KUK AGRICULTURAL RESEARCH STATION

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The research station at Kuk in the Western Highlands was started in 1969 and was called the Kuk Tea Research Station. In those days, tea was a fairly new crop in Papua New Guinea and the station was set up to help get it established. Since then the interests of the station have broadened and it has recently been renamed the Kuk Agricultural Research Station.

A lot of work is still done on tea at the station especially on the improvement of planting material. There are two ways of doing this, the selection of seeds or the selection of cuttings.

The trouble with the selection of seeds is that tea bushes take several years to mature and so the work can only go forward slowly. This means that it will take at least 20 years before the new seed selection programme will show results.

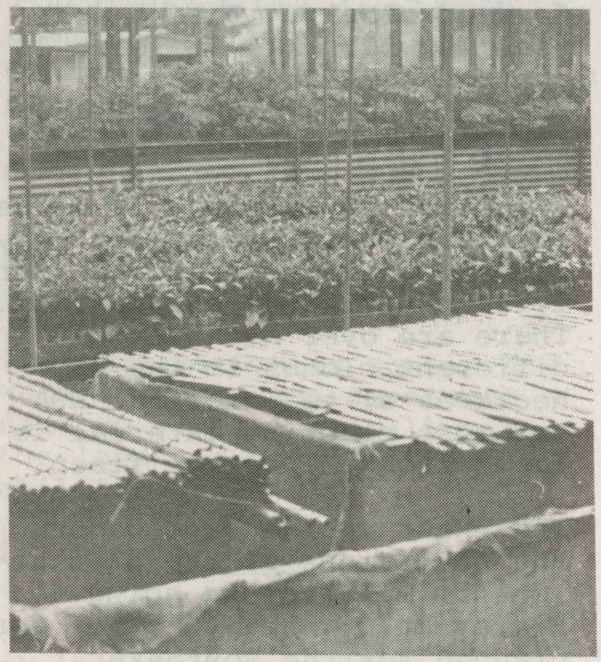
Selection of cuttings is rather less difficult. They are very easy to grow and there is plenty of material to choose from. There are over a thousand different clones in the 36 hectares of tea grown at Kuk but most planting material is taken from the best fifteen.

The exact choice depends on the conditions at the plantation the material is going to. For example, the 500 ha of tea planned for the Southern

Kuk Agricultural Research Station

Highlands will be planted with material from the four clones which were found to do best in trials carried out there. Other clones would probably be chosen for other areas.

Work is done at Kuk to find the best methods of growing the cuttings. This includes experiments on shading and on different methods of making the cuttings bush out to the ideal shape for maximum production and easy picking.



Shading trial on tea seedlings

Herbicide trials are also being carried out to find a suitable herbicide for use in the young tea. This is made difficult by the delicate nature of the tea plants which are easily killed by chemicals and by the tough nature of the weeds, which are not!

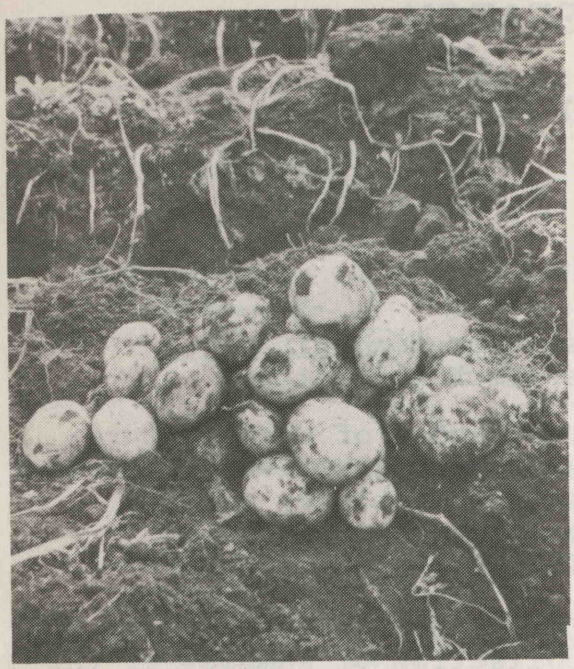
The other main crop at Kuk is white potatoes. These are now grown quite extensively in the Highlands Provinces, often intercropped with sweet potato but also on some commercial-scale projects

A field of potatoes

For the last five years, the development of this crop has been the responsibility of Ron Nitschke who is the Manager of the National Seed Potato Project which was set up at Kuk in 1974 to supply planting material and encourage people to grow white potatoes.

The variety which the Project has selected as best for the Highlands is called *Sequoia*. Each year, 12 t of certified planting material are imported from Australia to be multiplied at Kuk. The seed potatoes produced there are then sent out to secondary multiplication centres to produce a total of 1000 t of seed per year. This seed is then distributed to growers and eventually gives a crop of 2,500 t which is worth about ten million kina.

It is possible to get two crops a year in the Highlands because the white potatoes grow so quickly there, taking only 100 days from planting to maturity. One visiting Australian expert called the Whagi Valley the best potato country he had ever seen in his life and most of Papua New Guinea's potatoes are grown there and in the Enga.



Seed potatoes grown at Kuk

One advantage of the hardiness of white potatoes and the speed with which they grow in the Highlands is that they make a good famine relief crop on the rare occasions that frost kills the sweet potatoes. It was on one such occasion, in 1972, that Kuk obtained its potato planter.

This has recently been working, as a slightly modified version, on another crop, cassava. Kuk has become involved in the government scheme to produce alcohol for car fuel from cassava starch and has been busy multiplying up cassava to use for planting material on the scheme. (See article by Barry Holmes in this issue).

Brian Thistleton, Tuo Solulu and Kiagi Nema form the Entomology Section at Kuk and work on the pests of a number of important highland crops.

One of the most destructive of these pests is the diamond-backed cabbage moth *(Plutella xylostella)*. The entomologists have their own cabbage plots at the station so that they can observe the activity of the moth on cabbages of different ages. A number of parasites have been found attacking this moth and the possibility of introducing a virus disease to help to control it is being considered. This may be very important in view of the fact that the moth is beginning to develop resistance to some of the commonly used insecticides.

Because of the interest in tea and potatoes at Kuk, the pests of these crops are also under investigation. Advice on the control of potato pests is given to potential growers as part of the frequent potato field days held at the station. Work is also being carried out on pests of other vegetable crops and the entomologists often visit villages to identify pest problems in the gardens and to advise the gardeners. Specimens of insects found on the crops are brought back to Kuk and added to the collection of plant pests which is gradually being built up there.

Clearly, Kuk has changed a lot since it was set up, over 10 years ago to research into tea production. As the range of crops grown in the Highlands continues to increase, we can expect the station to grow with it and to continue to expand its contribution to the agricultural development of the area.