

# SUCCESSFUL WEED CONTROL IN DRY AREAS

By M. J. STEWART

Successful pre-emergent weed control depends largely on synchronising chemical application with optimum germinating conditions for weed seeds. Moist, warm soil with a good tilth favours rapid seed germination, thus bringing the weed seedling, at its most vulnerable stage, into rapid contact with the freshly-applied weed killer.

Under the erratic climatic conditions we experience in certain dry areas along the coast, this ideal condition is not always attained. So often the cause of poor pre-emergent weed control can be directly related to a dry spell following the time of application and when accompanied by cold weather the situation can be aggravated still further. Under such adverse conditions, part or whole of the applied weed killer can be dissipated by decomposition before weeds have germinated and the period of active weed control is reduced proportionately.

By withholding the treatment until the weeds start to germinate, ensures a more efficient and prolonged control. Where a straightforward broad leaf (dicotyledenous) weed species is present, then "PHORDESTER" alone is sufficient. Weed populations are usually of a mixed nature with a tendency for one species to predominate, in which case the addition of "PECEPAN" is necessary for the control of annual or biennial grasses.

At one estate where comparatively dry conditions prevail, the use of pre-emergent sprays have given disappointing results, whereas post-emergent work proved most satisfactory, especially where perennial grasses existed. The following example shows the value of post-emergent weed control under these conditions.

A total area of 190 acres were planted this year and post-emergent weed control treatment was standardised at 2 pints "PHORDESTER" and 3 gallons "PECEPAN," diluted in 45 gallons of water per acre, applied just as the cane spikes were appearing. A second 'spot' application with the same formula was

given to probably 10 per cent of the area where there was a slight recurrence of perennial grass, otherwise light hand-hoeing only was necessary.

One field containing soft weeds, annual grasses and a persistent perennial grass (*Brachiaria* species) was placed under observation and treated as follows:

1st August      Field planted.  
15th August     First spraying of 2 pints "Phordester" plus 3 gallons "Pecepan" in 45 gallons of water per acre.  
7th September   Second 'spot' spraying at same rate of application.  
15th October    First hoeing. After this stage, the cane was old enough to withstand scarifying.

The cost of chemicals amounted to—	S. D.
First Spray: 2 pints "Phordester" . . .	7 0
3 gallons "Pecepan" . . .	14 9
Second 'Spot' Spray: Same formula . . . app.	3 0
Total . . . . .	24 9

Although the cost of chemical weed control is surprisingly low, a direct comparison with hand labour is not justified, because the value of chemical control at this stage lies in labour economy and enables the planter to divert his precious labour supply to other hand tasks. At the same time, the young cane is protected at a most important stage of its life from weeds robbing the valuable moisture and nutrients which should be available to the fast-growing cane.

At this particular estate, 190 acres were planted this season and the use of chemical weed control played a vital part in the organisation and success of the planting programme in the limited time available.

"PHORDESTER" = 2 4 D ester 4 lb. acid equivalent/gallon.  
"PECEPAN" = 5 per cent P.C.P. in an aromatic oil.

For discussion on this paper see page 126.