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COFFEE BOARD

इंडियन कॉफ़ी
IndianCoffee

The Coffee Magazine Vol. 85 No. 6-7 June-July 2021

Alternate Drying Methods for Coffee at Estate Level - An Update

☞ Page - 13

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कॉफ़ी बोर्ड

वाणिज्य एवं उद्योग मंत्रालय
भारत सरकार

इंडियन कॉफ़ी
IndianCoffee
कॉफ़ी पत्रिका The Coffee Magazine

खंड: 85 सं. 6-7 Vol: 85 No. 6-7
जून - जुलई 2021 *June - July 2021*

कॉफ़ी बोर्ड
वाणिज्य एवं उद्योग मंत्रालय, भारत सरकार
1, डॉ. बी. आर. अबेंडकर वीथी, बेंगलूरु-560 001,
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COFFEE BOARD
Ministry of Commerce & Industry,
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I, Dr. B. R. Ambedkar Veedhi,
Bengaluru - 560 001, Karnataka, India
Ph: 91-80-2226 6991 - 994 Fax: 91-80-2225 5557
Website: www.indiacoffee.org

अभिकल्पित एवं मुद्रणकर्ता
शरद एंटरप्राइसस, बेंगलूरु

Designed & Printed by :
Sharadh Enterprises, Bengaluru
E-mail : sharadhenterprises@gmail.com

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संपादक के नाम पर पत्र **Letters** to the **Editor**

Your views, opinions & observations are welcome as long as it is in the spirit of the magazine's principles and values, and may be sent to: editor.indiancoffee1@gmail.com
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In the Annual General Body held of Hassan District Planters' Association(R) the following Members have been elected for the new executive board, the period of 2021-2023

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From the Secretary's desk

Coffee Times

In India, coffee is predominantly cultivated in high rainfall areas and slopy hilly terrains. Therefore, runoff of top soil along with water flow is a common phenomenon leading to loss of nutrients and also the secondary elements/minerals present in the soil. As a consequence, the soils turn acidic. Continuous use of acid forming fertilisers like ammonium sulphate also adds to soil acidity. Measurement of soil pH indicates whether the soil is acidic, neutral or alkaline. The soil is considered acidic when the pH is less than 7.0 and alkaline when pH is above 7.0 The soil pH in the range of 6.0 to 7.0 is more ideal for healthy growth of majority of the plants. For coffee plants, the optimum pH of the soil should be around 6.2. In extreme acidic (below pH 4.5) and alkaline pH conditions, the physical, chemical & biological properties of the soil as well as availability and uptake of nutrients like nitrogen, phosphorous, potassium, calcium and magnesium by the plants are known to be affected adversely. The soil acidity also leads to decreased activity of beneficial micro-organisms and increased activity of harmful micro-organisms. In view of adverse effect of the soil acidity on plant growth and crop productivity in coffee, the soil pH needs to be corrected whenever it falls below 6.1, by the application of liming materials like agricultural lime (Calcium carbonate) and dolomitic lime (Calcium magnesium carbonate). In this context, the article on "Soil acidity and lime application in Coffee Plantation" included in this edition of the Indian Coffee would immensely benefit the coffee growers in understanding the intricacies of soil acidity and its management in coffee plantations.

The impact of climate change on agriculture sector has been observed across the world and coffee is no exception. For the last few years, the climate vagaries especially the erratic rainfall patterns and rise in temperatures are causing the flare ups of certain important pests and diseases of coffee like white stem borer, shot hole borer, leaf rust and monsoon rot diseases. In recent past, the positive attributes of silicon application in reducing the susceptibility of crop plants to pests and diseases have been reported. In this regard, the article on "Silicon in Coffee Plantation" published in this issue provides an insight on the beneficial effects of Silicon in coffee plantations.

Further, this issue of Indian Coffee also covers an update on the mechanisation of on-farm processing of coffee especially the alternate drying methods for coffee like Static/Stationary mechanical dryers, Rotary/Revolving mechanical dryers, Poly house solar drying etc. This article highlights the scope and prospects of these drying methods for estate adoption which will benefit the readers.

