

Critical Periods of Weed Competition in Cotton in Greece

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Four experiments were conducted in central Greece during 1997 and 1998 to determine the late-season presence of weeds in cotton (*Gossypium hirsutum* L.) and the critical times for removing weeds. Experiments were conducted in natural, heavily infested cropland. The presence of weeds for more than 3 weeks after crop emergence caused significant reductions in crop growth and lint yields. However, weeds that emerged 11 weeks or more after crop emergence did not adversely impact yields. Total weed biomass increased with increasing time prior to weed removal. A weed-free period of 11 weeks after crop emergence was needed to prevent significant reductions in cotton height, biomass, number of squares, and yield. These results indicated that postemergence herbicides or other control measures should be initiated within 2 weeks after crop emergence to avoid significant yield reduction. For greater efficiency, soil-applied herbicides in cotton should provide effective weed control for at least 11 weeks. Curvilinear regression equations were derived to describe the relationship between critical periods of weed presence and cotton growth and fruit development.

KEY WORDS: Weed interference; weed competition; cotton.

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