

## **DP 5432 - A NEW COTTON FOR ARIZONA**

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### **Abstract**

DP 5432 is a new cotton available to desert southwest producers for planting in 1996. DP 5432 has been tested in the desert southwest from 1991 to the present and has exhibited the following characteristics compared to DP 5415, which is the most popular variety for the region: 1.5% yield increase, .6 lower micronaire, 1/32 longer fiber, .7 grams/tex stronger fiber, better seedling vigor and about the same maturity or a little earlier ( 1994 plant mapping studies indicated DP 5432 attains 50% open boll seven days prior to DP 5415 ).

The fundamental objective in releasing DP 5432 is to give producers the ability to reduce their micronaires without compromising yield. In Arizona and Southern California micronaire values have dramatically increased over the last three years . The average micronaire values from 1988 to 1992 recorded at the Phoenix Classing Office ranged from 4.4 to 4.5 while the period from 1993 to 1995 ranged from 4.7 to 4.8, an increase of .3 units. The result has been between 30% to 40 % of the cotton bales (depending on the year) in the last 3 years being discounted \$15 to \$25 because of micronaire values above 4.9. The increase in micronaire values is due primarily to whitefly infestations reducing harvestable lower micronaire top bolls on the plants. Producers have had to terminate the crop earlier than they did prior to whitefly to alleviate sticky cotton. In addition, in order to increase yield, many of the highest yielding new cotton varieties available to the producers have genetically pushed the micronaires higher.

With the gracious help of Mr. Helmet Deussen and Mr. Dick June of Schlafhorst Inc., single instrument, HVI and rotor spinning tests were conducted at the International Textile Center of Texas Tech University comparing DP 5432 and Deltapine Acala 90, a high quality cotton. It was determined that DP 5432 had a finer fiber than Deltapine Acala 90 ( 146 mtex vrs. 160 mtex, respectively ) while not differing significantly in maturity ( 92.1% vrs. 93.9%, respectively ) as measured by the FMT. The data indicates that DP 5432's lower micronaire is due to increased fineness and not reduced maturity.

Schlafhorst Inc. has developed the Cotton Valuation Model (see 1995 Proceedings of the Beltwide Cotton Conf. ) to calculate the utility index for specific cotton. The objective of the utility index is to estimate the true worth of a cotton

to the spinning industry by placing values on particular fiber measurements, weighting each relative to its value in the spinning process. Based on HVI instruments, DP 5432 has a higher utility index than Deltapine Acala 90 ( 26.4 vrs. 13.47, respectively ). Although Deltapine Acala 90 had higher strength than DP 5432 the value in the spinning process was enhanced in DP 5432 due to increased length and lower micronaire.

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