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ORIGIN OF DT 1 REMINISCENCES OF A PLANTER

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Some time during 1935 or even earlier, several tea estates in the up-country areas like Hatton, Dickoya, Talawakelle were affected by an eelworm disease. When a tea bush is attacked by this eelworm the leaves turn yellow and it does not form new plucking points and it gradually withers and die. As this was not a common disease of tea, initially it was difficult to diagnose this disease. Several estates did apply generous quantities of Lime, Dolomite, and even Sulphur, in order to control but for no avail. Also tea planters realised that it was not financially possible nor advisable to apply large quantities of these chemicals as it might upset the pH value of the soil and also destroy the beneficial bacteria in the soil. Fortunately the TRI diagnosed this disease without delay and pronounced that the disease was caused by an eel-worm known as *Angulina pretensis*. This eelworm attacks the tiny white feeder roots of the tea bush consequently destroying all the feeder roots. When the feeder roots disappear the tea bush is unable to absorb any soil moisture and hence it dies.

Considering all these factors, the TRI recommended that the best method of tackling this situation is to discover a tea bush that is resistant to this eelworm attack and propagate it vegetatively, so that all the new vegetatively propagated plants obtained from the mother bush would be equally resistant to eelworm infection. In other words they recommended discovering a resistant CLONE. This was not easy to put into effect, as apart from discovering such a tea bush, it had to be high yielding and also produce tea of good

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quality. This appeared to be a long term policy but there was no alternative if the tea industry in Ceylon was to continue. Apart from this CLONAL SELECTION and VEGETATIVE PROPAGATION were not common at that time.

As recommended by the TRI, several estates as well as the TRI itself started experimenting and trying to discover such a HIGH YIELDING HIGH QUALITY EELWORM RESISTANT CLONE. Tea estate management companies or estate agents also took up this recommendation very seriously. One of these companies Messrs: Whittall & Co: Ltd who were Managing Agent for DRAYTON ESTATE, KOTAGALA, decided to employ a separate Assistant Superintendent whose main job was to do research work and find such an all round tea bush. They contacted the Principal of School of Agriculture, Peradeniya Mr. C De Mel and requested him to recommend a student who had a special aptitude for this type of research work. Fortunately there was a student who had just sat for his final Diploma Course examination and who had obtained the highest marks at that examination. He had also won the price for PROFICIENCY and for GENERAL AGRICULTURE at the final examination. The principal had no hesitation in recommending him for this responsible job. He is none other than Mr. Lambert W Perera i.e. myself. I was immediately appointed Assistant Superintendent of Drayton Estate, Kotagala, with effect from 01st July, 1941. Immediately after appointment, I was sent to the TRI, Talawakelle for a short course of training in research work especially in CLONAL SELECTION and VEGETATIVE PROPAGATION OF TEA BY SINGLE NODE CUTTING more popularly known as Vegetative Propagation of tea or VP tea. Dr. C H Gadd the Mycologist of the TRI took a very keen interest and gave me a though training at the TRI. Thereafter I was sent to Drayton Estate, Kotagala to take up my dual job as SD and also as Research Assistant. I had to work under Mr.R.C. Crofts-Bolster, the Manager of Drayton estate. I occupied the SD's bungalow on Lower Division. TRI authorities had converted part of a verandah into a miniature laboratory equipped with a microscope and other essential laboratory utensils.

After moving into that bungalow, I had to attend to the general work of an SD and also go round the estate with open eyes to spot out any tea bush that appears to have the desirable and essential qualities mentioned earlier. This was a very interesting line of work. Practically every day I spot out a tea bush or two that looks good and bring various parts of such tea bushes to the laboratory and subject them to various tests and also plant single node cutting from such tea bushes in the VP nursery which I had opened by the side of the Hatton-Talawakelle main road just opposite the Drayton estate office.

Planters who pass that way usually stop and come to see my VP nursery. Most of the tea planters were very interested in my VP nursery. Mr. Kenneth Mofrord of Mt Vernon estate was a frequent visitor.

