

REPORT ON THE AGRICULTURAL POSSIBILITIES of the YODDA VALLEY IN PAPUA.*

The floor of this valley is fairly level and is intersected by the Mambare or Yodda River and its many tributaries. Long low-lying foothills stretch out into the valley at intervals. These foothills are excellent for cultivation, but the steeper portions in the vicinity of the Main Range lose their fertility after the first cropping unless terraced.

The Chirima end of the valley is very rough but good crops are grown on the plateaus.

At Kokoda the valley runs south-east and is about 1,200 to 1,500 feet above sea-level. It is 3 to 6 miles wide and numerous creeks are to be found throughout.

The soil is of a reddish-brown colour with a similar but more impervious subsoil. Deep alluvial blacksoils occur between Yodda and Kokoda. The soil is a clay-loam and the colour is due to ferric oxide or the hydrate, which is an excellent advantage, as it helps to retain moisture without the physical disadvantages of clay. For the most part the soil is well drained and aerated. Although the soil is derived partly from hornblende there is a slight deficiency of lime owing to the high rainfall, but this is only noticeable for a short period after clearing till the soil is opened up. Humus is plentiful in the early stages.

The climate is fairly even, the temperature varying from 62° to 70° F., with little discrimination between summer and winter. Rainfall varies throughout the valley, but averages at Kokoda 130 inches per annum and at Yodda 180 to 200 inches per annum. The climate is very healthy.

There is vast opportunity for agricultural pursuits. At present, rubber (*Hevea brasiliensis*) is the only crop being planted and developed on any scale in the valley. The Government plantation at Kokoda, of approximately 120 acres of rubber about 20 and 25 years old, is yielding very well. There are four new areas of rubber already planted in the valley, namely, a small area of about 14 acres at Saga plantation (near Kokoda), 300 acres at Mamba rubber estate, about 250 acres at Komo plantation, and 47 acres at Yodda Goldfields Limited at Yodda. These areas are still very young, having been planted during the last three years, the most advanced block being the Mamba rubber estate halfway between Kokoda and Yodda. The areas of rubber are being steadily extended each year. The majority of seeds, obtained from the Kokoda plantation, have proved of excellent quality, but could be improved by selection.

Other crops suitable are coffee, cacao and kapok. A few trees of kapok at Yodda are bearing reasonably well after four years. Cacao should do well in the lower reaches of the valley as the soil and climate are excellently suited for its

* Report submitted by the Director of Agriculture, Papua.

growth. Tea is a doubtful crop, but could be grown in small patches where the soil is of a light loamy nature. Sugar-cane grows excellently, but unfortunately there is no market.

Sweet potatoes are the main native food and they can be produced all the year round. Two crops a year may be harvested interplanted with corn. Dalo or dasheen (taro) is also a staple food and takes five or six months to mature. It is planted in June or July. Yams and manioc are grown mainly in the Chirima and Biagi villages, but will also grow well in low-lying lands. Rice and sago are not grown to any extent, but there is an excellent future for rice on the level stretches.

Bananas and pawpaws grow in abundance and are very prolific. Coco-nuts can be grown—the smaller inland variety being the best suited. Citrus growing on a small scale is quite a success, but they are readily attacked by scale and dieback if neglected.

Vegetables such as beans, tomatoes, cabbages, lettuces, cucumbers, eschalots, turnips, radishes, chokos and pumpkins are very easily raised if protected, but will also do quite well in open beds.

Cattle and pigs should do well in the valley. Berkshires and Tamworths are the best for the climate and they both cross readily with the native pig. Shorthorn cattle are perhaps the best of breeds, but beef animals also do well.

The main grasses are summer and couch, but paspalum is doing well in patches. Blue grasses, rye and kikuyu do very well, but the country is not stocked to any extent and consequently they have not been encouraged.

Pines are found in the Biagi and Chirima Districts, while hardwoods, semi-hards and softwoods of excellent quality are found in large quantities in the valley.

The valley shows excellent promise for agriculture and as freighting becomes less difficult it will no doubt show its worth in this regard.

MARCOTTING.

Marcotting is adopted in the case of trees which are difficult to propagate by cuttings or to which other methods of propagation cannot easily be applied.

The method employed in the Botanic Gardens in Rabaul is as follows: a firm, healthy branch with well ripened wood is chosen and just below a node, 2 inches of bark, including the water-bark, is removed. After about 24 hours, when the wood is dry, it is plastered with wet adhesive soil ($\frac{1}{2}$ cow dung and $\frac{1}{2}$ loam) which is held securely in place with hessian tied with string.