

Tobacco crop residue management at Mareeba

P.E. Tonello, E.J. Gilbert, K.H. Ferguson, J. von Nordheim

Department of Primary Industries, Mareeba. Q., 4880

The destruction of tobacco crop residues as soon as possible after the final harvest has long been advocated as a means of reducing the carryover of insect pests and diseases from one year to the next.

In the past, the problem was perceived as the farmers' lack of understanding and appreciation of the reasons for destroying crop residues. However, as there had been little improvement, in spite of this extension effort, other factors contributing to their lack of action had to be identified.

Methods

Following the formulation of a questionnaire and selection of farms, 168 of the 528 district tobacco farms were surveyed in 1981.

- To provide an accurate estimate of the level of tobacco crop residue destruction of district farms.
- To ascertain farmer attitudes towards crop residue destruction.
- To determine the feasibility of effective crop destruction in relation to constraints imposed by time, equipment, climate and topography.
- To identify farmer groups, or areas of slow adopters, at which future extension effort could be directed.

A more detailed survey was conducted on 94 of the 168 farms to ascertain the type of equipment on each farm, the method of crop residue destruction, the time of planting, and how soon after harvesting the tobacco stalks were destroyed.

Results and discussion

Only 28% of farmers surveyed had satisfactorily destroyed crop residues.

The more detailed survey found that the only method which gave a satisfactory level of destruction was the Departmental recommendation of strip rotary hoeing. Sixty-two percent of farms had rotary hoes but only half were used for crop destruction. However, all farmers were aware that the Departmental recommendation was strip-rotary hoeing. Their reasons for not using the rotary-hoe

were.

- Other methods were quicker and as effective as rotary hoeing.
- Rotary hoes are expensive and wear and tear is too great on the local granitic soils; a new set of blades are required after every second season.
- They desired an undisturbed soil surface to prevent soil erosion.

Although the duration of the crop in the field had an influence on whether growers had sufficient time to implement their crop residue destruction programme, earlier planting ensures that few of these crops extend into January. Hence, weather condition rarely prevent growers from destroying crop residues.

The survey indicated that those farmers failing to make an attempt to destroy crop residues did not fall into any particular social group or geographical area but were distributed at random throughout the district. They were aware of the requirement and appreciated the importance of crop residue destruction but were prepared to risk prosecution because other operations had a higher priority at the time. Sorting of leaf was the most common activity being undertaken at the time the survey was conducted.

In conclusion, the survey showed that the main reasons for poor crop residue destruction included: the fines imposed were too low to act as a deterrent; the farm implements used were ineffective; two-thirds of

the farmers had rotary hoes but only half used them for crop residue destruction; the cost of owning a rotary hoe. This latter reason was repeatedly voiced both by farmers who owned a rotary hoe and by farmers who did not. Slashing tobacco stalks and spraying the subsequent regrowth with glyphosphate (1:100) was effective and is an alternative for farmers who do not have a rotary hoe and for farmers who do not wish to disturb the soil surface prior to wet season.