In addition to the above, this issue featuring the detailed calendar of estate operations and "Market Watch" with a focus on coffee market reports of ICO, presents an ideal blend of technical and market information to the readers.

Dr. K. G. JAGADEESHA
CEO & Secretary

Soil Acidity and lime application in Coffee Plantation

S.A.Nadaf[1] and A. R. Bora[2]

([1]Research Assistant and [2]Deputy Director Research, Regional Coffee Research Station, Narsipatnam, Andhra Pradesh)

Coffee growing soils of India are naturally acidic in reaction and need to be corrected by application of liming materials. The liming material used to neutralize the soil acidity and it helps in growth and development of coffee plants. Liming is unique agricultural practices in India coffee plantation, though most of these soils have been limed in the past, periodic additions of the liming materials based on soil tests are still needed due to its nature of coffee cultivation in high rainfall areas of highland. Since, many decades Coffee Board, Research Department summarized the problems of soil reaction (pH) and rendering regular advisory services on soil health management by testing the soils in laboratory and conducting on farm testing and (on spot) recommendations.

How to know coffee soil is acidic: It is known that,soil gradually becomes acidic over time, as rainfall leaches away its calcium content and organic matter decomposes and also crop uptake. At present soil pH is tested at Soil Testing Laboratory (STL)and soil acidity is usually measured using potentiometrically in slurry using an electronic pH meter (Fig. 1). Knowing soil acidity by soil acidity indicator plants is crude method generally the Christmas fern plants in coffee soils indicates soil acidic. As ferns thrive in acidic soils (Fig. 2). It's a good to test soil periodically at STL and it will help to monitor any changes in soil pH and to know right quantity of amendments required for coffee soils based on soil test.

Soil Acidity in coffee plantation (Nature and Cause)

A soil with preponderance of hydrogen (H) ions, and probably of aluminum (Al) and its various hydrated forms in proportion to hydroxyl (OH) ions, specifically with pH less than 6.5 is known as an acid soil. The quantity of hydrogen and aluminum cations (positively charged ions) in coffee growing soils are causing soil acidity and these hydrogen or aluminum levels in soils become too high and the soil becomes too acidic. In these soils negatively charged ions becomes "clogged" with the positively charged hydrogen and aluminum ions. Under this condition the nutrients needed for plant growth are pushed out and nature of the soil system affects the root growth and plant development due to soil acidity.

Soil acidity develop from acidic parent material such as granite ($SiO2>65\%$) and also from leaching of basic cations viz., Ca^{2+}, Mg^{2+} Na^{+} and K^{+} especially in high rainfall areas of highlands. Soil acidity is more common where the precipitation (rainfall) is high enough to leach appreciable quantities of exchangeable bases from the soils and also because of hydrogen is added to soils by nitrification of ammonium occurs when fertilizers, (urea, ammonium nitrate, ammonium sulfate, anhydrous ammonia), manure, or plant residues are added to the soil over time.

The neutralizing materials like Agricultural lime or dolomite lime will neutralize this acidity by dissolving (carbonates and bicarbonates), whereupon it releases a base into the soil solution that reacts with the acidic components, hydrogen and aluminum in soil. Whereas these coffee soils are more complex in nature and the acidity is more influence on coffee plants and nutrient availability in soils. However, a soil with a pH of 5 is 10 times more acidic than a soil with a pH of 6 and 100 times more acidic than

a soil with a pH of 7. Coffee plants can grow vigorously in slightly acidic soils, therefore the goal of liming in coffee plantation is not to raise the soil pH to neutral but to avoid the problems related to excessive acidity in coffee plantation.

