



## The Rubber Board NEWS BULLETIN

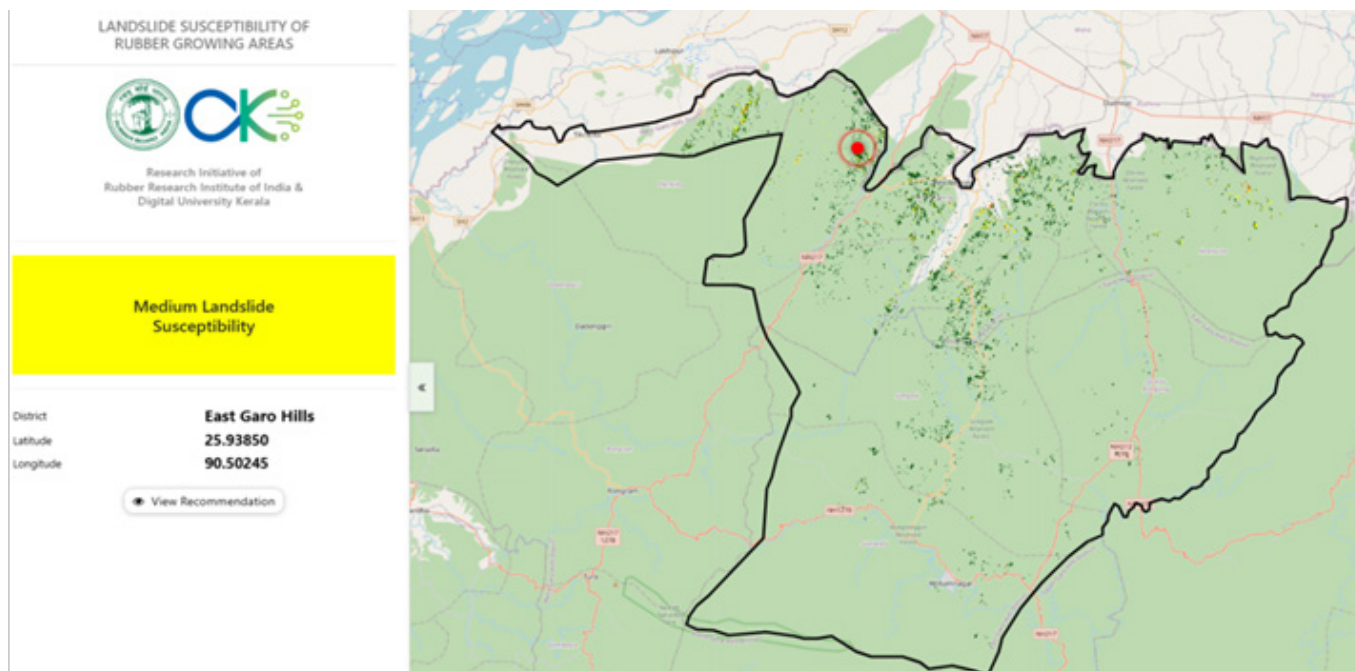
# GIS-BASED SOIL FERTILITY MAPPING OF RUBBER PLANTATIONS IN MIZORAM

GIS-based soil fertility mapping of rubber-growing soils in Mizoram was completed to map the spatial variability in the soil fertility status of rubber-growing regions. The soil fertility mapping aims to give a need-based fertilizer application recommendation to the rubber growers, which can avoid over using or under using manures in the estates.

