FUTURE OF THE NATURAL RUBBER INDUSTRY IN SRI LANKA

By

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Rubber is the second most important plantation crop in Sri Lanka which is contributing to nearly 16% of our national income from export earnings. Nearly 200,000 ha. in the wet zone are planted with rubber. The total rubber produced in the country recorded a maximum of 155.633 MT in 1978 and since then the production has steadly declined, recording the lowest of 110742 MT in 1989. One of the reasons for this decline in producion last year has been the problems encountered by farmers and estates in harvesting their crop due to insurgent actvities. But the sharp decline in production throughout the last decade may be attributed to several other factors.

Replanting intensity

It is an accepted practice that 3% of rubber lands in the estate sector is uprooted for re-planting every year. The newly introduced green budding technique and polybag planting before transferring into the field will minimise a retardation in the growth of the plant thereby lowering the immature period before reaching a tappable girth of 50 cm, by at least one year to a total of six years. Hence only about 18% of rubber plantations in the estate sector or in the whole country should be under immature rubber.

Figures made available by the two state-owned plantation Corporations indicate that the 3% limit had been exceeded during the last few years due to various constraints and the immature acreage is much higer than 18%. This is one of the main reasons for the drop in production of rubber during the last few years. Nevertheless one would expect an increase in productior when these immature trees come into bearing, after few years.

Fertilizer Recommendations

Currently, fertilizer recommendations for mature rubber are based on the soil and foliar analysis technique, accroding to which only the nutrients that are deficient in the plant are ladded in the required quantities instead of indiscriminately adding a bag of premixed N.P.K. Mg mixture to the soil. This will not only reduce the needless wastage

of nutrients which are already present in the soil in sufficient quantities, thereby saving money, but will also eliminate the ill effects of having any of those nutrients in the soil in excess of the actual requirements. It may be mentioned here that both the SLSPC and JEDB have been able to save approximately Rs. 10 million each year on their fertilizer bills as a result of the new fertilizer recommendations. It should be emphasised, however, that this is not a new technique which is used only in Sri Lanka as most of the rubber growing countries in the world are adopting this practice.

Urea based fertilizers

Some planters have an unfounded fear about the use of urea as a source of nitrogen in our fertilizer mixture. However, urea is used as a nitrogen source in many other rubber producing countries in the world and the advantages of using urea is now well known. It should also be stated that the RRI of Sri Lanka made its recommendation to use Urea instead of Sulphate of Ammonia following careful experimentation. The economical price of urea was also a consideration.

However, application of urea needs special attention and good supervision. It should not be applied on dry soils and even when applied in right weather conditions it should be forked into the soil to prevent loss due to volatalisation. But as done in many places in Sri Lanka, if urea based fertilizers are applied on to dry soils without proper supervision adverse effects on production can be expected. Moreover, urea based fertilizers cannot be stored for long periods due to their very high hygoroscopicity. The weight of urea based fertilizers recommended per tree is less compared with that of Sulphate of Ammonia based fertilizers because Urea constitutes 40% nitrogen as against 21% of notrogen in Sulphate of Ammonia. It is therefore clear that in order to get maximum results from urea-based fertilizers, it is important that rubber growers as well as those directly involved in this work are well informed about all aspects of urea usage. RRI has conducted several seminars, field days etc. on this subject to acquaint both planters and small holders. It is therefore clear that the fertilizer policy cannot be held responsible for any decline in the level of production.

High yielding clones

In the clonal trials carried out during the last few years it has been established that the clone PB 86, which covers over 75% of our rubber plantations today, gives a comparatively poor yield. The average yield that can be obtained from this clone is about 1200 kg/ha/yr compared to the yield figures of 2000 kg/ha/yr recorded for the newly bred RRIC 100 clone in its 6th year of tapping.

However the failure of the clone RRIC 103, due to its susceptibility to the *Corynespora* leaf spot disease brought into sharp forcus the intrinsic dangers of over-dependance on a single clone.

It is not prudent to make the entire industry dependent on a single clone. This became very evident wth the failure of clone RRIC 103 as a result of it becoming susceptible

to *Corynespora*. Presently the RRI has recommended a basket of clones for replanting, consisting of 5 already proven high yielding clones viz. RRIC 100, RRIC 102, RRIC 121, PB 28/29 and PB 217. Besides several imported high yielders from Thailand, are being tested here to possibly increase the range of clones to 15. These new foreign clones will be propagated under close observation on trial plots in state-owned estates while the first five proven high yielders will be planted so that by the year 2000 the high yielding clone population will cover 45% of the total extent under rubber.

The decision to reduce the extent of cultivation under PB 86 was motivated by the fact that it is known to be a comparatively poor yielder and also because after over 50 years of existence, this clone has shown signs of a high degree of susceptibility to a disease identified as Cylindrocladium. Likewise in view of the susceptibility of RRIM 600 clone to Corynespora and Guignardia diseases as reported from Malayisa, as a precautionery measure it was decided to avoid planting with this clone in the wet zone of Sri Lanka hence forth. However, the available planting material of this clone will be grown in the Moneragala District where the humidity is low and where the danger fo. the above named fungi attacking this clone is minimal. However, Clone PB 86 will need to be preserved at least in few locations in the future. A significant lesson emerging from the experience of planting clone RRIM 600 is that even after 50 years of successful cultivation a clones can suddenly develop a susceptibility to disease when least expected. Also the above recommended clones are resistant to corynespora species present in Sri Lanka at present. But with time to come a new species of Corynespora might appear for which at least some of the above clones are Susceptible and hence the need for recommendin several good clones is clear.

