SHAPING THE FUTURE BUSH

A note on the preliminary treatment of young Clonal Plants,

BY F. H. KEHL.

A free low branching habit that forms a well shaped frame, with a large plucking table, is one of the characteristics looked for in the selection of a mother bush. Assuming that this character of the mother bush is an inherent one. it must not be expected that the progeny grown by cuttings off a good spreader, without proper treatment, will grow into a similar spreading bush. A good spread seen on a mother bush is to a great extent the result of correct centering followed by systematic pruning.

If a cutting is allowed to grow untouched for several years. it will grow to a height of 15-25 ft. Such a tree is grown exclusively as a seed-bearer. When leaf and not seed is required, the plant must have the necessary initial treatment to ensure the formation of a low bush that can be easily harvested.

Centering.—The first prune or centering is carried out in order to change the shape of the plant This cut which is made a few inches from ground level. forces the plant to throw out lateral branches below the point of the cut thus forming the future frame of the bush

The usual practice on most estates is to allow a seedling to grow for 2 to 3 years before it is centered. At this age the seedling will have developed a stem of pencil thickness at the base. This method of centering was adopted in the early planting of clones on St. Coombs. Rooted plants were put out in the field when about 12 months old and left to grow un-checked for a further period of 18-24 months. They were then cut back to about 4 inches from ground level. This resulted in a considerable number of deaths; as many as 27 per cent being

recorded in one case (See Annual Report 1942 p 44) Most of these deaths could be attributed to the complete removal of leaves at centering, since there is almost no starch in the roots of young plants grown from cuttings.

As a result of the heavy losses due to the normal method of centering, it was decided to try a less drastic method of cutting back a clone, by leaving a sufficient number of leaves below the point of the cut.

In 1942, the effects of normal and early centering on 8 duplicate rows of clones were tested. One set was centered when 10 months old at 5 to 8 inches from ground level; while the other was centered when about 2 years old at 2 inches from ground level. The losses in the former amounted to 3½ per cent whereas the losses in the latter were 12.9 per cent.

To decide whether a plant is ready for cutting back or not, the growth rather than the age should be the guide. Different clones grow at different rates, some being vigorous growers while some are slow. The former obviously require cutting back earlier than the latter. Once a plant has attained a height of about 10 inches and carries about 8-10 leaves it can be considered ready for the centering operation which is best done in the nursery.

The first cut is made as low as feasible so as to leave 3 or 4 leaves below the cut (See Figs. 1 and 2). In Fig. 1 the height at the point of the cut is 2½ inches from ground level while that in Fig. 2 is 5 ins.