As of 2021-2022, the area under rubber in the state was 4245 ha

(Rubber Board). Rubber plantations are mainly located in the Mamit, Aizawl, Kolasib, and Lunglei areas of the state. Around 38 soil samples (geo-referenced) were collected from the rubber-growing regions in the state for the mapping. Standard analytical procedures were used for analyzing soil samples for organic carbon, soil pH, available boron (B), calcium (Ca), copper (Cu), iron (Fe), potassium (K), magnesium (Mg), manganese (Mn),

phosphorous (P), sulphur (S), zinc (Zn) and exchangeable aluminium (Al). Shapefile databases of these soil nutrients were developed in the GIS platform. Soil nutrients (13 parameters) were interpolated, and soil fertility maps were prepared for rubber-growing regions in Mizoram based on geo-statistical mapping techniques. As per the maps, organic carbon status was medium to high (0.75-2.5%) in rubber-growing soils



in Mizoram. Deficiencies in available boron, phosphorus and sulphur (<10 ppm) were found in most of the rubber-growing soils in the state. Meanwhile, available calcium, iron, magnesium, and manganese were sufficient/adequate. Soil pH ranged from extremely acidic to strongly acidic (3.5 to 5.5). In general, nutrients such as available copper and zinc showed deficient (<1ppm) and sufficient (>1ppm) status, while exchangeable aluminium and available potassium were classified as low, medium and high in the soil.

Soil fertility mapping in Mizoram will help reduce the cost of rubber cultivation in the state. Since all the soil samples are geo-referenced, the Rubber Board can assess the

changes in the area's soil fertility status over the years.

Soil fertility maps have been mapped for the rubber-growing regions of Kanyakumari, Kerala, Karnataka, Goa, Maharashtra, West Bengal, and other northeastern states.

The mapping aims to provide need-based fertilizer application recommendations to rubber growers, avoiding over or underuse of manures. For this 38 geo-referenced soil samples were collected from rubber-growing regions in Mizoram and analyzed for 13 soil nutrients. Soil fertility maps were prepared using geo-statistical mapping techniques, showing:

Medium to high organic carbon

status (0.75-2.5%)

-Deficiencies in boron, phosphorus, and sulfur (<10 ppm)

-Adequate levels of calcium, iron, magnesium, and manganese

-Extremely acidic to strongly acidic soil pH (3.5-5.5)

-Variable levels of copper, zinc, aluminium, and potassium

-The mapping will help reduce the cost of rubber cultivation in Mizoram and allow for monitoring of soil fertility changes over time.

Similar mapping has been done for rubber-growing regions in other states, including Kanyakumari, Kerala, Karnataka, Goa, Maharashtra, West Bengal, and other northeastern states.

## Cultural operations May 2024

### Rainguarding :

All works related to rainguarding should be completed within the first fortnight. Any leakage observed during summer rain, on already fixed rainguards should be corrected.

### Application of stimulants:

The stimulant ethephon can be applied in panels under d/3, d/4, d/6 frequencies of tapping of the rubber trees in the first week of May as per the recommendations

### Plant protection measures:

Prophylactic disease control measures are to be undertaken against various diseases during this month, just before the onset of southwest monsoon. Against abnormal leaf fall disease, 1% Bordeaux mixture or oil-based copper oxychloride (COC) is recommended. For protecting young rubber and nursery plants repeated rounds of Bordeaux mixture sprayed through knapsack sprayer, rocker sprayer or high volume power sprayer are preferred. For mature

rubber, single round application of 1% Bordeaux mixture (3000 L/ha) may be sprayed. As an alternative, COC dispersed in agricultural spray oil is sprayed through micron sprayer from ground or helicopter, as aerial application. For micron spraying, the COC is mixed with oil in 1:5 proportion and 30-37 L/ha is sprayed. The machine should be carried through each row at a walking speed of 2-3 km/h. For helicopter spraying, 8 kg COC mixed with 40 L of oil is used. Fycop, Chlorocop, Parikh etc are oil-based COC powder formulations commonly used in rubber plantations. The spray oil is marketed mainly by Indian Oil Corporation. Care should be given to clean the spray equipment after each day's use.

For shoot rot disease control in nursery and young field plants, 1% Bordeaux mixture is to be sprayed at 10-14-day-interval. If monsoon sets in early and tapping is continued during rainy seasons, the tapping panel should be disinfected at

weekly intervals with mancozeb (Dithane/Indofil M-45-5g/L) or phosphorous acid (Akomin/Phosjet 2ml/L).

