NR production crossed 7 lakh tonne during last fiscal

All the stakeholders in the rubber sector should move together and think of ways to cope up with the situation emerged owing to Covid pandemic, Dr. Sawar Dhanania, Chairman, Rubber Board said while addressing the 180th meeting of the Rubber Board, held on 27 May 2020, through video conferencing. Rubber Board and other stakeholders in the sector should target achieving the goal of meeting 75 per cent of the demand of NR through domestic production, he added.

Dr. K.N. Raghavan IRS, Executive Director, Rubber Board presented the report on current status of NR. Natural rubber (NR) production in India reached 712000 tonne, with a 9.4 per cent growth, during the last fiscal (2019-20), said Dr. K.N. Raghavan IRS, Executive Director, Rubber Board. The production has first time crossed 7 lakhs since 2014-15. Rubber Board has been making continuous effort to make rubber cultivation remunerative by increasing production and productivity and reducing cost of cultivation/production. The Board has been implementing several activities at regional and field levels, with the active cooperation of Rubber Producer’s Societies (RPSs), to increase production and productivity of plantations, he added. The tapped area increased by 40,000 ha. during the last fiscal. Rainguarded area was 2.50 lakh ha in 2019-20, higher by around 40,000 ha, as compared to the previous year. The plantation adoption programme of Board also brought 4000 ha area under tapping.

Consumption of NR declined from 1211,940 tonne in 2018-19 to 1134,120 tonne in 2019-20 and the production-consumption gap declined to around 422,000 tonne from 561,000 tonne in the previous year. Production of NR for the current fiscal (2020 – 21) is projected at 710,000 tonne taking into consideration of the crop loss owing to Covid 19. Import of NR declined by 20% in 2019-20 as compared to the previous year and 70% of the import was through duty paid channel while export increased from 4551 tonne in 2018-19 to 12,194 tonne in 2019-20. World production of NR is projected at 13.43 million tonne (declined by 2.2%) and consumption at 13.13 million tonne (decline by 4.6%) in 2020 by International Rubber Study Group (IRSG)

Dr. Raghavan also described the actions that Board has taken to mitigate the distress situation faced by the small growers owing to Covid 19 pandemic and lockdown. He also informed that proposal was submitted to Ministry to protect rubber growers from vagaries of price fluctuation through institution of minimum import price and restriction of imports with minimum price mechanism in domestic market. Board also took action to procure sheet on a limited scale through Rubber Board promoted companies on payment of advance amount. Board took efforts to promote rain guarding by providing soft credit to small/marginal growers at zero or low interest rate through village level Cooperative Banks and Rubber Board Companies. The Board has decided to establish an Incubation Centre to develop new and innovative processes and products in collaboration with present and prospective entrepreneurs in rubber sector. This would commence functioning soon.
Switch over to low frequency tapping to reduce cost of production

Low frequency tapping (LFT) with stimulation can be practised from the first year of tapping to reduce the cost of production, increase productive life of trees and to manage the tapping labour shortage. The systems recommended are once in three days (S/2 d3), once in four days (S/2 d4), once in six days (S/2 d6) or once in seven days (S/2 d7) frequency. Trees under higher frequencies of tapping can also be converted to LFT. However, when such conversion is done there will be a temporary yield depression. To minimise the depression effect, conversion may be done during the low yielding months (February-April). Success of LFT depends on regular tapping throughout the year with application of yield stimulant at stipulated schedules for each frequency and clone. The stimulation schedule varies with clone, age of the tree, tapping system and frequency. Method of yield stimulation recommended is application of 2.5% ethephon on the panel (applied on recently tapped area just above the tapping cut to a width of 1.5 cm) in all the above cases. For high yielding clones like RRII 105 under third daily (d3) tapping frequency with weekly one day regular off (6d/7), three annual stimulation and under 7d/7 only two rounds are needed. The updated stimulation schedule recommended for different systems of tapping and clones under 6d/7 and 7d/7 are given in Table 1 below. The scheduled stimulation for April may be postponed to May/June, if soil moisture is deficient.

