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Tobacco Field Day

Successful Event at Manjimup

By J. A. Mallett

Undaunted by grey clouds and misty rain, about 75 people interested in tobacco culture attended a field day at the Tobacco Research Station, Manjimup, on February 15. Fortunately the threatened downpour failed to materialise and the visitors were able to enjoy to the fullest extent an interesting and highly instructive series of demonstrations and lecturettes.

The field day, which had been arranged by Mr. T. G. Haney, the Government Tobacco Adviser, was the first to be staged on the station and it is to be hoped that it will become an annual event.

The Secretary of the West Australian Tobacco Growers’ Association (Mr. J. Berry), who acted as chairman, said that he felt that such gatherings could result in marked improvements in the yields and quality of our tobacco crops as none of us was too old to learn and the talks and practical demonstrations provided ample food for thought.

He said that he was disappointed by the small number of older growers present, but the Chairman of the Land Settlement Board (Mr. G. K. Baron Hay) who addressed the gathering, said that in view of the fact that there were only 120 tobacco growers in the State he felt that Mr. Haney had no grounds for discouragement on the score of attendance.

Mr. Baron Hay said that in the past he had attended many field days in the wheatbelt where an attendance of this size would have been regarded as a highly successful gathering. Today attendances of over 1,000 visitors were common at the same field days. As the tobacco growers learnt to appreciate the practical value of the field days he felt certain that they, too, would attend in full strength.

Although he, himself, was not a tobacco grower, said Mr. Baron Hay, he was keenly interested in the progress of the industry for as Chairman of the L.S.B. he had taken a large share of the responsibility for establishing 60 new tobacco farms over a three-year period, thus practically doubling the number of growers engaged in the industry.

Field Trials

Mr. Haney showed the visitors round the trial plots on which various experimental programmes had been initiated. The first plots inspected were those on which various insecticidal treatments were being tried out. These included:—

- Arsenate of lead (one part) and pollard (15 parts).
- Arsenate of lead (one part); 2 per cent. D.D.T. Dust (one part) and pollard (30 parts).
- Arsenate of lead (2 oz. to 3 gallons) plus 0.2 per cent. D.D.T. Emulsion applied as a spray.
- D.D.T. Emulsion (0.2 per cent.) as a spray.

Although it was yet too early to make definite recommendations, said Mr. Haney, it appeared that the preparations containing D.D.T. were the only ones giving good control of leaf miner,
and in general it was found that the spray treatments were more effective than the dusts.

Another series of plots was devoted to topping trials. Some rows of plants had been topped when the flowers appeared, others when the first leaves were ripening; some were topped after the first leaves had been harvested and in other rows the plants had been left untouched. The current recommendations are that topping should be carried out after the first leaves have been harvested but careful tests are being carried out to support these recommendations.

Another trial was designed to provide basic information on the chemical composition of the leaves. Chemical analyses of "hands" of tobacco had showed wide variations in the composition of individual leaves in the hands so in this experiment each leaf was tagged and numbered for individual analysis.

Other plots were being used to test an American chemical treatment designed to prevent suckering after topping. Careful tests were being made to ascertain whether the treatment had any effect on leaf quality. The Americans say that it does not affect the quality and the chemical treatment is becoming standard practice in the U.S.A. They use a topping instrument which automatically applies a measured quantity of the chemical solution as the topping operation is being performed and Mr. Haney said that a similar instrument had been evolved by C.S.I.R.O. workers in Australia and he hoped to be able to obtain one for demonstration purposes at Manjimup.

VARIETY TRIALS

Eight different varieties of tobacco were under test in trial plots but it was explained that the trial must extend over several years in order to assess the effects of seasonal variations and soil conditions on the plants. The varieties under test included Virginia Gold, Hicks, Broadleaf, Mammoth Gold, Yellow Special, Cross Hickory, 401 and 402.

Another long-term series of experiments were those dealing with crop rotations. The advantages of obtaining other cash crops from land used to grow tobacco were obvious. A number of different rotations were being tested.
which included crops such as sunflowers and green manuring rotations with lupins, rye and natural pasture.

INSECT PESTS

In the first of the series of interesting lecturettes, the Government Entomologist (Mr. C. F. H. Jenkins) said that although he was a non-smoker he fully appreciated the importance of the tobacco industry as it was the source of nicotine sulphate which was widely used as an insecticide.

Tobacco growers were menaced by numbers of insect pests, one of the most important of which was the cutworm, a caterpillar with many names only some of which were printable. The leaf miner which was also the larvae of a moth, was another pest which took heavy toll of tobacco crops each year.

Doubtless, said Mr. Jenkins, West Australian tobacco growers thought that they had all the tobacco pests in the world but this was not really the case. This State was free from several pests which provided serious problems in other countries and for this reason he stressed the need for reporting any new insects observed on tobacco plants. Prompt recognition of a new pest was more than half the battle in establishing effective control.

Mr. Jenkins said that clean cultivation was one of the essentials in reducing pests, as dirty paddocks provided hiding places and breeding grounds for many insects which later attacked the crop. Early preventive treatment was obviously better than eradication at a later date and he recommended growers to apply insecticides to the seed-beds in the first place and follow this up with routine applications at all stages of growth.