Harmful effects of soil acidity in coffee:

Strongly acidic soils are not productive for the coffee plants in India. In acidic soils, the majority of crop plants including coffee yields less than their potential for one or more of the following reasons. It is important to remember that the optimum pH is not the same in all coffee growing regions of India and from the scientific study it was proved that, soil acidity is more common in high rainfall areas (Sringeri and Mudigere liaison zone) than the low rainfall areas (Chikkamagaluru liaison zone) of Karnataka (Nair *et al.*, 2017). The lower soil pH values would cause micronutrient deficiencies in many coffee plantations because many micronutrients become less soluble as pH increases, reducing their availability to coffee plants; for instance, manganese deficiencies frequently occur following over liming red and lateritic soils. The variations in soil pH is also defends on the management practices of individual coffee estate. The coffee estate has mixed shade trees have the more organic matter in the soil and the organic matter ties up with aluminum, plant growth is possible at lower pH levels than in mineral soils. Another issue to consider is that different soil laboratories may use different testing methods, which they have developed for their particular soil conditions.

1. Coffee plants simply do not grow well at pH less than 6.10 i.e., the plants are not adapted to acidic soil conditions. Hence, soil pH should be neutral around 6.2 pH.
2. Elements such as Aluminum (Al), Iron (Fe) and Manganese (Mn) become more soluble that, they are toxic to coffee plants for its growth and development in acidic soil. Thus toxicity of Al, iron Fe and Mn is noticed in acid soils. Phosphorus and Molybdenum become insoluble and unavailable to coffee plants. Thus, the deficiency of P and Mo is noticed in acid soils.
3. Bases such as Calcium (Ca), Magnesium (Mg) and Potassium (K) will be leached out and deficiency of these nutrients is noticed in acid soils except K in coffee soils.
4. Nitrogen (N), Phosphorus (P) and/or Sulphur (S) deficiency observed because of very slow rate of decomposition (oxidation) of organic matter due to reduced microbial activity in acid soils.
5. In addition to plant growth, the activities of the following microorganisms are greatly reduced in acid soils.
    a. Nitrogen fixing bacteria like Rhizobium, Azatobacter etc.
    b. Nitrifying bacteria such as Nitrosomonas, Nitrobacter etc.
    c. Various microorganisms that decompose organic matter.

Fig. 1 Soil pH meter at STL, RCRS, Narsipatnam

Liming materials and product standards for coffee soils

Two types of liming materials (Calcium carbonate - $CaCO_3$ and magnesium carbonate - $MgCO_3$) are used in coffee plantation. Pure calcium carbonate is used as the standard for liming materials and is assigned a rating of 100 percent and this rating is also known as the "calcium carbonate equivalent" (CCE). All other liming materials are rated in relationship to pure calcium carbonate. Those containing only calcium carbonate ($CaCO_3$), calcium hydroxide [$Ca(OH)_{2}$], or calcium oxide (CaO) are called "calcitic limes." The second type of liming material contains significant amounts of magnesium carbonate ($MgCO_3$) and is called "dolomitic lime." If a soil is low in magnesium, dolomitic lime should be used; otherwise, calcitic lime can be used. Many organic soils are naturally high in magnesium whereas high rainfall and most sandy soils have little magnesium. Hence, the soil-test report will indicate which lime should be used for correction of soil pH. Dolomitic limes are slightly more efficient in neutralizing soil acidity and may have CCE values greater than 100, depending on purity. Lime dissolves very slowly hence, it must be finely ground powder to neutralize soil acidity effectively. Magnesium fertilizers could be used instead of dolomitic lime, but the cost of these fertilizers considerably at higher side.

Lime fineness is measured by using sieves with different mesh sizes. Higher mesh size numbers have smaller holes, so they limit passage to finer particles. Note that 40- to 50- mesh lime raised the pH to a higher level than 8- to 20-mesh lime. Thus the ability to neutralize soil acidity depends on both the purity (CCE) and the particle size of the liming material. The effective neutralizing value (NV) is a way to quantitatively evaluate limes based on both purity and particle size. Hence, pure liming material should have calcium carbonate equivalence more than 80% (NV) and 80% of the powdered liming material should pass through a 60 mesh sieve and at least 90 % through 20 mesh sieve.

