SCIENCE & EDUCATION
Impact
Benefits from USDA/Land-Grant Partnership

Taking an Informed Chance

With more at stake, reducing risk is essential.

Farmers face many situations beyond their control: weather, insects, disease, environmental concerns, global markets. While uncertainty about these problems can't be eliminated, it can be managed more effectively. The research and education programs of the USDA/Land-Grant universities help agricultural producers make difficult—but more informed—decisions.

Payoff

- **Doing something about the weather.** A weather station network operated by **Texas A&M** delivers timely information on water evaporation and soil moisture to farmers on the Texas North Plains. In 1998, the network saved precious groundwater by cutting two inches of water from the 20 to 22 inches normally applied during the growing season. Because they pumped less groundwater, farmers saved $10 million in fuel costs. When cold, wet weather stunted a 150-acre cotton field, a **Georgia** Extension agent advised the grower not to spend $50 an acre to replant. The crop recovered, eventually providing a net profit of $33,750. The grower said, "I'm glad you talked me into leaving that field alone. You put money in my pocket." A Texas A&M Drought Response Team assisted farm and ranch families during the devastating 1998 drought. Team members helped fill out disaster relief applications and provided advice on crop alternatives, reducing cattle herds, locating hay and conserving water—keeping losses to a minimum.

- **Fertilize here, but not there.** An estimated 10 percent, or 600,000 acres, of land devoted to soybeans in **Minnesota** is low in phosphate. Field demonstrations by extension showed that adding $11 per acre of phosphate to these soils increased profits $89 per acre, or a total of $53 million a year. Researchers in **Arkansas** developed a rice plant gauge to help growers determine if their crops need more nitrogen in mid-season. Newer rice varieties often do not need more fertilizer, saving $15 to $30 an acre, or $4.5 million to $9 million statewide. Doing away with a fertilizer application eliminates 30 to 60 pounds of nitrate per acre that wouldn't contaminate the water supply.

RESEARCH, EXTENSION AND EDUCATION AT WORK

Science & Education Impact

Benefits from USDA/Land-Grant Partnership

- **To spray or not to spray**. The Corn Earworm Advisory System developed by **Virginia** Extension tracks corn earworm population levels and alerts soybean growers when insecticides should be used. As a result, acreage treated for this pest dropped by 147,750 acres between 1995 and 1997, a savings of $2.5 million. A cotton crop monitoring system developed by **Arkansas** scientists showed farmers they could reduce the number of pesticide applications. Farmers who used the system increased their net returns by $25 to $30 an acre, or a potential $25 million to $30 million statewide. Said one cotton consultant, "My growers say they wouldn't want to grow cotton without it because in the past we just kind of buckshot those late-season management decisions."

- **Champagne tastes on a beer diet.** Animal scientists in **Georgia** found that 15 percent cottonseed meal, which costs $75 to $110 per ton less than the traditional soybean meal, can be added safely to a pig's diet. The use of cottonseed meal has the potential to increase profits in Georgia's swine industry by $1 million. More than 300 livestock producers used **Tennessee's** Forage Testing Laboratory to measure the protein and energy content of the hay they feed their cattle. The results allowed them to develop an efficient feeding program and save $120,000 in feed costs. If 20 percent of the state's beef producers used forage testing, savings would total more than $2 million.

- **Bringing quality to market.** More than 3,000 of **Nebraska's** 22,000 cattle producers now participate in the Beef Quality Assurance training, which emphasizes scientific production techniques and raises consumer confidence in beef. Meat packers pay $16 more per head for BQA-certified cattle. The number of certified cattle marketed was 16,000 in 1998 and is expected to jump to 52,000 head in 1999.

- **Proper timing cuts cow costs.** Economic studies in **Idaho** showed that allowing dairy heifers to have their first calves at 23 months of age rather than the traditional 28 months reduced rearing costs and provided quality replacements for the milking herd. Earlier calving saves $34 a head in feed, labor and fixed expenses, or $734,000 a year statewide.

- **Sometimes it's better not to invest.** A **Georgia** egg producer turned to the Extension poultry economist for help in analyzing a potential $650,000 investment. When the farmer learned how the proposed debt would affect his cash flow, he decided not to expand his operation.

Cooperative State Research, Education, and Extension Service
United States Department of Agriculture

Cooperative State Research, Education, and Extension Service in cooperation with the Extension Committee on Organization andPolicy, the Experiment Station Committee on Organization and Policy, the Academic Programs Committee on Organization and Policy, the International Programs Committee on Organization and Policy, and the Louisiana State University Agricultural Center.

United States Department of Agriculture prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.)

April 1999