and disking are not recommended because both are costly, and disking buries rice seed, making it less available for feeding waterfowl."

In addition to managing harvested rice fields to maximize availability of waste rice after harvest, the researchers strongly recommend integrating moist-soil wetlands into farmed landscapes. These natural wetlands occur frequently where rice and other lowland agriculture flourish and support a great diversity of natural grasses and sedges that produce abundant seeds and tubers used by ducks and geese.

"Managed moist-soil wetlands can help lessen losses of waste rice, because these unharvested natural crops provide more than five times the seed and duck foraging potential as harvested rice fields," said Kross, who has also researched seed availability in moist-soil areas.