

# **THE ECONOMICS OF DISEASES AND NEMATODES IN COTTON YIELD STAGNATION**

**Don Blasingame**

**Mississippi State University, Retired**

**Mississippi State, MS**

## **Abstract**

Beltwide cotton yields in the United States have steadily increased from 325 lbs per acre in 1952 to over 700 lbs per acre in the early 80's. Since that time yields have shown little or no increase beltwide, and have actually decreased in some states. Growers and researchers alike have struggled for reason (s) for this stagnation. One factor that has been considered is increased losses to diseases and nematodes. The average annual cotton production loss to diseases and nematodes in the USA over the past four decades has been estimated at just under 12 %. Although not as well documented, disease-induced production losses in other world regions that produce cotton are similar, and in many cases, are higher. Over this period, some cotton diseases have diminished in importance while others have either increased in severity or remained relatively constant. The seedling disease complex, plant-parasitic nematodes, vascular wilts, and boll rots continue to be responsible for a majority of the disease losses worldwide. Over the past 20 years as yields have stagnated, losses to diseases and nematodes have increased. The average loss during the 80's was 9.6 % while during the 90's increased to 11.1 % - a 16 % increase. This was mainly due to increase losses due to nematodes. In 2001 total disease losses were reported at 12.62 %. Nematode losses were estimated at 4.13 %, valued at 382 million dollars. Has the increased losses to diseases and nematodes led to the yield stagnation in the US ? Probably not. However, they have been a factor, especially in areas where nematode losses have greatly increased.