Beneficial effects of liming in Coffee plantation:

The aim in managing coffee soil pH is not to achieve a particular pH value, but to adjust the acidity to the point where there are no toxic metals in solution and the availability of nutrients is at its maximum for coffee plants. This condition is usually achieved in coffee plantation when the soil pH is between 5.8 - 6.1, however coffee plants have special acidity requirements (Raju 1988). Limestone is used to treat acidic soils, but the soil pH value alone does not indicate the amount needed. An exchangeable acidity analysis must also be done to determine the amount of limestone or agriculture lime required, and the soil calcium and magnesium levels must be analyzed to determine which type of lime (dolomitic or calcitic) is required. A number of benefits for coffee plants by the use of liming materials those benefits are as follows. Application of lime helps to develop plants healthier roots system

Fig.2 Christmas fern plants in coffee plantation

because the coffee roots are exposed to less potentially toxic aluminum. Better root growth system may enhance drought tolerance in coffee (Robusta coffee is shallow rooted plant). Liming helps for nutrient solubility and it will improve the soil pH and plants have chance to get better nutrients from soil solution. Liming reduced leaching of basic cations, particularly potassium and boost up the soil CEC. Liming materials like agricultural lime and dolomites are well source of calcium and magnesium and which are very much essential for coffee plants. Optimal pH allows the breakdown of some herbicides or insecticide chemicals and preventing the roots system damage. Nodulation in leguminous cover crops in coffee plantation will enhance by the application of lime and these cover crops improves nitrogen fixation in soil.

Application and Incorporation:

Size of the liming materials should be as per the standards and it will react very quickly when sufficient moisture (60 % water holding capacity) content in the soil. Lime moves little in the soil and neutralizes acidity only in the zone where it is applied. Therefore, right quantity of lime application should be based on the soil test and at right time. However, more idea period for lime application is during November to February in the South West monsoon area while January and March is the ideal period for the North East monsoon area. However, the liming can be done any time except during rainy season. To be most effective, lime must be uniformly spread and thoroughly incorporated and the poorest, but most common, method of application to coffee is by broadcasting. If the application is not correct, strips of under limed and over limed soil could result, possibly reducing crop yields (Raju 1988).Lime can be applied more evenly as per the recommendation. Commercial farmers' likely using spinner spreaders, but every attempt should be made to spread lime evenly across the coffee area and uniformly as per the recommendation.

Conclusion:

Coffee plants cannot tolerate a wide range of acidity in the soil. When soil acidity changes, the solubility of a number of plant available nutrient metal ions also change. Plant growth is really affected by the varying concentration of these nutrient metals in solution rather than by the acidity itself. Under acidic conditions, many soil minerals dissolve and increase the concentration of metal ions to toxic levels. The primary toxic metal is aluminum and hydrogen ions but high levels of manganese and iron can also inhibit plant growth under these conditions. The nutrients phosphorus and molybdenum are less available in acidic soils and calcium and/ or magnesium may also be deficient. The aim in managing coffee soil pH is not to achieve a particular pH value, but to adjust the acidity

Coffee Plantation in Non-traditional Coffee Growing Area (NTA)

Collection of soil samples from Coffee Plantation for testing

to the point where there are no toxic metals in solution and the availability of nutrients is at its maximum for plants. Limestone is used to treat acidic soils, but the soil pH value alone does not indicate the amount needed. An exchangeable acidity analysis must also be done to determine the amount of limestone or agriculture lime required, and the soil calcium and magnesium levels must be analyzed to determine which type of lime (dolomitic or calcitic) is required. To manage, monitor, maintenance of proper soil pH can increase yield, income and also improve soil health. However, varying rates of lime are recommended, depending on the soil pH for the particular soil and crop yield. To test your soil's pH and lime requirement contact nearest Coffee Board Research Stations and Coffee Board Liaison Office.