The time to attack the grasshopper pest, for instance, was in the early stages when the insects were at the "hopper" stage before their wings developed, and baiting along the boundaries of the tobacco crops would often destroy large numbers. During recent years, many new insecticides had come into being and the grower was often puzzled as to which one should be used. Experimental work was providing this information and the entomologist was fully aware of the risks that an insecticide may eradicate one pest and favour the increase of others by destroying harmless insects which often kept the pests in check.

PLANT DISEASES

The Government Plant Pathologist (Mr. W. P. Cass Smith) said that much of Mr. Jenkins' advice could also be applied to plant diseases. It was necessary for the pathologist to keep closely in touch with the industry in order to arrest any new diseases which might appear. Good crops were produced from healthy disease-free seedlings and half the battle was to ensure that no disease entered the plants at the early stages of growth.

It was better, he said, to raise seedlings on the property than to import them from elsewhere and take the risk of introducing new diseases. Before we had knowledge of the benzole method of control for blue mould, seedlings were often grown in Perth or even as far afield as the wheatbelt but it was realised today that seedlings from outside the area may introduce eelworm and other troubles.

Most tobacco diseases originated as seed-bed troubles and "damping off" had occurred this year in a number of areas. Damping off may kill many seedlings before germination had fully taken place. Plants not entirely killed may become cankered at the bases of the stems and such plants would prove unthrifty after planting out. Grey mould, a new disease on tobacco had made its appearance last year. This mould must be established on dead plant tissue such as that originally caused by damping off. The disease was caused by moulds which were widely distributed even in new soils but were much more prevalent in old paddocks, and the trouble was accentuated by wet soil conditions and a high degree of
humidity. Light, free-draining soils were needed for seed-beds and the seeds should not be sown too thickly as disease was apt to spread rapidly in crowded plants.

The sterilising of seed bed soils with formalin and other chemicals was to be tried this year and it was hoped that fuller information on the effectiveness of this treatment would be available at a later date.

Some yellowing and distortion of leaves had occurred at Northcliffe after the seedlings had been treated with D.D.T. so that it was advisable to use the weakest possible strength.

**POTATO GROWING**

The Officer in Charge of the Vegetable Branch (Mr. E. T. Morgan) said that although it may appear out of place to talk of potatoes at a tobacco field day, the fact that the plants were of the same family might be offered as some excuse.

His real reason for speaking at the field day, however, was to point out that there was a serious need for an increase in summer-planted potatoes and potatoes were a payable catch crop which tobacco growers could often fit into their rotations.

As Chairman of the Potato Marketing Board, Mr. Morgan said that he was closely in touch with the problem of producing potatoes at the time when they were badly needed. At present, there is a Commonwealth-wide glut of potatoes but there is a serious need for more December-January-February plantings to provide supplies during the lean periods. Potatoes occupied a prominent place in all food production campaigns and the Manjimup area, which prior to the war years, produced only about 1,000 tons, is now producing about eight times that quantity. Under the new system of equalised freights the Manjimup, Pemberton or Northcliffe grower can market his potatoes without being penalised by his distance from the metropolis.

**BUYERS' VIEWS**

Mr. N. F. Emery, of the British Australasian Tobacco Company said that he was amazed by the number of people who were losing good quality leaf through not carrying out the recommendations of the Department of Agriculture. He stressed that Australia had an annual consumption of about 40,000,000 lb. of tobacco with an annual production of little more than a tenth
of this quantity so that there was ample room for expansion of the industry in all States.

He said that the tremendous variety of soil types in the Manjimup area called for wide variations in the curing methods and suggested that a systematic soil survey of the area should be conducted as early as possible.

Mr. J. Scott, representing Godfrey Phillips, said that more attention should be paid to the control of leaf miner in Western Australia. In Queensland, the growers had established practically 100 per cent. control by using D.D.T. and although it was once thought that D.D.T. had a deleterious effect on tobacco leaf, it had now been shown that the effect on leaf quality was negligible.

He felt that better-balanced fertilisers were needed in the Manjimup area and advised growers to be conservative in their choice of tobacco varieties. Do not rush in and plant large areas because one variety showed up particularly well in one season, he said, as the same variety might yield badly in another year. It was better to try small plots over a term of years before making any definite decision.

Mr. Scott said that he was not very pleased with most of the kilns inspected as the types used here had too many leaks and he had only seen one kiln that maintained the correct degree of humidity. Most of the temperatures were far too high, and this resulted in scorching. He advised growers never to let the temperature go above 180 degrees, or 170 for lighter leaf.

Baling in Western Australia could be greatly improved, he said. Growers should not make small bales as these sustained too much damage in transit and he did not advise the making of any bales under 50 lb. Where there was insufficient leaf of one grade to make up the bale, it was better to make divisions in the bales, but growers should keep the grades of divided bales as nearly alike as possible. It was obviously an unsound policy to have high-grade leaf and a very inferior type of leaf in the same bale.

Fig. 3.—Inspecting trial plots.

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