Tea district establishment and yield trials in Queensland

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Following the successful completion of trials on mechanical harvesting of tea at South Johnstone Research Station in the 1950s, commercial production of tea became feasible.

District establishment and yield trials were planted in three separate areas: the wet area of the Atherton Tableland, rainfall >2000 mm yr ^{1}; Tully, rainfall >3300 mm yr ^{1}, and Ingham, rainfall >1500 mm yr 1.

Atherton Tableland

Pre-germinated seed was planted in April/June 1968 through polythene mulch into clean, well-prepared seedbeds.

Weeds were controlled with a combination of directed sprays of Gramoxone and hand weeding. The tea was pruned to 10-15 cm in 1970 and to 46 cm in 1972. Fertilizer applications were 100 kg N, 18 kg P and 50 kg K ha ^{1} in 1969-70, rising to 265 kg N, 19 kg P and 12 kg K ha $^{-l}$ in 1974. A P+K treatment and an unfertilized control were included.

At Millaa Millaa in the four years 72-73 to 75-76, the fertilized treatment gave manufactured tea yields of 1012, 2327, 2374 and 2459 kg ha ^{1} respectively, these being 72, 150, 186 and 62 per cent higher than the respective yields from the unfertilized treatment. The yield from the P+K treatment was similar to the unfertilized treatment. The yield increase, therefore, was due entirely to N.

The tea was mechanically plucked and samples of the manufactured tea were assessed by the tea trade for quality. The gross value, using the quality assessment at 1975 prices with a yield of 2400 kg ha ^{1}, was $3360 ha 1.

Yields at Topaz followed a similar pattern and the best exceeded 4400 kg ha 1.

Tea establishes easily in this area. Yields, well above world average, of good quality tea can be obtained. These results, together with successful mechanisation of tea growing, prove the worth of this area for commercial tea production.

Tully

Tea was planted on two soil types, a deep sand and a well-drained alluvial with good moisture-retaining properties. Three attempts to establish tea on the deep sand failed during the following dry spring but establishment was successful on the alluvial soil.

Ingham

Establishment of tea in this area is not easy. Two attempts using seed failed owing to hot dry springs. A third attempt was more successful, but greatest success was achieved by transplanting seedlings into well-drained loam. Once established, the tea grew well, except on heavy clay soil where all tea planted died within two years.

Difficulties during establishment in this area could be overcome by irrigation, which would be needed to obtain high yields.

These results emphasize the importance of selecting suitable soil. If this is done, yields well above world average can be obtained.