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Relationship Between Prevention of Early Damage of Insect Pests and Cotton Yield in Sudan

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Abstract

Seed treatments promote seedling establishment, help ensure yield and reduce quality losses due to many pests and diseases. Protecting cotton plant from the attack of early-season insect pests and diseases is of prime importance to ensure a healthy and strong establishment of this strategic crop. The present study tried to measure the susceptibility of cotton flea beetles (*Podagrica* spp.), as indicator of early insect pests, to some single and/or mixtures of pesticides as a preventive control measure against early season pests of cotton in Sudan. Two field experiments were planned in the study using a number of seed dressers and two varieties of cotton (Barac 67 B and Barakat 90). Visual counts in the field were used to evaluate the effects of seed dressing treatments. Counting shot holes resulting from Flea beetle adults feeding assessed flea beetle damage. Results showed that using the ant microbial bronopol alone did not prevent flea beetle damage. Treatments containing imidacloprid significantly reduced damage in the experiments, but not 10 weeks after sowing in field experiments. The relationship between damage caused through early flea beetle damage and reduction in yield was measured through simple regression analysis. The regression analysis indicated that the correlation coefficient measured between early damage (30 days after sowing) and yield of cotton can be used to explain third of the variability in yield. However the correlation coefficient was lower when the damage was recorded later (60 days after sowing). The relationship between damage and yield was found to vary between the two varieties tested.

Keywords: Cotton flea beetle, cotton yield, *Podagrica* spp., Sudan

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