

A B S T R A C T

Sesame, (*Sesamum indicum* L.), has been grown since time immemorial as a source of edible oil and nutritious food. Due to the indeterminate growth habit of the plant and the dehiscence of the pods at maturity seed losses may be high at harvest. Indehiscent varieties of sesame have been bred but harvesting problems of drying and threshing have been encountered. The experiment was conducted to test the effect of a desiccant and a defoliant when applied to the non branching variety of sesame (Venezuela 51) prior to harvest at two different times of application on pod maturation. The desiccant used was diquat applied at the rate of three pints per acre, and the defoliant was endothal applied at seven pints per acre. The first application was applied 78 days after planting and the second at 88 days. Both the defoliant and the desiccant condensed pod maturation. Seed germination, seed weight, seed yield and oil content were not affected to any extent at the second application.

The first applications of both defoliant and desiccant reduced seed yield by 35%, seed weight by 12%, and oil content by 14% relative to the control. The first application of the defoliant reduced germination by 16% relative to control. There was no appreciable difference between the effect of the defoliant and that of the desiccant, except in oil content. Diquat was shown to be an effective desiccant, whilst endothal did not act

as an effective defoliant. Seeds were ~~stained~~' by both desiccant and defoliant at both times of application. Neither the desiccant nor the defoliant prevented the pods from opening on ripening. The seeds were difficult to extract from the pods at the first application. The practical applications were discussed, and the incidence of pests and disease noted.