INTERACTION OF FLUTRIAFOL WITH GERMINATING COTTON

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Abstract

The objective of this research was to evaluate temperature and soil water potential under controlled conditions for their effect on seed germination in the presence of flutriafol. Using germination paper saturated with a flutriafol suspension (1.56 mg /ml), exposure to flutriafol had no effect on seed germination of 13 varieties but the exposure significantly (P=0.05) reduced root weight as compared with the control. Seed size (ranging from 7.689 to 10.898 g/100 seed) was positively correlated with root growth at both 22°C and 20°C. The degree of inhibition of root growth of the varieties by flutriafol at both temperatures was proportional to growth in the controls, i.e. there was no apparent interaction between seed size and flutriafol treatment. With seed that were treated with flutriafol two days after the start of the experiment, there was no difference in the inhibition by flutriafol, in comparison with seed continuously exposed to flutriafol. In other experiments, root growth was inversely proportional to flutriafol concentration. Using a Haines' apparatus to control soil moisture in a Mereta clay loam, root growth inhibition with flutriafol did not consistently occur. With four varieties, there were differences in root growth in soil that were proportional to seed size, but there was no interaction with flutriafol treatment, nor was there an interaction with soil type. These data suggest that root growth inhibition by flutriafol is not variety-specific, but growth inhibition may have a greater impact in varieties with small seed.