

**Issued in: September 2003****Serial No. 19/03****INFILLING VACANCIES IN TEA FIELDS***(This Advisory Circular replaces Circular No. E2, Serial No. 2/92)***1. Introduction**

'Infilling' is a cultural operation undertaken in tea lands to replace those bushes that die due to various causes, with new healthy and robust plants so as to give a uniform cover and thereby, maximise productivity. Death of plants occur periodically in tea fields due to unfavorable climatic conditions, lightening, soil variability, pest and disease attack, drastic cultural operations such as hard pruning and competition from neighbouring plants. If the dead or weak plants are not replaced on time, productivity of the field will decline and ultimately become uneconomic. The presence of vacant patches in tea fields may also lead to the deterioration of the soil due to erosion and collapse of soil structure. Infilling should be carried out continuously (at every prune) in order to maintain productivity at the highest possible level. Provision should be made each year for the envisaged infilling program which would be based on the area to be pruned and the percent vacancies. The cost of infilling could be recovered in the first cycle of the infills depending on the price of made tea.

2. Selection of areas for Infilling

For purposes of infilling, fields could be classified into three groups based on their performance.

Group 1: Fields to be replanted in the near future (within next 2-3 cycles)

Group 2: Fields not earmarked for replanting in the near future (longer than 2-3 cycles)

Group 3: Fields with poor, steep and rocky areas earmarked for diversification away from tea.

It will be clear that no useful purpose will be served by infilling vacancies in Groups 1 and 3. Attention should therefore be focussed on Group 2.

Fields to be infilled should be selected two years prior to pruning and the weak (passengers) bushes in the periphery of the vacant patches must be uprooted. The causes for the weakness of such plants must be identified and appropriate remedial measures adopted to correct them. Thereafter, the patch should be planted with Mana/Guatemala/Vetiver grass till the field is ready for pruning. Infilling with new plants of high yielding or compatible cultivars can be undertaken after prune. Soil amelioration/reconditioning under grass would improve the soil and also prevent weed growth. The grass should be lopped periodically and the loppings used as thatch *insitu*.

Infilling could be carried out in small patches or large blocks. The smaller patches may contain single or multiple infills.

3. Time of Infilling

Infilling vacancies could be easily carried out in pruned fields. Pruning in fields due for large scale infilling should be advanced to early part of the season so that by the time the vacancies are being supplied, the prunings left in the field will not be a hindrance. It is not advisable to delay the operation of infilling until after all the new clearing work is completed. Supplies must be put out as early as possible. In the Western sector it should be with the onset of the South-West Monsoon and in the Eastern sector with the onset of the North-East Monsoon.

It is emphasised that young supplies have to compete for water and nutrients with surrounding mature bushes, unlike in clearings where competition is with plants of comparable age and size. It is essential therefore, that every possible assistance be given to enhance the establishment and growth of the supplies especially in the case of single or multiple infills in small patches.

4. Where Not to Infill

- Areas with underlying slab rock/hard pan.
- Ravines.
- Water logged areas.

Note: Infilling could be carried out in China jat fields with compatible cultivars.

5. Infilling of Pest and Disease affected areas

5.1. Eradication of Pest and Disease affected areas: The cause of vacancies should be identified before embarking on an infilling program. The vacancies caused by nematode infestation, root diseases and up-country live wood termite are problems connected with soil. These problems are confined to well defined patches and should therefore be identified in time and isolated as blocks by demarcation.

5.2 Such blocks should be rehabilitated with grass after thorough up-rooting. If these infested patches are to be identified after up-rooting, it may at times be difficult to do so.

6. Plants used for Infilling

6.1. Selection of Cultivars for Infilling

Up-country: TRI 2025, N2, DT1, K145, TRI 3072, TRI 3073,
PK 2 (for Nuwara Eliya), DT 95, CY9, DN

Mid-country: TRI 2025, DG 7, DG 39, N 2, TRI 4042, TRI 4046.

Low-country: S 106, DG 7, DG 39, TRI 2025, TRI 2026, TRI 2027, TRI 4042
TRI 4049, TRI 4052, TRI 4059, KP 204

6.2 Size of Plants for Infilling

- Raise plants in large polythene bags 15 cm (lay flat) x 30 cm
- Use well grown healthy plants and not what is left over in the nursery after planting the clearings.
- The planting of cuttings should be advanced to have plants ready in the planting season. Use around 15 month-old plants in the Up-country, 12-month old plants in the Mid-country and 9-month old plants at low-elevations. The planting of the cuttings should be accordingly advanced to have the plants ready in the planting season

7. Preparation of the Field for Infilling

- Fork up all areas to be infilled, with particular emphasis on patches left vacant for sometime, to enhance root growth of young plants as well as to remove any pieces of old tea roots.
- Vacant areas should be planted with grasses until the field is pruned and infilling commences.
- Dig large holes, 30cm in diameter and 60cm in depth.
- Adopt appropriate prophylactic measures in eelworm affected areas.
- In order to avoid cultural and management problems, it is suggested that infills in large blocks in old seedling tea fields be planted along the existing rows except when replanting is envisaged in the near future.
- It may be advisable to prune the adjoining bushes slightly lower (18"), to ensure early establishment of infills.

8. Aftercare

- The infills should be protected by pegging, or with a small basket so that workers do not trample the plants while doing other cultural operations.
- Bringing into bearing should be practiced at the correct time.
- The side branches of adjacent bushes should be cut in order to permit sufficient light to reach the young supplies.
- Fertilizer should be applied as for young VP tea plants.
- The area should be kept weed free and thatched with an organic mulch. Avoid use of herbicides infilled patches up to the first prune.

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