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ESTABLISHMENT OF TEA SEED GARDENS

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INTRODUCTION

The need for the establishment of Tea Seed Gardens (TSG) arises because the vast majority of our seedling tea is a mixed hybrid population with low yield potential. No longer is the planting of fields with seedling tea undertaken. It may, however, be useful to plant limited areas with clonal seed which, although not true to type, would be far less heterogenous than mixed seed tea of unknown parentage. Such selected biclonal seed tea plantings would help to build up a superior genetic stock from amongst which, further selections could be attempted for development of specific clonal lines as well as to use in future breeding programmes for further genetic improvement.

Specific selections from such biclonal progeny can be made with the assistance of the TRI staff and further propagated as new clonal lines that can be planted on a large scale as clonal fields.

METHOD OF ESTABLISHMENT OF SEED GARDENS

Seed gardens could be biclonal where only two different clones are used as parents or polyclonal where many different clones may be planted in an area and any pair among these could be the parents of each resulting seed.

It is preferable to have these seed bearer areas isolated from tea fields by at least 0.4 km so that contamination by pollen from other undesirable tea bushes in the field is not possible. For field planting one-year-old clonal plants from the nursery could be used.

The ground should be gently sloping to facilitate collection of seeds and well drained with plenty of light and air circulation with sufficient numbers of pollinating insects (flies and bees). Land preparation involves deep forking with the removal of all roots above pencil thickness and the incorporation of sufficient organic matter before planting.

Alternate planting for biclonal gardens and planned mixed planting for polyclonal gardens are recommended (see Fig. 1). It is important that seed bearers are widely spaced, the spacing being 5 m between trees. The young clonal bearers should be interplanted with medium shade trees like dadaps or Gliricidias which should be removed as the seed bearers grow out. Wind belts should be erected to protect against strong winds.

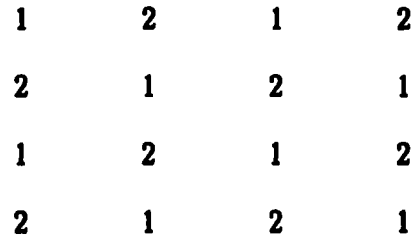
CLONAL COMBINATIONS FOR THE TEA SEED BEARERS

The following combinations may be tried out for raising biclonal tea seed gardens:

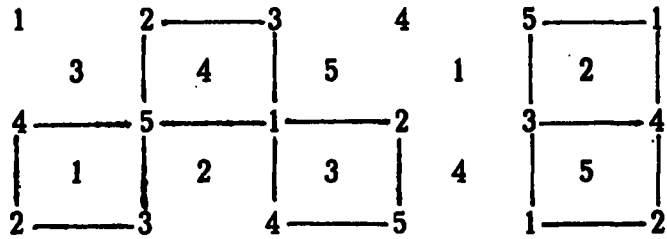
Up Country	Mid Country	Low Country
2025 x DN	2025 x DN	2023 x 2025
2025 x 777	2023 x DN	2023 x S 106
2025 x DT1	2023 x DG7	2023 x 2016
2024 x N2	2027 x 777	2027 x S 106
2043 x DT1	2026 x DN	
2043 x 2025	2023 x KEN 16/3	
DT 95 x ASM 4/10	2024 x DG 39	
777 x DN	62/9 x 777	
2025 x NAY 3	2023 x DT1	
62/9 x 777	62/9 x DT1	

FERTILIZER APPLICATION

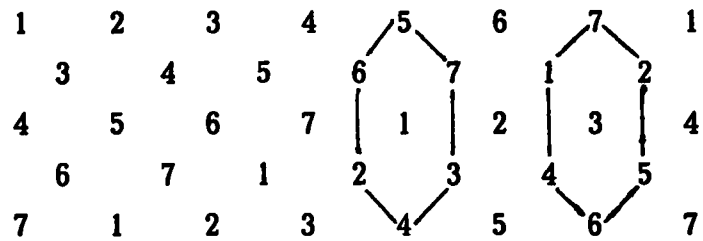
The young tea should be regularly manured first with T 200 (for 1st and 2nd year) and then with T 750 (for 3rd and 4th year) fertilizer mixtures. The fertilizer should be applied in a circle 7.5 to 10 cm (3-4 inches) from the base of the stem and lightly dibbled in. The rates of application are as follows:



(a) Alternate planting



(b) Square planting



(c) Double triangle planting

Fig. 1 - Planting arrangements for clones in clonal seed gardens. (a) Alternate planting for two different clones, 1 and 2. (b) Square planting using five different clones, 1 to 5. (c) Double triangle planting using seven different clones, 1 to 7. The numbers represent different clones and indicate the position of each clone.

1st year, 6 applications each of 15 g per plant of T 200
2nd year, 6 applications each of 20 g per plant of T 200
3rd year, 4 applications each of 60 g per plant of T 750
4th year, 4 applications each of 100 g per plant of T 750

Subsequently the mature tea seed bearer mixture U 330 should be applied at 440 g per plant per application with 3 applications per annum.

PRUNING OF SEED BEARERS

Young seed bearers which are 3 to 3.6 m high (10 to 12 ft) need shaping into a shrub like habit with 4 to 5 main stems. Side shoot formation should be encouraged at an early stage by thumnailing the plants in the nursery. Lower trailing branches of the seed bearers should be trimmed and if the upper branches are crowded they should be thinned and the tree should not be allowed to grow so tall as to be out of reach. Clean cuts should be given when branches are trimmed and the cuts treated with bituminastic and anti-fungal paints taking care to ensure that the cuts are kept to a minimum.

CULTURAL PRACTICES

Care must be taken to prevent fungal attack during wet weather by regular spraying with copper-based fungicides. In the mid and lower elevations young tea seed bearers should be protected against shot-hole borer infestations as the presence of borer galleries on the branches could cause them to snap resulting in loss of premature fruit. In a newly planted TSG shot-hole borer may be controlled by spraying with Fenthion 50 % EC annually for the first 4 to 5 years or so (TRI Advisory Circular No. I 4 of May 1985).

It is desirable that the area is kept weed free which would also facilitate easy collection of seeds. Forking and the incorporation of green manure is recommended about once in five years. It would be a good practice to mulch the area between tea seed bearers during periods of drought, at least in the early stage.

SEED YIELDS

The first crop of seed may be expected in about 7 years from planting. It is best to collect the seed directly off the tree just as the capsules are dehiscing. Seeds may also be collected off the ground but it is preferable not to allow them to remain on the ground for too long especially during wet weather. Yields may be in the region of 4-8 maunds per acre (1 maund = 40 kg).

BIBLIOGRAPHY

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