

A B S T R A C T

An experiment was laid down in a 3 x 3 x 3 confounded factorial layout, together with nine controls to test the effects of three rates, 1, 3, and 5 lbs. per acre acid equivalent, three times of application, pre-emergence and two and four weeks after this time, and repetitive treatments, single application, and treatments repeated once and twice at two-weekly intervals, of 2-4-D on nutgrass (Cyperus rotundus L.).

None of the levels of application was completely toxic, although all produced an effect. Five lbs. per acre was more toxic than both 3 lbs. and 1 lb. per acre and toxicity was greatest if the application was made by post-emergence spraying of the weed. Repetitive treatments were not more effective than a single treatment, one month after final application to each plot, but if twice repeated, significantly lower populations were obtained eight weeks after final application than a single treatment or one repeat.

Three months from the date of application of the pre-emergence treatments, none of the treatments gave complete control. The degree of control attained was greatest from rates of 3 and 5 lbs. per acre, applied post-emergence and with the initial treatment repeated twice. Repetition seems the most important factor.

A review of the more important aspects of the botanical and morphological characteristics of nutgrass and previous work on its control, has been included, together with a general outline of the properties and usage of 2-4-D. Since this work was in the nature of a preliminary to a general investigation into herbicidal control in the tropics, recommendations have been made for future work.