Incidentally, most of the tea planters employed on Company estates those days were Europeans. I was the only Ceylonese or Sinhalese SD who was employed by a company. Some of these planters for various reasons did not agree with this new VP method of planting tea. Actually some of the planters did say "Whittle & Co, are wasting their money". " You think they can plant the whole of Ceylon with tea leaves". Suppose they realized that I have done what they thought was impossible. (Of course this was done with the help of the TRI).

After about six months, I noticed a tea bush that looked very healthy in a field where most of the tea bushes had died. I brought parts of that tea bushes to my laboratory and did a very thorough examination. To my surprise there were no eelworm in the feeder roots. Even suspension of the feeder roots in a beaker full of water saturated with eelworms did not induce the eelworms to attack the feeder roots. At times they even tried to enter the feeder roots but soon they came out. Probably they did not like the taste of the root juice. This was very interesting. I was wondering whether I had discovered the eelworm resistant tea bush I was searching for.

I informed Dr. Gadd about this and he himself was thrilled. He advised me to propagate it vegetatively and produce a couple of hundred VP plants in order to carry out further tests. At the time i.e., in 1941 this clone was marked Clone D T 1 (i.e., Drayton clone No: 1)

In the mean time, I had to satisfy my self that this clone would produce TEA of good quality. I tried a manufacturing technique of my own. I plucked a handful of tender leaves from the mother bush and allowed it to wither. On the following day, I passed the withered leaf through a mincing machine. This resulted in producing something like dhool that come out of a tea roller in the factory. After fermenting this for some time. I poured a cup of tea using this dhool. The liquor looked very nice and the smell was good. When I tasted the tea I knew I had struck the Bulls eye. Although I was not a tea taster, I felt I had never tasted a cup of tea of such good quality.

As suggested by Dr. Gadd I started planting 200 VP cuttings from Clone DT 1.

The TRI imported several bales of a substance called Peat Moss which was to be used as a medium for rooting single node cutting. It was a substance resembling coir dust, but it did not come as dust. The substance was compressed and came in the form of rectangular blocks - a little bigger than the present day cement blocks. When the block is soaked in water the whole thing disintegrates and form something like coir dust. It has the capability of retaining water.

In the beginning this dust was spread on the surface of the nursery beds to a thickness of about 3 inches and the VP cuttings were planted in that and shaded with BRACKEN FERN. Shading was done using bracken fern as polythene sheets were not even heard of those days. Bracken fern is known as Meena Pillu in Tamil and Kakila in Sinhala. As the importing of peat moss was a slow process and as large quantities were required, the TRI started experimenting with a 50 x 50 mixture of nursery soil and peat moss.

It was as good as planting in a layer of peat moss. After some time the TRI started using less and less peat moss and ultimately found that planting single node cuttings in plain nursery soil was as good and hence the use of peat moss was completely given up and planting was done in well made nursery beds and shaded with bracken fern. Of course watering was done regularly. Within about 12 months the plants were about 18 inches tall and fit enough to be planted out in the field.

I had already cleared about half an acre of land from Field No: 03 of Lower Division as a new clearing to plant out these VP plants. This field was badly infected with eelworm root disease. This half an acre was planted with Crotalaria. Planting Guatamala was not very common at that time. After about 3 or 4 months the green manure plants were lopped and forked into the soil. At the same time planting holes for planting tea plants were dug in about 4 contour rows at a spacing of 3 feet apart in the rows and 4 feet apart between rows. With the weather showing desirable planting conditions I planted the 200 DT 1 clone plants in that new clearing. This was probably the first VP tea new clearing planted on an estate scale anywhere in Ceylon. Of course the TRI had its own new clearings.

Whenever a small quantity of green leaf was available from these VP plants as well as from the mother bush, Dr. Gadd used to take a handful of green leaf to the TRI for manufacture on a miniature scale. I am not aware of the method of tea manufacture on a miniature scale, but on several occasions Dr. Gadd expressed satisfaction about the Flavour of the liquor he had obtained. Several estates that planted DT 1 clone in their new clearings have obtained very satisfactory or excellent reports from the Tea Tasters in Colombo about the QUALITY & FLAVOUR of the tea liquor obtained from the tea manufactured from clone DT 1.

If after 50 years or more, this clone is still one of the best clones .... Don't you think I should pull my collar up !