Spraying of 1% Bordeaux mixture on the trunk also along with the spraying against Phytophthora leaf fall ensures reduction in pink disease incidence. In high disease-prone areas, Bordeaux paste can be applied prophylactically. For 2-year-old plants, the top most brown portion of all branches is to be applied with the paste in a 30 cm band in addition to the forking regions. For 3 year old plants, application has to be made on all major forking regions, except the lower most, and also on all leaders of topmost brown regions.

### Cover crop establishment:

In fields where planting is undertaken during this season, leguminous cover crop can be established. Pueraria and Muccuna are the popular cover crops.

### **Fertilizer application:**

Fertilizer application as per discriminatory fertilizer recommendation based on soil and or leaf analysis is more advantageous and economical. The central soil and leaf testing laboratory attached to the Rubber Research Institute of India and the Regional laboratories undertake analysis and offer recommendations

### **Immature rubber up to 4th year of planting:**

For the initial four years, if the discriminatory fertilizer recommendation based on soil analysis is not available, the general fertilizer recommendation can be practised. Two types of fertilizer mixtures either with magnesium or without magnesium is recommended. In Kanyakumari district of TamilNadu, Thrissur, Palakkad, Malappuram, Kozhikode, Kannur, Kasaragod, Wynad districts of Kerala, Karnataka, Goa and Maharashtra regions the magnesium

status of the soil is high and therefore 12:12:6 NPK mixture is recommended. For all other regions in the traditional belt of rubber cultivation, 10:10:4:1.5 NPKMg mixture is recommended. For Northeastern region 12:12:6 mixture is recommended. In the initial two years, fertilizer mixtures containing half the quantity of phosphorus in the water soluble form are more useful for better root development and plant establishment.

## **Training Programmes – May 2024**

### **Training in RSS Processing and Grading from 6-7 May 2024**

Rubber dealers, rubber growers, processors and consumers in non-tyre sector can apply for this course. The course content includes latex collection, processing into sheet rubber, smoke houses, grading as per Green Book standards etc. The fee prescribed for this course is Rs.1000/-(Non-residential) + GST 18%.

### **Training on Planting & upkeep on 8 May 2024**

Farmers and interested persons from plantation sector can apply for this course. The course content includes methods of planting, up keeping, maintenance, intercropping, weeding etc. The fee prescribed for this course is Rs.500/- + 18% GST.

### **Online training on Entrepreneur Development in Rubber Industry on 10 May 2024**

The training programme focuses on investment scope in RSS Processing, Latex and Dry Rubber Products Manufacture. The fee prescribed for this course is Rs. 100/- + 18% GST.

### **Training on spraying and maintenance of sprayers on 13 May 2024**

This one day training is to impart knowledge on spraying and maintenance of sprayers. Rubber growers, RPS/SHG members can apply for this course. Fees: Rs.500/- + (18% GST extra)

### **Short term training on Latex products manufacturing from 13-17 May 2024**

Entrepreneurs/interested persons from latex product manufacturing industries can apply for this course. The course content includes latex collection, preservation and concentration, compounding ingredients, etc. The fee prescribed for the course is Rs.3750/-(Non-residential) + 18% GST. Medium of instruction is English

### **Online training on manuring in rubber on 16 May 2024**

This one day course content imparts knowledge on fertilizer recommendation, discriminatory fertilizer application and manuring in rubber. Farmers, Estate managers, nursery owners, interested persons from plantation sector can apply for this course. Fees prescribed for this course is Rs.100/- + GST 18%.

