PRESERVATION OF QUALITY

E. L. Keegel

Quality, as the term is generally understood, is used to describe the characteristics that go to make up a tea, inclusive of its appearance. It is also used to denote the presence of one special characteristic, such as the quality of a high-grown tea. When used in this sense it serves to show the fundamental difference between teas produced at high elevations and those from the low-country. The so-called up-country quality cannot be reproduced at low elevations, and is an attribute that is difficult to describe, yet easily detected by a well trained palate. Since the word 'quality' may have either of these two meanings, there is bound to be some confusion as to which is really implied. The theme of my paper is preservation of quality in its general sense, but I shall also be referring to the special quality of high-grown teas, and when doing so, shall draw your attention to it.

Tea varies widely in quality, so much so that even districts and sub-districts of the tea growing areas in Ceylon produce different types. I might add that even neighbouring estates, following an indentical procedure in manufacture, are known to have turned out dissimilar teas. For a long time it was believed that the wide range in quality noted was primarily the influence of climate and soil. We now know that the over-riding factor is the bush itself. Even apparently similar bushes may produce vastly different teas. It cannot be denied that the characteristics of a tea are to some extent affected by the way in which it is made. But the point to remember is that no system of manufacture can produce any characteristic that is not already in the leaf. It is for this reason that some estates have not been successful in making a significant change in the character of their teas by modifications in manufacture.

That certain tea characteristics result from the inherent properties of the leaf is best illustrated by the following example. From an area of a particular field on St. Coombs Estate it was possible to produce a tea with practically all the features associated with a low-country tea. It had a well twisted black appearance, was coloury and strong and even had a dullish infusion. It was not any special method of manufacture that brought about these results, but the natural contribution from high jat leaf with its juicy sap. Countless examples from results of the manufacture of different bushes can be given to show the overwhelming effect of local variations of leaf on the finished product.

Quality has been synonymous with Ceylon tea. Climatic conditions and a special technique of manufacture have doubtless contributed in no small measure to the characteristic properties of Ceylon tea. However, it is quite evident that were it not also for the characteristic quality of the leaf in general, Ceylon tea would not have commanded the enviable position that it holds in the world markets today. The industry can, indeed, count itself fortunate that, largely due to a chance combination of jat and elevation, it can turn out teas of a very high potential market value.

The market value of a tea is mainly influenced by some distinctive and desirable characteristic. The black appearance of a low-country tea is a typical case and, really and truly, it is a good thing that most of the high jat tea is at the lower elevations, and China and hybrid jats up-country. Consider for a moment what the

position would be had it been the other way round. Our teas would have been entirely different and probably mediocre. We would have been turning out from the low-country, brownish leaf types with little colour. The high jat at the higher elevations would have produced less of the so-called high grown quality that we are familiar with, the essential feature of our up-country teas.

Over the last few years a marked improvement in the general standard of manufacture, assisted by improved standards of plucking, has enhanced the reputation of Ceylon tea. The general standard of teas has risen considerably and Ceylon has regained what was lost in the war years. It is now essential not only to continue maintaining this position but to build up a higher prestige for Ceylon tea. In recent years the acreage under tea in other countries has increased appreciably and it is not unlikely that in the near future new tea areas will be opened out in countries where one would least expect tea to be grown. The need for a higher standard of tea appears, therefore, to be all the greater as competition becomes stiffer in world markets. It is not too early to consider what steps should be taken to produce a better product.

The biggest stumbling block encountered in manufacture is the wide variation of the leaf on most estates. However uniform the jat on an estate may appear to be, the properties of the thousands of bushes that comprise it are unknown to the man who converts this raw material into tea. Is it any wonder then why it is so difficult to get the best out of one's leaf? The maximum development of inherent properties is only possible if these are known beforehand.

The logical thing to do in tea manufacture, therefore, is to take all possible precautions not to lose whatever desirable characteristics the tea as a whole possesses before it is plucked from the bush, and to try to develop those characteristics which teas from that particular area are noted for. It is pointless, for instance, rolling for 'tip' in an up-country factory or rolling for 'flavour' down in the low-country. The fundamental thing to observe is the preservation and development of those characteristics which will make a tea more valuable.

With specific reference to high grown teas, the problem is how not to ruin the distinctive and subtle quality they possess. It is quite impossible in the time at my disposal to deal with all the possible causes of loss of quality in the course of manufacture. I shall, however, refer to the more significant ones and these are withering at high temperatures, long withers, long periods of fermentation and long charging intervals. It will be noted that the four factors that I have mentioned are each conducive to the production of colour in a liquor. I have little doubt from my own observations, and results of experimental work, that colour is the very opposite of quality in a high grown tea. It is one thing to produce colour and quite another to produce colour and quality together. Colour in a liquor is always developed at the expense of quality. These two characteristics are so inter-related that a balance can be struck between them merely by an adjustment in the period of fermentation. In this way, it will be possible to alter the general characteristics of a tea to suit seasonal or market requirements. Much will depend on the fermenting properties of the leaf, but the shortest possible fermentation is recommended when quality is at a premium.

As fermentation is linked with rolling, I am obliged to make a reference to the latter. If quality is at a high level the standard of leaf appearance does not count for much. In fact, some of the best high grown quality teas would by normal standards be considered somewhat poor in appearance. Manufacture was not to blame; the leaf was responsible. Had this leaf been rolled for appearance quality would have been sacrificed. It does not follow, however, that good high grown quality leaf could be broken up in the rollers. The point I wish to make is that it is an utter waste of time in an up-country factory to try to get the black well twisted type of tea or to chase after an elusive tip. It is only worth doing if the nature of

the leaf is such that a good standard of appearance would compensate for poor quality. Whatever the circumstances, it is advisable to roll hard from the very first roll because, in the case of a high grown tea, what matters most is the preservation of its characteristic quality. Long rolling periods may prove detrimental to quality.

