Comparison of Cotton Yield when Grown Under Subsurface Drip and Flood Irrigation Systems. (A04-puppala114429-Oral)

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Abstract:

The recent farm bill abolished the quota system and has resulted in 50% reduction of peanut planted in New Mexico, shifting the crop mix to cotton or corn silage. Peanut farmers in New Mexico are looking for an alternate crop which could benefit them economically and fit in their cropping system. A study was conducted at two locations in Clovis, NM during 2000 where cotton varieties were grown with subsurface drip irrigation (SDI) and surface applied water with gated pipe system. The objectives of this study were to, a) determine the most suitable varieties that can be grown in Curry and Roosevelt counties of New Mexico, and b) determine the yield and quality of cotton grown with SDI compared to flood irrigation system. There was a significant variation seen among different varieties with respect to seed cotton yield, lint outturn, and fiber quality. Yields ranged from 1426 to 1989 kg lint ha-1 with 432 mm of water applied during the growing season with SDI. The average lint yields under flood irrigation were 988 to 1542 kg lint ha-1 with 609 mm of water applied. The high lint yield with the SDI may be due to soil type and irrigation system efficiency compared with the flood irrigation system.

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