

INTRODUCTION

Cotton performance trials were conducted during 2003 at the Lubbock, Halfway, and Pecos, Texas Agricultural Experiment Stations. The Lamesa dryland variety test was planted on the AG-CARES research farm. Two irrigated variety tests were also planted near Tulia on the Dale Swinburn farm and near Lamesa on the Donald Love farm. The test on the Dale Swinburn farm was lost due to weather.

The Lubbock Station tests were planted in either Amarillo or Olton soils, the Halfway Station tests in Pullman clay loam soils and the Pecos Station tests were planted in Hoban silty clay loam soils.

The 2003 season began with sub par soil moisture due to limited winter rains. Producers with irrigation capability had to pre-water most of their fields. Better rainfall amounts in April, May and especially June set the dryland acreage up for excellent yield potential. Unfortunately, the weather systems that brought our June rains also brought severe weather damage, lower temperatures and associated seedling diseases resulting in the loss of 1.4 million acres. These losses were mostly in the better irrigated, high yielding northwestern acreage. Eventually 300,000 of these acres were replanted back to cotton. This left the production hopes of the High Plains in the dryland fields to the south of Lubbock as well as the irrigated fields to the southwest. The lower temperatures of June significantly delayed the surviving early-planted crop with later planted cotton catching up. Except for an average September heat unit accumulation, July through October months had above average accumulations ranging from 113 to 172 percent. Additionally, we experienced our latest freeze in Lubbock on November 23rd, breaking the all time record by one day. The really bad news for producers was the virtual absence of rainfall from July through September resulting in the driest summer on record and missing the driest year on record by 0.1 inch of rainfall. This lack of rainfall significantly reduced the prospects of dryland cotton and taxed the capabilities of our irrigation systems. Where water was readily available, yields reached a high of 5 bales for the 2nd year in a row. Otherwise, yields were suppressed. Another 250,000 acres were lost in September/October hail storms which often left no evidence of the previous crop. Only 2.25 million acres survived of the 3.55 million acres planted. The harvest period was held up for some acreage by the late freeze but for the most part harvest weather was ideal.

Weather reduced yields by 48%. The average yield across the area was 449 lbs. per acre with insect pests laying claim to a low 1.45% loss. Early thrips numbers were about average but cool June weather exacerbated the damage situation. Much of this thrips damaged cotton was eventually lost to severe weather. Many growers are now supplementing their Temik or Cruiser seed treatments with later foliar insecticide applications because research has shown a good return under prolonged thrips infestation pressure. These thrips were primarily western flower thrips. Cotton fleahopper numbers were somewhat heavier this year and their damage reduced early square retention by 54% in some cases where fields were left untreated. Those that were uninfested or treated had square sets averaging 86% or better. These differences were nullified by the shortage of summer moisture and compensation under above average heat unit accumulations. Plant bug numbers were down this year with the exception of a few fields near alfalfa. While some square loss was recorded, most yield reduction took place as a result of later boll feeding. These plant bugs were identified as primarily *Lygus hesperus*, representing over 90% of the populations present.

Boll weevil numbers were significantly reduced with the blaring exception of the Permian Basin zone, which caught over 28,000 weevils representing 98% of all weevils caught in the 5 zones of the High Plains. This was the 2nd year in a row in which the yet to be activated St. Lawrence zone to the south produced thousands of invading boll weevils. In spite of this problem, we expect the entire High Plains area to be declared suppressed which will result in lifting of quarantines, creating a hardship for those in the Panhandle and St. Lawrence areas who gin in these zones.

Bollworm infestations were extremely light with very few fields treated for this pest or for the few beet armyworms detected in area fields. Bollgard cotton varieties were planted on 292,690 acres and received little pressure from insect pests. But in Lubbock County, several Bollgard fields required treatment because infestations resided in the bloom area where toxin expression was lowest. Insecticide applications also were hard pressed to control these worms deep in the plant canopy. Aphid infestations remained very light for the most part with little flaring observed when pyrethroids were sprayed on the few bollworm infested fields. Beneficial insect numbers were high and these predators appeared to keep these slowly developing

aphid infestations in check. Sticky cotton was again a non-issue. The 2003 season represented one of the lightest pest years in the last 27 years.

The pink bollworm was the pest of note this year, greatly expanding its infested acreage southwest of Lubbock and level of damage. Much of the top crop was infested late, much like the boll weevil situation of years past. A strong educational program will need to be implemented if producers are to avoid a train wreck in 2004. Is this our next “boll weevil”?