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SOUTH AFRICAN SUGAR INDUSTRY  
AGRONOMISTS' ASSOCIATION

Agronomic Experiments

Herbicides and Weeds

HIGH VOLUME SPRAYS OF 2,4-D

Catalogue No.: 70  
Expt. code: H.W.45(a)  
Site: Mt. Edgecombe traysite  
Altitude: 90m  
Design: Random Blocks. 5 reps.  
This crop: Weeds  
Variety: -  
Age sprayed: Pre-emergence  
Age harvested: -  
Date(s) sprayed: 3.11.67

Soil: Sieved Rydalvale clay  
Analysis: pH  
OM  
Clay % Not done  
Silt %  
Sand %  
Fertilizer: Soluble as required.  
Dominant weeds: 1. Portulaca oleraceae  
2. Amaranthus spinosus  
Age weeds sprayed: Pre-emergence  
Soil moisture:  
.... at spraying : Wet  
.... following spraying: Irrigated

Object: To determine the value of high volume sprays of 2,4-D for pre-emergence weed control.

Treatments: Small trays were filled with sieved soil containing a high population of broad-leaf weed seed. 2,4-D amine (4,5 kg a.e./ha) was applied in 170, 340, 1700 and 3400 litres/ha (15, 30, 150 and 300 gallons/acre). Visual assessments of weed control were made at regular intervals.

Results: Weed control assessment

0 = No weed control  
9 = Excellent weed control

Carrier volume	Days after spraying						Mean value 0-45 days
	10	17	24	31	39	45	
170 l/ha	6	6	6	5	4	4	5,2
340 "	6	5	4	2	1	1	3,2
1700 "	8	8	8	7	7	5	7,2
3400 "	8	8	8	7	7	6	7,3

Comments:

1. Good weed control was obtained for all carrier volume rates of application. But very much better control was given at the very high rates (10 times those normally applied).
2. The weed growth present in the plots was very variable.
3. It was not envisaged that large and completely impracticable water volumes would be used in the field. The experiment to some extent simulated conditions that might prevail when sprays were applied after very light rainfall or heavy dew.