

Research in Review

<http://agnews.tamu.edu> ♦ March 14, 2005

Do your best homework to select the best cotton varieties in 2005

LUBBOCK—Selecting productive cotton varieties is not an easy task, particularly on the Texas High Plains—where weather can "make or break" a crop.

A Texas Cooperative Extension cotton agronomist advises producers to do their homework before selecting varieties for 2005. "Homework" means comparing several characteristics among many varieties, and then keying these characteristics to typical growing conditions.

"We can't control our growing environment from year to year, but we can select varieties based on positive traits," said **Randy Boman**, Extension cotton agronomist based at Lubbock. "It is important to select varieties that fit your farm. Look for varieties with the genetic potential to achieve good lint quality and yield."

Last year was a challenging one for High Plains cotton producers. Record rainfall helped produce record yields. But below normal heat unit accumulation in August and September and heavy rainfall delayed harvest into the first months of 2005. Even so, the 2004 crop is expected to reach 4.6 million bales, Boman said.

"Field weathering affected lint color and increased bark and leaf content," Boman said. "The cooler growing season did not allow some cotton to reach full maturity. This affected micronaire, a measure of lint quality," Boman said. "Our micronaire averaged 3.6, the lowest since 1992."

Fortunately, 2005 looks promising due to abundant precipitation in 2004. New cotton varieties with improved insect resistance and herbicide tolerance also will be available this year, he said.

Even so, growers should not plant fence-row to fence-row with one type of cotton.

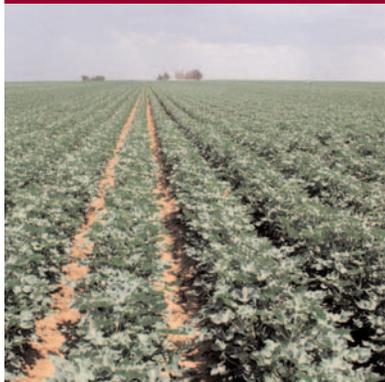
Extension agents can advise growers on variety performance in local field trials. The Plains Cotton Improvement Program's replicated large-plot systems variety trials also contain good baseline information that can help growers evaluate and compare potential field performance, Boman said. The trials are sponsored by Plains Cotton Growers and Cotton Inc.

"The variety trials conducted by **John Gannaway**, Texas Agricultural Experiment Station cotton breeder, at Lubbock and many other High Plains sites is another good source of comparison information," Boman said. "Gannaway's performance trials provide the only unbiased information on large numbers of varieties sold on the High Plains, particularly new ones such as Liberty Link and Bollgard II.

"It is best to consider multi-year and multi-site performance averages when they are available. At the same time, there are many new varieties appearing on the scene that have not undergone multi-year university testing."

Growers can obtain a copy of Gannaway's *2004 Cotton Performance Tests in the High Plains and Trans-Pecos Areas of Texas*, and Extension's *Systems Agronomic and Economic Evaluation of Transgenic and Conventional Cotton Varieties in the Texas High Plains*, from an Extension agent or from The Texas A&M University System Agricultural Research and Extension Center at Lubbock. The Lubbock center phone number is (806) 746-6101.

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MOST PRODUCTIVE COTTON

Selecting productive cotton varieties is not an easy task. A Texas Cooperative Extension agronomist advises growers to compare several varieties, and match valuable traits to their farms and growing conditions.



These and other crop production publications/guides are available on the Lubbock center web site at <http://lubbock.tamu.edu>.

Yield potential is probably the single most important agronomic trait in producers' minds, but they should also give significant consideration to lint quality, the agronomist said.

"We sell pounds of lint, but the value of each pound is a function of fiber quality. These two characteristics are closely linked to profitability, but we also want to consider adaptability," Boman said. "Many long-season cottons may be better adapted to areas with longer growing seasons. Some of these varieties have produced record yields and quality on the High Plains, due to extremely warm September weather in recent years."

Growers who have made record yields with those varieties typically had above-normal heat accumulation during the growing season. They also terminate irrigation and apply harvest aids such as defoliant/desiccants in a timely fashion, and get their crops out of the field early, Boman said.

Even with good weather, growers should not leave open-boll cottons in the field until a freeze conditions the plants for harvest. Unacceptable pre-harvest lint loss is likely to result, he said.

"On the other hand, storm-proof stripper varieties are more suited to our harvesting conditions and they are more likely to survive damaging weather at harvest without considerable lint loss," Boman said. "Check the storm resistance of any variety on your potential planting list.

"If you do choose an open-boll variety, plan and budget ahead for a good harvest aid program that will let you achieve an early harvest. Don't be caught with lots of lint in the field, but no chance to harvest due to inclement weather."

The value of transgenic varieties is another consideration. Growers should consider these varieties only if they are a bargain compared to traditional weed or insect control costs for a specific field, he said.

"The value of Bollgard and Bollgard II technology is looking better on the High Plains, due to Monsanto's price restructuring of Roundup Ready only varieties. Pink bollworms may be a significant problem in some areas in 2005. This technology works exceptionally well on that pest," Boman said. "The inherent agronomic performance of some Bollgard+Roundup Ready 'stacked gene' varieties may simply be better than some Roundup Ready cottons, even though both have the same genetic backgrounds."

Resistance to diseases such as verticillium and fusarium wilt, bacterial blight and root-knot nematodes is a valuable trait for most of the High Plains. Regardless of how they prioritize agronomic traits/qualities, growers should strive for diversity when selecting varieties, he said.

"Don't plant the entire farm to only one variety. Matching varieties and transgenic technologies to specific fields will help you spread your production risk," Boman said. "It is simply good management."

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