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Silicon in Coffee Plantation

S. A. Nadaf - Research Assistant Gr-I Regional Coffee Research Station, Narasipatnam, drsanadaf@gmail.com

Introduction

Indian coffee cultivation is intensive and growing this crop at higher altitudes has increased water stress. At the same time, coffee white stem borer (WSB), coffee leaf rust, root-knot nematode and brown eye spot disease in coffee are the important pests in Arabica coffee causing a yield loss of up to 40 percent. This leads to the mass shifting of Arabica coffee cultivation to Robusta under changing climatic scenarios and the climate vagaries are acting as barriers for the coffee productivity in the country. The coffee cultivation practices lead to the exploitation of native reserve nutrients from the soil and widespread deficiency of many nutrients in the coffee-growing areas. To sustain the soil health in coffee plantation careful management techniques like amendments of mineral nutrients, organic manures, green manuring crops, and use of microorganisms are very much essential in the coffee plantation. Application of Silicon (Si) to plant reduces its susceptibility to pests (Meyer and Keeping, 2005) and increase the soil pH (Ana Catarina et al., 2012 and Greger et al., 2018). In India, coffee soils are acidic in reaction with low available P. The amendment of silicon to coffee soil will help to manage the coffee yield and soil health of coffee plantations. Silicon is the most abundant element in the earth's crust after oxygen: 200 to 350 g Si kg-1 in clay soils and 450 to 480 g Si kg-1 in sandy soils (Kovda, 1973) but in red soils of Karnataka the silicon content was 54.34 % (Lotse et al. 1975). Si concentration in plants varies from 17 to 34 g kg-1 and the absence of adequate silicon in plant shows susceptibility to many pest and diseases with a decline in yield of many crops

Soil reaction and nutrient availability

Coffee growing soils of India are acidic in reaction, low in available P, high organic carbon, and available potassium status. The amendment of silicon to coffee soil will help to manage soil health by increasing the soil pH and yield of coffee (Mantovani et al., 2016). Silicon is the only element that does not damage the plants upon excessive accumulation and its high accumulation in the plant has been demonstrated for healthy growth and high stable production of crops. It is deposited as silica in the plant cell walls, improving cell wall structural rigidity and strength, plant architecture, and leaf erectness. Silicon in plants can stimulate nutrient uptake and plant photosynthesis, decrease susceptibility to disease and insect damage, alleviate water and various mineral stresses and decrease the toxic effects of Aluminum and increases the soil pH in acid soil. The soil productivity and yield of coffee can be enhanced by the application of Si without affecting the soil environment with the intensive cultivation for the increasing population. Now a days it is possible to monitor the soil health and incidence of serious pest by proper utilization of silicon nutrition.

Silicon and Coffee Brown Eye Spot Disease

Brown Eye Spot Disease in Coffee (*Cercospora coffeicola* L) is the common disease in India and its incidence is high during water stress conditions, high humidity, rain, and warm temperatures. To know the effect of the application of different doses of silicic acid (Si) on chlorophyll a, b, carotenoids, lignin, and epicuticular wax content, a study was conducted on coffee plants and the result indicated that

leaf pigment content, lignin, and anatomical characteristics of the stem was not influenced by the increasing silicic acid amendment. The presence of more epicuticular wax was observed in leaves of coffee plants grown with 2 g and 6 g silicic acid application. The highest silicic acid dose resulted in the lowest photosynthetic potential in coffee seedlings with no brown eye spot infestation.

Fig.1 : Brown Eye Spot Disease of Coffee

Scanning electron microscopy also showed a very well-developed and thicker wax layer on the lower leaf surfaces of the coffee plants.

Silicon and Coffee Leaf Rust (Hemileia vastatrix L)

Coffee leaf rust is known as roya in many countries, this fungus causes orange lesions on the leaf (Fig-2). Incidence and development of the disease in coffee plants depends upon the physiological condition, nutrient status, and presence of stress. Soil amendment with calcium silicate neither reduced the incidence of coffee leaf rust nor increased its yield which may be due to the fact that leaf Si concentration did not increase as the rates of calcium silicate were increased in the soil. A study of the translocation of Si from the roots to the shoots of the coffee plant in hydroponic culture revealed that silicon content increased in roots but not in shoots. Therefore, the incidence of coffee leaf rust did not decrease significantly. Coffee plants are inefficient in the uptake of Si from the nutrient solution and translocation it to the shoot because it was exclusively restricted to the roots. To ensure the reduction in disease intensity, Si has to be sufficiently concentrated on the tissues that will be infected by the pathogens to potentiate any mechanism of resistance (Datnoff et al., 2007). Further, it was mentioned that coffee is classified as non-silicon accumulator plants hence, the application of silicon has no effect on coffee leaf rust, and mechanisms behind the variation in the absorption and accumulation of Si in the shoots of C. Arabica, need to be determined (Vivian Carré et al., 2009). The breeding of coffee plants for resistance to CLR is considered to be the best disease management strategy.

