

SKELETON WEED

by

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1. Formulation, time and rate experiment, extended over three successive seasons. Two triethanolamine formulations of 24D compared with ethyl ester showed triethanolamine to be safest on cereals, 1 lb. per acre rate most effective on skeleton weed and skeleton weed at full rosette the most effective growth stage. Cereal crop should be fully stooled and have a strong secondary root system before spraying.

Subterranean clover regenerated satisfactorily in stubble in the season after spraying. Germination tests on wheat grain from sprayed plots ranged from 91% to 97% without abnormality. Yields from sprayed plots were as high after three consecutive crops and sprayings as from the first crop.

There is a trend to slightly lower yield and slightly higher protein percentage with the highest (1½ lb. per acre) application rate.

After 3 consecutive sprayings rates of application of ½, 1 and 1½ lb. per acre did not show appreciable differences in effect on skeleton weed, the total reduction being 92% and 95% of weed population, triethanolamine and ethyl ester being relatively equal in effect.

2. Time of application experiments showed most efficient results when applied to skeleton weed at full rosette just prior to production of central bud from which the flower stalk is formed. At this stage of weed growth cereal plants are generally fully stooled with a strong secondary root system.

3. Chemicals and Formulations experiments have proved the superiority of 24D formulations over M.C.P.A. and 245 T. All 24D formulations have similar efficiency in controlling skeleton weed.

4. Volume of Application experiments with rates varying from 2½ to 40 gallons per acre showed that volumes less than 5 gallons per acre do not give good results.

Nozzle makes apparently differ in efficiency at very low volumes. Volumes ranging between 5 and 10 gallons per acre are the most practical in N.S.W. skeleton weed areas. Volumes of 40 gallons per acre have given slightly better results than 5, 10 and 20 gallons.

5. Rates of Application experiments with 24D triethanolamine and ethyl ester at 4, 8 and 12 ozs acid eq. per acre showed a trend to increased kill with increased rate from 4 to 12 ozs., but it has been found that rates of 4 ozs per acre have given reductions equal to 12 ozs per acre again indicating the fact that time of application is more important than rate of application.

6. Fallow application of 24D to skeleton weed. Results unsuccessful with rates up to $1\frac{1}{2}$ lb. ethyl ester per acre. Pre-sowing applications also unsuccessful at 1 lb per acre.

7. Wheat Variety Reaction to 24D. Varietal differences occur when applications of $\frac{3}{4}$ lb. acid eq. are made up to the fully stooled stage; distortion has not been observed in applications made after stooling is completed.

8. Oat Variety Reaction to 24D. Reddish Colouration of stems and lower leaves has occurred, density of colouring varying with rate of application. Varieties vary in susceptibility to colouring at $\frac{3}{4}$ lb. acid eq. per acre, ethyl ester having more effect than triethanolamine.

9. Medic and Subterranean Clover Reaction to 24D and M.C.P.A. applied in growing wheat crop at 6 ozs and 12 ozs acid eq. 24D more severe than M.C.P.A. on both medic and sub. clover. M.C.P.A. triethanolamine salt showed slightly less severity than other M.C.P.A. formulations none of which prevented seed setting.

10. Aerial application of 24D. Experiments with 24D applied to skeleton weed in a growing wheat crop by aircraft have given results comparable to ground unit applications at 8 and 10 ozs acid eq. Applications of 8 and 10 ozs Ester 24D as acid in 2 gallons distillate cause slight wheat flag browning but the wheat quickly recovered skeleton weed reductions being slightly better than water applications.

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