T.R.I. ADVISORY CIRCULAR No.LU 2

Issued in: September 2003 Serial No: 16/03

FIELD CATEGORIZATION IN TEA LANDS

(This Advisory Circular replaces Circular No. E 1, Serial No. 12/94)

1. Introduction

An estate comprises of numerous fields, often separated from each other by natural boundaries such as ravines and footpaths or man-made boundaries such as wind belts and fences. A given field is generally planted in one year and in an extent that can be handled by one gang of pluckers. Some fields would be high yielding while others may not be so, and hence the contribution of each field to total estate crop will vary. Records of crop harvested, workers utilized, fertilizer applied, cultural operations etc., are maintained individually for each field. This information could be advantageously exploited for planning a development program, for the estate as a whole by relating inputs to field productivity.

2. Basis of Categorization

Categorization is based on the performance of each field, which would generally be dependent on topography, microclimate, soil fertility, any pest and disease incidence, and any other constraints that may prevail. As crop harvested is the most reliable indicator of all such factors, the productivity (yield per unit area) potential of each field can be utilized to categorize them.

In order to even out variations that may exist (weather, inputs, worker efficiency etc) over successive years, field categorization should be based on the average yield achieved over the past 2 - 3 pruning cycles. The cycle lengths in all fields on an estate/division should, as far as possible, be constant.

Generally tea fields on each plantation can be categorized into three equal categories of "A", "B" and "C", based on their average annual yields over the past 2-3 pruning cycles.

3. Computation of Yield

In order to arrive at a system of categorization the following steps are necessary:

3.1. Obtain yield records for the last 2 or 3 completed pruning cycles from the yield book. The first year of the cycle refers to the first 12 months since pruning, the second year from the 13^{th} to the 24^{th} month and so on.

3.2. Calculate the mean yield per unit area per year (YPH) of each pruning cycle as follows:

$$\text{Mean cycle yield (kg /ha/year)} = \frac{\text{Total production over the full cycle}}{\text{Total Numbr of Months in the cycle}} \times 12$$

3.3. Construct a table with 5 columns as follows:

Name of Estate.....
Date.....

CATEGORIZATION OF FIELDS

(1) YPH of field (decreasing order)	(2) Field No.	(3) Extent (ha)	(4) Cumulative Extent (ha)	(5) Remarks (Age of field etc)

3.4. To divide the estate into three categories, see which entry in column 4 comes closest to 1/3rd the estate extent and draw a horizontal line entry across the table. All fields above this line will fall into "A" Category. Similarly, separate out "B" and "C" categories by drawing a horizontal line across the table below the entry where the entry in column 4 is closest to 2/3rd of the total extent.

3.5 After categorizing the fields as above, it is necessary to undertake a thorough study of each field and shift any field, either up or down, based on whether they have undergone any significant changes which merit such a shift (including extreme weather periods, amalgamation of fields, crop etc).

3.6 Field categorization may also be undertaken for each division of the estate separately if there are distinct differences in cycle lengths due to differences in elevation.

3.7 Where there is a significant proportion of VP tea, then VP tea and old seedling tea could be advantageously categorized separately, as their cycle lengths would be invariably different from each other.

4. Features of the different categories

4.1 "A" Category Fields: These would be the best one-third of the fields on the given plantation, and would have best stand of tea. Most of the VP tea will be included in this category based on the assumption that their potential yield is high. For some years to come, the plantation has to depend on this category of tea as the bulk of the crop is obtained from these fields. All the inputs should be given without restrictions. The vacancies must be infilled after each prune, to maintain such tea in good condition. Such lands will not be replanted for a long time to come.

4.2. "B" Category Fields: The yield would be relatively poorer than "A" category. Replanting/infilling could commence in the lowest yielding fields in this category, provided there are no soil limitations.

4.3 "C" Category Fields: These fields would consist of the poorest one-third of the tea on the plantation. These fields could be earmarked for diversification if they are poor. Where there are no major limitations, this category could be replanted/infilled. Other fields where lands are steep and soils are eroded, can be diversified away from tea.

5. Advantages of Categorization

The main benefit is the prioritization of funds into productive fields, particularly when funds are limited, to obtain maximum returns from limited resources. When fertilizer is in short supply, or curtailment of expenditure is necessitated due to budgetary constraints, we could optimize inputs in better fields to attain maximum benefits, and restrict them to relatively poor fields rather than impose a standard cut all round. In a manner similar to the restriction of inputs, priorities could also be more clearly laid down for efficient and cost-effective worker utilization for various cultural operations.

Categorization is most useful in maintaining the estate production uniformly from one year to other. In order to achieve this objective, it is essential to prune equal extents in each of the categories, say, on a 4 year cycle, one would prune a fourth of each category.

For replanting, a long term program could be prepared to replace the tea in fields at the bottom of "B" category as well as those at the top of "C" category, where there are no major limitations. A critical examination must be undertaken on each selected field to determine the cause for low yields. Replanting should be considered only if soil conditions are suitable, without much erosion.

It is only natural that there are deaths in tea fields from time to time and if not replaced according to a regular program of infilling, then productivity of such fields will decline steadily. Infilling should commence with the "A" category fields, consisting of all VP tea and the best seedling tea, and thereafter the better "B" category fields. The poorer "B" category fields, if they are to be retained for some years to come, may be infilled if funds and material availability permit. Infilling generally would not be desirable in lower "C" category fields as soil conditions may be too poor for good growth of infills.

6. Conclusion

Categorization is a dynamic system as it depends on the development of fields relative to one another in a given estate. When a replanted field comes into bearing, it gets into the "A" category, thereby pushing the lowest "A" category field into "B" category and the lowest "B" category field into "C" category. So, some of the marginal tea lands low down in the "C" category could be considered for diversification away from tea. These two instances would alter the category of some fields, indicating that categorization is not a once-and for-all exercise and has to be reviewed/revised periodically.

The Tea Research Institute of Sri Lanka
Talawakelle

Copyright – The Tea Research Institute of Sri Lanka © 2003

COPY RIGHT

All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording or information storage and retrieval, without permission in writing from the Director, The Tea Research Institute of Sri Lanka.