### **Training on Latex Harvest Technology from 20-21 May 2024**

Topics include latex harvesting, different types of tapping knives, modern tapping methods,

application of stimulating agents, LHT and CUT. Rubber growers and interested persons from plantation sector can apply. The fee prescribed for this course is Rs.1000/- + 18% GST

### **Online training on Production of planting materials and characteristics of different clones: 24 May 2024**

This training is to impart training on Modern clones and good quality planting materials. Farmers and interested persons from plantation sector can apply for this course. The fee prescribed for this course is Rs. 100/- + 18% GST

### **Training on Pest and Disease Control on 29 May 2024**

Training is on diseases and pests affecting rubber and methods to control them. Farmers, interested persons from plantation sector can apply for this course. The fee prescribed for this course is Rs.500/- + 18% GST

### **Skill development training for DRC testing from 29-31 May 2024**

This 3 day training is on testing of DRC of field latex/concentrated latex as per standards. The fee prescribed for this course is Rs.3000/- + GST 18%. Medium of instruction is English.

# DAILY NATURAL RUBBER PRICE APRIL 2024

[Price/Rs/Qtl]							
DATE	Domestic					International	
	Kottayam			Kochi		Bangkok	
	RSS-4	RSS-5	60%LATEX	RSS-4	RSS-5	RSS-3	RSS-4
1/04/2024	18250	17950	12890	18250	17950	21359	21291
2/04/2024	18400	18100	12890	18400	18100	21147	21079
3/04/2024	18450	18150	12890	18450	18150	20870	20802
4/04/2024	18500	18150	12995	18500	18150	20866	20798
5/04/2024	18500	18150	13050	18500	18150	20725	20657
6/04/2024	18400	18100	HOLIDAY	18400	18100	HOLIDAY	HOLIDAY
7/04/2024	HOLIDAY	HOLIDAY	HOLIDAY	HOLIDAY	HOLIDAY	HOLIDAY	HOLIDAY
8/04/2024	18400	18100	13105	18400	18100	HOLIDAY	HOLIDAY
9/04/2024	18400	18150	13210	18400	18150	20730	20662
10/04/2024	HOLIDAY	HOLIDAY	HOLIDAY	HOLIDAY	HOLIDAY	20578	20509
11/04/2024	18400	18150	13210	18400	18150	20476	20408
12/04/2024	18400	18100	13210	18400	18100	NA	NA
13/04/2024	18350	18050	HOLIDAY	18350	18050	HOLIDAY	HOLIDAY
14/04/2024	HOLIDAY	HOLIDAY	HOLIDAY	HOLIDAY	HOLIDAY	HOLIDAY	HOLIDAY
15/04/2024	18350	18050	13210	18350	18050	HOLIDAY	HOLIDAY
16/04/2024	18300	18000	13155	18300	18000	HOLIDAY	HOLIDAY
17/04/2024	18200	17900	13155	18200	17900	NA	NA
18/04/2024	18100	17800	13105	18100	17800	19862	19794
19/04/2024	18000	17700	12890	18000	17700	19458	19390
20/04/2024	18000	17700	HOLIDAY	18000	17700	HOLIDAY	HOLIDAY
21/04/2024	HOLIDAY	HOLIDAY	HOLIDAY	HOLIDAY	HOLIDAY	HOLIDAY	HOLIDAY
22/04/2024	18000	17700	12785	18000	17700	19138	19070
23/04/2024	18000	17700	12785	18000	17700	18868	18801
24/04/2024	18000	17700	12785	18000	17700	18574	18506
25/04/2024	18000	17700	12785	18000	17700	18412	18345
26/04/2024	HOLIDAY	HOLIDAY	HOLIDAY	HOLIDAY	HOLIDAY	18383	18316
27/04/2024	18000	17700	HOLIDAY	18000	17700	HOLIDAY	HOLIDAY
28/04/2024	HOLIDAY	HOLIDAY	HOLIDAY	HOLIDAY	HOLIDAY	HOLIDAY	HOLIDAY
29/04/2024	18050	17750	12785	18050	17750	18795	18727
30/04/2024	18050	17750	12840	18050	17750	18797	18730
Average	18229	17929	12987	18229	17929	19826	19758