When tapping is done by the grower himself, weekly tapping with rainguard would be most appropriate as the effort will be minimal without compromise on production. In addition to tapping on all scheduled days under d6 or d7, removal of bark shaving @ 2.5mm/tap, and tapping upto the correct depth (0.5 to 1.0 mm near to cambium) in all tapping days, and yield stimulant application as per recommended schedule ensures optimum crop. Trees which have undergone higher frequencies of tapping for the initial two or more years, after converting to weekly (d7) tapping, monthly stimulation may be followed.

Schedule of stimulant application under low frequency tapping

<table>
<thead>
<tr>
<th>Clone</th>
<th>Tapping system</th>
<th>Rounds/year</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>RRII 105</td>
<td>S/2 d3 7d/7</td>
<td>2</td>
<td>April/May/June, September/ October/ November</td>
</tr>
<tr>
<td>RRII 105</td>
<td>S/2 d3 6d/7</td>
<td>3</td>
<td>April/May/June, September, November</td>
</tr>
<tr>
<td>RRII 105</td>
<td>S/2 d4 7d/7</td>
<td>4</td>
<td>April/May/June, August, October, December</td>
</tr>
<tr>
<td>RRII 105</td>
<td>S/2 d4 6d/7</td>
<td>6</td>
<td>April/May, June, August, September, November, December</td>
</tr>
<tr>
<td>RRII 105</td>
<td>S/2 d6 7d/7</td>
<td>10*</td>
<td>All months - after every 6th tapping, 72 hours before the 7th tapping</td>
</tr>
<tr>
<td>RRII 105</td>
<td>S/2 d6 6d/7 (weekly tapping)</td>
<td>12**</td>
<td>All months - after every 4th tapping, 72 hours before the 5th tapping</td>
</tr>
<tr>
<td>PB 217</td>
<td>S/2 d3 6d/7</td>
<td>3#</td>
<td>April/May/June, September, November</td>
</tr>
<tr>
<td>PB 217</td>
<td>S/2 d4 6d/7</td>
<td>5</td>
<td>April/May, June, August, October, December</td>
</tr>
<tr>
<td>GT 1</td>
<td>S/2 d3 6d/7</td>
<td>4</td>
<td>April/May/June, August, October, December</td>
</tr>
<tr>
<td>GT 1</td>
<td>S/2 d4 6d/7</td>
<td>7</td>
<td>April, May, June, August, September, October, December, January</td>
</tr>
<tr>
<td>RRIM 600</td>
<td>S/2 d3 6d/7</td>
<td>4</td>
<td>April/May/June, August, October, December</td>
</tr>
</tbody>
</table>
Planting

Planting should be done when the weather conditions are ideal with sufficient rains. It is better to undertake planting with the onset of rains in June-July and therefore the land preparation should be completed well in advance.

Refill the planting pits with 12 kg compost or rotten cattle manure. Apply 175gm rock phosphate in top 30cm soil.

Polybag plants: At the time of planting, the top whorl of leaves of the plant should be fully mature. A planting hole slightly bigger than the size of the polybag is made. The tip of the tap root if grown out of the bag should be removed. The bottom of the bag is cut and the bag along with the plant is placed in the hole, gradually filling the hole while keeping the soil core intact. The cut is continued as the bag is slit open and carefully removed. The soil is finally packed firmly around the plants.

Root trainer plants: At transplanting, the root plug can be separated from the container without any damage by inverting it and giving a gentle tap of the rim of the root trainer cup to any hard surface. A planting hole can be made in the refilled planting pit by pressing the empty root trainer cup into soil. The root plug is carefully inserted into the planting hole and the soil around is compacted. The root trainer plants show early establishment due to its well developed root system.

