REFINING PEST MANAGEMENT THRESHOLDS FOR WATER-DEFICIT COTTON PRODUCTION

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Abstract

US cotton production takes place in the southern US under a range of irrigation deficit conditions that range from dryland to full irrigation. However, most research is conducted on well-irrigated land and there is a need to better define economic profitability models that support production under a range of conditions that address declining irrigation capacity. The objective of this project was to sequentially evaluate the impact of thrips and stink bug control under three water-deficit (zero, medium, high) conditions. Responses included pest abundance or damage during the growing season and lint fiber quality and yield at harvest. Both thrips and stink bug infestations exceeded established thresholds and representative plots were treated using insecticides. While there were profound differences in yield attributed to irrigation level, thrips infestations did not affect yield. Further, stink bug infestations significantly decreased yields under medium and high irrigation treatments, but not under dryland conditions. Fiber quality and economic assessments of yield and lint quality are pending.