Fig.2 : Coffee Leaf Rust

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Coffee Recipe : Parisian Chocolate Coffee

Source : Pioneer New Delhi

This Parisian Hot Chocolate Coffee is an indulgent blend of thick and creamy hot chocolate and bold hot dark roast coffee. The perfect brunch or dessert beverage for rainy day.

Ingredients:

- 1 cup freshly brewed French press coffee
- 1 cup full cream milk
- 1/2 cup heavy cream
- 2 tspn powdered sugar
- 60gm bittersweet chocolate
- whipped cream
- chocolate shavings

Preparation:

- In a medium saucepan over medium- high heat, whisk together the milk, cream, and sugar and heat until bubbles start to form on the outer edge. Do not boil.
- Remove from heat and add in chopped chocolate, let set for 2 minutes, then whisk until a rich chocolate color forms. Let set for about five minutes.
- Pour hot coffee into two mugs, half each cup. Top it with hot chocolate to the coffee and finish off with whipped cream and chocolate shavings Note: Store in temperature of 20 degree C and humidity less than 5 per cent, away from foreign odours, for up to three weeks.

Courtesy: Abdul Sahid Khan, Head Trainer, Lavazza India

Arabica Parchment coffee price hits all- time high

Source : The Hans India, Bangalore

Arabica Parchment coffee price soared to an all time high of Rs 14,400 per 50kg bag on Thursday in Kushalnagar and Chikkamagalur markets. According to vendors this was the highest price ever for this coffee variety in 28 years. Normally, this coffee variety commands a price of Rs 10,000-10,500.

The cost of Robusta Parchment increased to Rs 7,000 per bag. The last time when Arabica coffee reached the highest rate was in 2014 at Rs 9,600 to Rs 9,800 per bag. The price saw a downward trend and touched Rs 6,000. Arabica Cherry costs Rs. 5,800 - Rs. 6,200 a bag while the rate of Robusta Cherry ranges between Rs. 3,200 and Rs 3,800 per bag. Growers in Kodagu, Chikkamagaluru and Hassan have expressed their happiness on the improved market rate of coffee, despite problems of shortage.

But Arabica Parchment price on Friday dropped to Rs. 13,800. Decades ago, coffee was bought and exported by the government through the Coffee Board. Coffee growers have been allowed to sell their coffee in the open market since 1992, following angry protests by them.

December to April is the time for coffee harvesting and 90 percent of growers sell the produce before rainy season due to the price fluctuation and lack of warehouse facilities.

Arabica Coffee's share of the country's total production is less than 30 percent, while Robusta accounts for 70 per cent. The total annual coffee production in the country is approximately 3.6 lakh tonnes. Most of the Arabica growers have already sold their produce.

Speaking to The Hans India, a coffee exporter and promoter of AWIT Innovations (P) Ltd in Kushalnagar, Rajiv Kushalappa said that the price fluctuations are likely to increase in the near future due to prevailing international market conditions. According to him, the hike in the price was fallout of crop loss in Brazil following heavy snow fall. Brazil is the largest exporter of coffee in the world.

Ratan Machaiah, a coffee grower in Gonicoppa, said that the cost of production of coffee has increased significantly in recent years and growers are in distress. The wages of labourers, fertilisers, pesticides, etc., have doubled over the past decade, but price remains the same. The growers are gambling on unpredictable climatic conditions year after year. He has urged the government to support the growers by announcing a special package.

Alternate Drying Methods for Coffee at Estate Level - An Update

Mr. Sandeep T.N., SMS-AE, Dr. T.N. Gopinandhan, Biochemist, Post-Harvest Technology Division, Central Coffee Research Institute, Coffee Research Station Post - 577 117, Chikkamagaluru District, Karnataka & Dr. J.S. Nagaraja, Joint Director (Research), CRSS, Chettalli].