Disease Control

Shoot rot
The disease recurs annually during south-west monsoon period. Rotting of newly formed tender flush and green shoots. Black lesions are sometimes noticed on tender green shoots, resulting in wilting and drooping of distal portion. It is more damaging for nursery plants and the young plants in field. Prophylactic spraying undertaken against ALF takes care in mature plants. For young plants in nursery as well as in field, spraying with water-based copper fungicides, Bordeaux mixture 1% or water-dispersible copper oxychloride 0.125% just before the onset of south-west monsoon, and then repeated during bright breaks protects the plants. Phosphorous acid 0.16% and metalaxyl m/z 0.2% are also effective. Addition of adjuvant (@ 0.5 ml/L of spray fluid) improves tenacity and coverage of spray on applied surface

Colletotrichum leaf disease
The disease is observed during April to October in young plants in the nurseries and field. Rains followed by cloudy hot days favour disease development. Tender leaves are more susceptible and usually infection starts at the leaf tip or margins where numerous spots coalesce and dry up leading to defoliation. Occurrence of raised spots on semi-mature leaves is common. The infected leaves often crinkle and become distorted before shedding. The fungus invades tender shoots resulting in shoot rot thus affecting plant growth adversely.

Spraying Bordeaux mixture 1%, wettable copper oxychloride 0.125%, mancozeb 0.2% or carbendazim 0.05% at 10-15 days interval is recommended. Spraying a combination product of mancozeb 63% and carbendazim 12% is also effective. Providing drainage and balanced nutrition negate the favourable situation for disease development.

Pink disease
This is a stem disease that occurs mainly in immature plantations of 2 to 7 years. Though infection commences from June during south-west monsoon period, visible effects are noticed later from July to November. White or pink-coloured cobweb-like mycelial growth on the bark surface with streaks of latex oozing out from the affected potion is the initial symptom. Rotting, drying up and cracking of the affected bark follow. Sprouts develop from below the affected portion. The distal portions of branches dry and dried leaves remain intact on the dead branches.

Both prophylactic and curative methods are employed for effective management of disease. Prophylactic treatment for pink disease can be done for highly susceptible clones planted in disease-prone areas. Two rounds of spraying with 1% Bordeaux mixture (just before monsoon and in August) on to the fork and branches reduces disease incidence. For 2-year-old plants, the topmost brown portion of all the branches may be applied with Bordeaux paste in a 30 cm wide band all around. The forking region also has to be applied with the paste. In 3-year-old plants, application on all major forking regions except the lowermost and also on all the lead branches at the topmost brown regions is necessary. The application can be made from ground using a long-handled brush before the onset of monsoon. Frequent tree inspection has to be made during June to October on sunny days for detecting infection. Application of Bordeaux paste

Important farm activities in June
(10%) at early stages of infection on affected part and up to 30 cm above and below is effective. In advanced cases, Bordeaux paste may be initially applied and then the affected portion scraped to remove mycelium and decayed bark followed by a second Bordeaux paste application. Dried branches should be pruned after disinfection. Thiram 0.75% incorporated in a wound dressing compound like Rubberkote or thiram 0.75% or propiconazole 0.1% in pidivyl, china clay and water (1:2:4 by volume) is also effective. Thiram mixed in wound dressing compounds is not recommended for prophylactic treatment.

Patch canker or Bark canker
Infection is seen mostly during the wet weather on the tapping panel or anywhere on the stem including the collar region and occasionally on the roots. Bark bulging and bursting with oozing of amber-coloured liquid are common. In most cases, oozing of latex is observed. The bark rots and a coagulated rubber pad, emanating foul smell, is seen in between the wood and the rotten bark. When this is removed, discoloration of the wood in this region is also noticed.

The rotten bark, discoloured wood and coagulated rubber should be removed and the wound portion washed with mancozeb 0.75%. When the fungicide dries up, apply wound dressing compound.

Black stripe, Black thread or Bark rot
The disease is noticed during the rainy season on trees in which tapping is continued. Severity of disease is also linked with ALF disease. In the renewed bark region, small depressions on bark are formed due to localised rotting and drying of bark, which gets adpressed to the wood. When scraped, deep vertical black lines running downwards into the tapping bark and upwards into the renewed bark are noticed. Bark rot often reduces yield and the renewed bark becomes highly uneven rendering it difficult for tapping.

If tapping is regularly done during rainy season, the tapping panel should be disinfected at weekly intervals by brushing with mancozeb 0.375%. Phosphorous acid formulations at 0.08% are also effective. In the infected cases, scrape off the affected tissues and apply the fungicide. When the fungicide dries up, a wound dressing compound may be applied.