As a low-country tea sells primarily for its appearance, this quality should be developed to its maximum possible extent. Tip is also a valuable asset in a low-country tea and should, therefore, be removed in the early rolls. Lighter rolling and the use of large roll-breaker mesh are the obvious means of doing so. After the maximum amount of tip has been recovered rolling should proceed on lines directed to the development of colour, a characteristic which also governs the market value of a low-country tea. Long withers and long charging intervals would also help.

These are the broad principles. Minor changes to suit individual estates will be found necessary, but whatever is done the underlying idea should be to preserve the qualities the leaf possesses and develop them in an intelligent manner. In short, what is required in tea manufacture is a sense of proportion, with the full realisation all the time that 'tea is made in the field'.

In general, at whatever elevation tea is produced, it need hardly be stressed that the other fundamental requirements are:—

1. Undamaged leaf.
2. A good standard of plucking.
3. Adequate withering space.
4. Adequate equipment.
5. Proper organisation.

and 6. A clean factory.

Half the battle is won if closer attention is paid to these points.

In minimising the loss of inherent properties of the leaf in the factory by careful manufacture, a question that has to be considered by each and every individual estate is the rising cost of production. For little might be gained in producing a tea commanding a higher price if it is going to cost more to make it. Existing manufacturing conditions do not offer much scope for a reduction in costs, but by increasing yield the way is open to bigger profits. The potential yield of our tea fields at present is, however, limited, and there is a real danger that coarser plucking might be resorted to, influenced by misguided notions of economy. Coarser plucking is a retrograde step that must be avoided at all costs because it would only result in a poorer standard of tea. It would appear, therefore, that the only sensible approach to this problem is to have better planting material of much higher yielding capacity and of much better manufacturing properties. If this can be achieved, and there is no reason why it cannot be, not only will quality and yield be raised simultaneously, but the margin of profit increased as well.

Apart from the fact that selection of the right material would result in substantial improvement, there is another aspect worth considering. As distinct from an uniform standard of plucking from leaf of different characteristics, selection will provide uniform material, thus making the operations of withering and rolling for instance, far easier to control. Haphazard methods will give place to rational methods because the properties of the leaf handled are known, and in consequence a fuller control over manufacture can be achieved.

Our methods of manufacture still follow the patterns set up in the early days and, if we are to make the most of them, it is evident that we must have material of some degree of uniformity. Such material will not only help us to develop methods with greater accuracy, but also help us to get a better understanding of the changes and effects that take place in the course of manufacture.

One valid objection against uniformity of material is that a single clone may not have all the desirable characteristics. This may be true and it may be a painstaking job to discover one. But even so, one good clone with a high level of quality of a predetermined type would surely be worth more to an estate than the different and unknown kinds of bushes it is planted with.

From a blending view point a mixture of clones is a very good idea but it is not going to help us out of our real difficulty of bringing manufacture under better control. I wish I had the time to develop this point but it does not require much imagination on your part to realize the complications that different clones would introduce in manufacture. If blending is found to be necessary, the question, to which a ready answer cannot be given just now, is whether to blend before manufacture or to blend after manufacture.

The selection of clonal material for manufacture is a task that cannot be carried out in a shoddy and unbusinesslike manner. I have personal knowledge of some estates undertaking this work but not bringing it to a logical conclusion. I must add, however, in fairness to those concerned, that it was not due entirely to lack of interest but inability to carry out proper manufacturing tests. Some progress has certainly been made on a handful of estates but the fact of the matter is that vegetative propagation involves a very long time in rejecting and selecting. After propagation a further long period ensues before the clone has been proved beyond all doubt to be suitable. If profitable results are to be secured it would appear that there must be one single authority responsible for this type of work.

Should it prove feasible to replant with clonal material, areas that had been a liability in the past would become a valuable asset to the country. That is not all. The connection between quality and manufacture would be so clearly understood that teas could be improved to an extent unattainable at present. In the matter of quality and quantity there seems to be no limit.

The concept of the availability of improved raw material does not mean, however, that we must take quality for granted. However good it may be, one basic requirement is the efficient and intelligent use of machinery. For too long, the methods employed in tea manufacture have undergone but little change, and are so tied by custom that some of the ideas handed down from the past have now come to be regarded as standards. Blind acceptance of these methods narrows the outlook and would be detrimental to whatever material progress we may hope to achieve in the maintenance of quality.

Broadly speaking, as far as Ceylon tea is concerned, there should exist two main types of manufacture for the preservation of quality. One in which the liquor is the primary consideration, and the other where the appearance of the made tea is the more important feature; the development of either characteristic depending mainly on which is considered to be more valuable in governing the market value of a tea. It should be remembered of course that, in the quest for quality in liquor, appearance of the finished product must not be lost sight of. More often than not appearance of the made tea, by which I do not mean a black, well twisted tea, is a fair indication of its liquoring properties.

Finally, it is necessary for me to mention that, apart from the prospects of success by replanting, constant vigilance is required in maintaining a high standard of plucking. It would be detrimental to the industry's interests should this fall. Even handicapped by an ill-equipped factory, an estate harvesting good leaf need have no misgivings about the quality of its product. In fact, a good standard of leaf is the shortest route to the preservation of quality.