

A CHANGE FOR THE PLAINS

As water gets scarce, cotton may not be the only option.

Farmers on the southern High Plains are pumping much more water onto their cotton than the aquifer can stand to lose. So scientists are searching for systems that use less water but return profits at least equal to irrigated cotton. Aided by funding from the USDA's Sustainable Agriculture Research and Education program, these researchers may have found a way to accomplish this goal, although it's a work in progress.

Vivien Allen, a Texas Tech forage researcher, and colleagues are working with a system that puts cotton on a fourth of the land, wheat and rye on a fourth, and warm-season Old World Bluestem on the other half. The cotton and small grains are rotated with each other for all the benefits known to accrue. Seed from the bluestem used, WW-B.Dahl, is very valuable and is harvested and sold.

Steers graze the wheat and rye in cool weather. They graze the OWB in summer and then again after the bluestem is stockpiled and lying dormant in winter. The bluestem is fertilized and allowed to produce a seed crop after the steers come off in late summer.

The crop-and-livestock rotation uses 22% less water and 40% less nitrogen. It is slightly more profitable than pure cotton on a cash-income basis.

The bluestem seed is a big help. If this system were used on a commercial scale, there would be so much WW-B.Dahl seed produced that it would fall from its lofty value of about \$20 per pound. That would cut revenue to producers, says Eduardo Segarra, a Texas Tech/Texas A&M economist.

Local farmers are adopting some aspects of the system being researched. "I'm working with



Rick Kellison is helping growers try for 12-month cattle grazing.

PHOTO: KARL WOLFSHOHL

producers, trying to generate 12-month grazing programs," says Rick Kellison, who farms and also works for Wilbur-Ellis at Lockney, Texas. He's helping some farmers put portions of their irrigation circles into grass, allowing more water for their cotton in a more timely manner.

Texas Tech's Allen says, "When you compare them head to head, the alternative has been slightly more profitable than monoculture cotton over four years. It becomes even more profitable as water gets deeper and costs more to pump."

She says that while an estimated 1,000 farmers in the area have adopted one aspect or another of the rotation, most are staying with all or mostly cotton. That's because risk-management provisions under the farm bill apply only to cotton, not to the alternative crops.

"The point is that there are few options with traditional cotton, but you have all kinds of options with the alternative system," Allen says.

—Karl Wolfshohl

For more details about this research, go to www.orgs.ttu.edu/forageresearch/.