A policy decision has already been taken to discourage smallholders from planting PB 86 after 1993. However small holders having observed the vigour and high yields of the RRIC clones grown in the neighbouring plots, are already showing signs of drawing away from PB 86, Clone RRIC 121 is one of the finest clones produced by the RRI, Sri Lanka, so far. It gives a very high yield and also a large volume of straight timber when compared to PB 86. The only drawback of this clone is its susceptibility to panel dryness, a problem which is commonly known as the "*Brownbast.*" It is not a disease caused by either a fungus or a bacterium, but a physiological condition brought about as a result of over exploitation. When the tree is over exploited without proper care and manuring, the tapping panel of the tree gets dry thereby making the tree unproductive. This is the reason why specific tapping intensities and limitations of the number of recovery tapping days have been recommended for estates. In spite of these recommendations it has been ovserved that over exploitation is a common phenomenon in many estates. This has resulted in a high incidence of brownbast affecting all clones including PB 86. This is also a contributory factor to the decline in the national yield. It must also be emphasised that the incidence of brownbast is primarily a management problem, and it can be reduced by proper management practices. This clone is not recommended for small holders because of their tendency to extract the maximum latex from trees when rubber prices are on the upswing. Therefore a firm decision has been taken by the RRI in conjunction with the Rubber Control Department not to encourage planting of this clone in plots of under 2 hectares in extent.

It has been ovseived that in most estates the number of trees going dry is on the increase and that in such estates the numbei of recoveiy tapping done pei month is well over the norm recommended by the RRI.

Stand per Hectare

The earlier recommndeation in respect of the Clone FB 86 was to plant a stand of 445 trees per hectaie. Now a higher stand of 545 trees per hectare is recommended with the objective of increasing the stand to 495 trees per hectare at maturity. For high-yielding clones such as those of the RRIC 100 series, a lower stand of only 494 is being recommended, from which a total of about 445 trees is expected to reach maturity. Currently even in most of the state-owned estates, the stand perhectare is very low which is another factor responsible for the decline in rubber production. If new planting is carried out during the May/June rainy period, this problem can be avoided. This again is a management problem which the Estate Superintendent should be cautious about. However, polybagging of plants prior to transfer into the field will denititely reduce the mortality rate of plants and will help improve the situation.

Disesses

Although diseases affiicting the rubber plant have contributed very little to the decrease in levels of rubber production, it must be mentioned that the incidence of white root disease is on the increase in the country. This disease affects mainly the young plants. Lack of suitable chemicals for root sotck treatmert and the excessively high price of the available chemicals act as a constrate to eradicating this disease. Nevertheless, the incidence of white root disease could also be minimised if the recommended management practices are followed at planting.

Price of Rubber

Poor rubber prices is yet another factor that affect levels of rubber production mainly in the small holder sector. When rubber prices dip more often that not, small holder refrain from tapping their trees because the cost of manufacture exceeds the price of rubber. Although it is logical to believe that lowering the export duty on rubber will improve the local price, the events of 1985 and of September this year, clearly show that the benefit of the reduction in duty, is not always passed on to the producer, but is often appropriated by the middleman.

Since 1988 there has been a considerable increase in the number of centrifuged latex factories in Sri Lanka. At present all of them are catering to dipped rubber product factories set up in the country by multinational companies and by the locals. One salutary result has been a substantial increase in the income of some of the small holders. However, the price of concentrated latex in the world market today is hardly attractive. Therefore it is necessary to plan the expansion of the production of centrigufed latex in a systematic manner. The expansion of centrifuged latex manufacture must be done

stepwise, carefully studying the local demand for it. If the expansion is not well planned, what happened to Malaysia in 1988 could repeat itself in Sri Lanka as well. Out of 300 centrifuged latex and latex based-product factories set up in Malaysia at a very high cost, only a dozen are in operation now. A similar situation arose in Sri Lanka in the mid seventies in regard to TSR factories, where out of the 40,000 MT annual installed capacity not more than 20% has been utilized in any year until now because of the poor prices for TSR offered by African countries, where there is only a marginal export duty levied on this grade of rubber.

We must persevere with producing our top quality sole crepe and latex crepe rubber to meet the global demand. We must make every effort to revive the demand for these products that existed 2 decades ago. These products should be properly packep and marketed to meet the consumer's requirements. Whereever it is possible crepe should be presented as superior quality Technically Specified Rubber grades for special uses, attractive to the European consumers. Marketing should be done scientifically and effectively in collaboration with competent foreign agents.

Much of the rubber produced in the small holder sector is presently being converted into smoked sheets. In the first instance our efforts should be diverted to collecting his field latex and converting it into centrifuged latex and value-added finished products.

The planter is the king-pin of the rubber industry. He has a major role to play In increasing rubber production in the country. Every year nearly 1600 hectares of and are going out of rubber for village expansion and for sundry crops. Hence, unless we are mindful of all the factors discussed above, even in the year 2000, we will not be able to match the rubber production recorded in 1978.