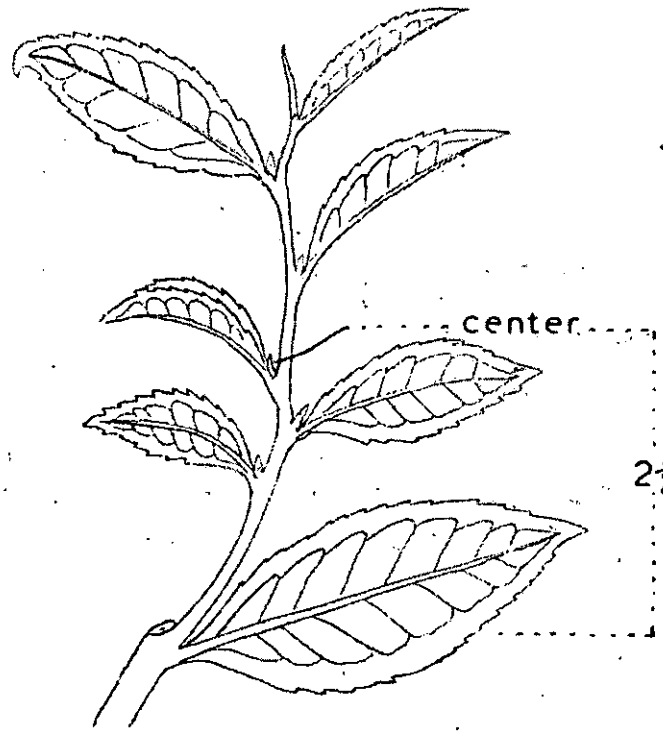

FIGURE 1

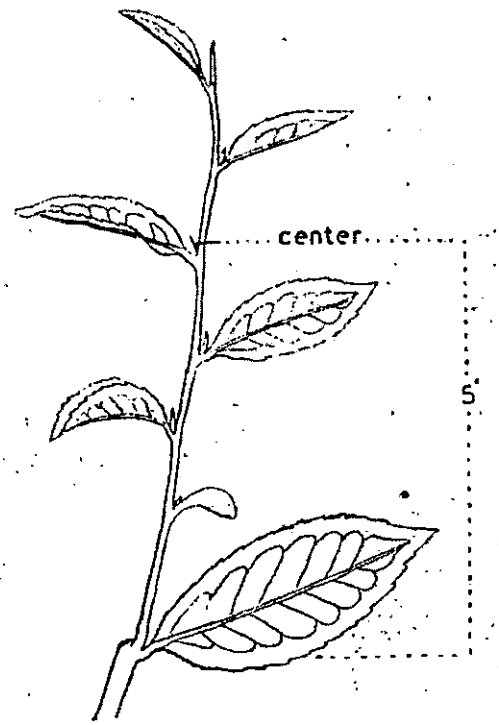

FIGURE 2

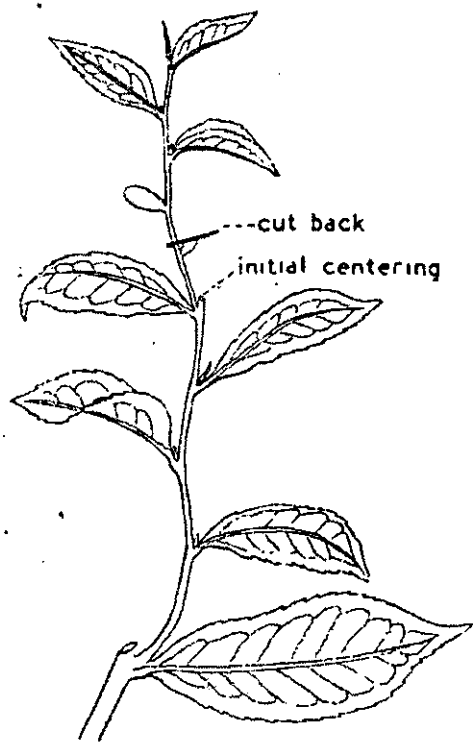

FIGURE 3

The best tool for centering is a pair of secateurs. A sharp knife may be used but the risk of disturbing the roots is considerable.

The idea behind leaving leaves below the cut is to ensure the continued manufacture of food for the plant. Unlike a seedling, a plant propagated as a cutting has hardly any food reserves till about 18 months old and hence complete removal of all foliage will probably prove fatal.

Delay in the initial centering results in the mature basal leaves falling off, thereby causing the cut to be made higher and thus defeating the aim of centering Furthermore, by centering early the risk of wood rotting organisms entering through the cut is almost entirely eliminated since only a small cut is made.

Most clones will throw out laterals after the first cut (all buds breaking) though a few will continue to grow up into a single stem (See Fig. 3). In the case of the latter the new growth should be nipped an inch or two above the previous cut. If however this second cut does not force out laterals the clone is best discarded as the resulting plant will turn out to be a poor brancher with little spread.

Of the 8 duplicate rows that received normal and early centering, four of the early centered rows came into plucking 2 years from centering, and gave a calculated yield of 390 lbs. per acre. The remaining 4 rows came into plucking a year later, along with the 8 rows that were normally centered at 2 inches.

It is often suggested that early centering reduces the yield capacity of the bush, but our results for the 1st cycle show that the mean total yield of the plants centered early was 1,530 lbs., whereas that of the normal was only 1,130 lbs. In the second cycle the "early" centered yielded 750 lbs. per acre per year while the "normal" gave 700 lbs

Apart from increase in yield there are other less obvious advantages resulting from bringing young plants into early bearing. Thus the production of a complete cover of tea a year or more earlier than usual will also reduce soil erosion and weed incidence. Early bearing is also of considerable importance in clonal-selection work since tests for yield, quality and disease resistance can be carried out without undue delay

Pruning.—With most clones it has been found that the 1st pruning can be carried out about a year after centering. In some clones most of the shoots forced by centering will grow uniformly and in others one or two shoots will grow more vigorously than

the rest. In the case of the former it is best to cut-across at about 12 inches from ground level while in the latter the leaders are cut back to about 4 inches above the centering cut. Whatever method is adopted it is advisable to leave all side branches below the pruning level.

Tipping is done to about 18 inches from ground level. This will leave a considerable amount of leaf on the bush to enable it to maintain its vigour.

Plucking.—All growth above the tipping level is plucked to the recognised standard. Provided this is adhered to the bush will continue to grow vigorously. If however stripping is resorted to in young plants it will result in poor wood formation and low yield.

NOTICES.

The Institute's Laboratories and Offices are situated at St. Coombs, Talawakelle, and all applications and enquiries should be addressed to the Director, Tea Research Institute, St. Coombs, Talawakelle.

Specimens and other consignments sent by rail should be forwarded to Talawakelle Station c/o Messrs. M. Y. Hemachandra & Co., Forwarding Agents. *Carriage should be pre-paid.*

Visitors' Days.—The *second* and *last* Wednesdays in each month have been set aside as Visitors' Days at St. Coombs Estate. and also at the T. R. I. Sub-Station, Gonakelle Estate, Passara, when it is hoped anyone interested will visit the Stations.

Visitors at other times are welcomed, but it is requested that an appointment be made if possible.

GUEST HOUSE.

The Tea Research Institute Guest House is again available for visitors to the Institute. Applications for accommodation should be sent to the Director, T.R.I., St. Coombs, Talawakelle. Meals cannot be provided unless at least twenty-four hours notice is given.