In recent years, the unseasonal and erratic rainfall experienced during the critical periods of coffee cultivation and harvesting season is becoming a major challenge to the coffee planters in India. These unseasonal and erratic rainfall are hampering the timely implementation of critical cultural operations in the plantation and also post-harvest processing leading to crop loss, reduction in yield and also loss of coffee quality.

Though sun drying is the most common and widely followed method of drying coffee samples in India, sun drying is highly dependent on climatic conditions prevailing during the coffee harvesting period. In India, coffee is traditionally dried on large patios or drying surface made of cement or bricks. The wet parchment samples (resulting from wet processing of coffee) are sun dried for about 6 to 8 days while the fresh cherry samples (natural/dry processing) are sun dried for about 10 to 12 days, to achieve the prescribed moisture levels of 10% to 12%. The duration of drying days varies depending on the sun-shine hours prevailing during the course of drying process.

Considering the unprecedented monsoon which has been experienced during the coffee harvesting season in the last few consecutive years (2018 to 2021), there are recurring queries from coffee planters about the alternate drying systems available for coffee. In view of the increasing importance for the adoption of alternate drying systems, the present article is attempted to summarize the alternate drying methods available for drying coffee samples. The article also highlights the observations made during the recent survey conducted in Chikkamagaluru and Hassan districts on the performance of the Solar Tunnel Dryer or Poly House Solar Dryer.

Fig.1 Static type dryer without raker

Alternate Drying Method - Mechanical dryers

Although sun drying is the most commonly practiced method of drying coffee samples in India, mechanical dryers are also used to dry coffee samples in some of the coffee growing tracts in India. There are two types of mechanical dryer viz., static type dryer without stirrer (Fig.1) or with stirrer (Fig.2) and rotary type dryer (Fig.3).

Fig.2 Static type dryer with raker

A) Static/Stationary Mechanical Dryer:

The static mechanical dryer are simple type of dryer consists of perforated metal plate, fan and source of heat. The perforated tray is held between two chambers (lower and upper chamber). Coffee samples are loaded manually over the perforated mesh/screen tray up to the edge of the upper chamber. A blower is installed

Fig.3 Rotary type dryer

on the wall of the lower chamber to blow the hot air emanating from the heat source to the upper chamber through the screen, to dry the coffee samples. In case of static mechanical dryer without stirrer, the coffee samples should be stirred manually at regular intervals for uniform drying. Alternately, static mechanical dryer with stirrer may be preferred to save labour input for the manual stirring of coffee samples during the course of drying.

B) Rotary/Revolving Mechanical Dryer:

Rotary mechanical dryer is the most widely used dryer mainly due to uniformity of drying. It consists of a horizontal cylindrical drum whose walls are made of perforated metal sheet. The horizontal cylindrical drum rotates at a set speed (3 rpm) for effective turning of coffee samples which ensure uniform drying. The coffee samples are loaded into horizontal cylindrical drum by a bucket elevator through the doors fitted on the outer wall of cylindrical drum. The hot air is blown into hollow shaft of rotary drum from the furnace. A temperature probe is fixed on the outer surface of horizontal cylindrical drum to monitor the air temperature inside the cylindrical drum.

During mechanical drying, the beans are exposed to the hot air that passes through the machine and facilitate the drying process. Drying temperature is the most critical part in mechanical drying and the temperature should not exceed more than 40°C for parchment coffee and 45°C for cherry coffee. It is also recommended to sun-dry the coffee samples before subjecting to mechanical drying to remove the surface moisture (i.e. one day sun-drying for parchment coffee and two days sun-drying for cherry coffee). However, it is claimed by some of the manufacturers of mechanical dryer that pre-drying is not a pre-requisite for mechanical drying and this aspect needs to be studied in-detail. The capacity of mechanical dryer ranges from 1 to 10 tonnes per batch. The approximate total cost of a two tonne capacity mechanical dryer is Rs.12 lakh.

Based on the drying trails conducted using rotary mechanical dryer available at CCRI (in comparison with sun drying), data has been generated on total drying days, cost of drying and cup quality ratings and the results are detailed here-under.

i) Reduction of Drying Hours:

There is a considerable reduction of drying days up to 50% with the mechanical dryer, as compared to sun drying. The data indicated that sun drying of parchment sample took 6 days or 48 hours (i.e. 6 days x 8 hours sunshine per day equals to 48 hours) and cherry samples took 11 days or 88 hours (i.e. 11 days x 8 hours sunshine per day equals to 88 hours). In case of mechanical drying, parchment took 3 days or 24 hours (i.e. 3 days x 8 hours sunshine per day equals to 24 hours) at 40°C and cherry samples took 6 days or 48 hours (i.e. 6 days x 8 hours sunshine per day equals to 48 hours) at 45°C.

ii) Cost of Drying:

Though there is considerable reduction of drying days with the mechanical drying, the drying cost is high with the mechanical drying as compared to sun drying. The total cost for sun drying of wet parchment and cherry coffee samples (per MT)

was found to be Rs. 2,100 (Rs. 350 per day x 6 days) and Rs.3,850 (Rs. 350 per day x 11 days), respectively. While, the cost for mechanical drying for parchment (at 40°C) and cherry coffee samples (at 45°C) was found to be Rs. 4,000 and Rs. 7,500 correspondingly per tonne of coffee.

iii) Coffee Quality:

Regarding the coffee quality, there was no significant difference between sun dried and mechanically dried (@ 40 - 45°C) coffee samples in respect of raw bean quality. The cup quality rating of sun dried parchment coffee was slightly higher (79.5 points out of 100) when compared to mechanically dried parchment coffee (78.5 points out of 100). In case of cherry samples, mechanically dried cherry coffee has scored higher score (70.3 points at 45°C) as compared to sun-dried cherry coffee (62.5 points).

Solar Tunnel Dryer or Poly House Solar Dryer:

Solar Tunnel Dryer is relatively a new method of drying and it is more economical than mechanical dryers, as they don't rely on conventional energy sources. Solar Tunnel Dryer is constructed by erecting GI pipes of required size and shape. The ultra violet (UV) stabilized poly sheets are fitted over the GI pipes. The UV stabilized poly sheets withstands sunlight for about five to six years (Fig. 4). Poly House Dryer fabricators recommends laying of kadappa black stone as flooring material inside the Poly House Dryer, as the kadappa black stone absorb heat during day time and release at nigh hours. Currently, Solar Tunnel Dryer is used for drying various agro-products (spices, oil seeds, medicinal herbs, areca and coconut).

In an attempt to assess the usefulness of solar dryer for drying coffee samples, CCRI had procured a very simple portable Solar Cabinet Dryer developed by ICRISAT (Fig. 5). The result of the drying trials conducted using Solar Cabinet

Fig.4 Poly House Solar Dryer

Fig.5 Solar Cabinet Dryer

Dryer at CCRI indicated that Solar Cabinet Dryer could reduce drying days by a maximum of two days, as compared to conventional sun drying. This is due to the prevalence of humid air (air with high RH) at the coffee estates which are generally located at higher elevation. At higher elevation, the RH of the air is always greater when compared to the RH of air in low elevations and the RH of air is very crucial in determining the drying rates.

Recently, a survey was conducted to assess the performance of Solar Tunnel Dryers or Poly House Dryer installed in the Jayapura Hobli (Chikkamagaluru district) and Belur Taluk in Hassan district and the following are the observations made during the survey.

Fig. 6 Poly House Solar Dryer surrounded by vegetation

Fig 7. Mould Infestation in Cherry Coffee Samples in Poly House Solar Dryer

i) In general, drying yard should be constructed in an elevated area and the area surrounding the drying yard should also be free from any vegetation so as to capture the maximum sun light and better air movement. During the survey, it was observed that in most of the estates, the Solar Tunnel Dryers are housed at a lower area in the estate and also surrounded by lot of vegetation (Fig.6).

ii) The Poly House Dryer installed varies from estate to estates in respect of dimension (height and width should be of standard size while length may vary according to the need). The standard dimensions (height and width) should be maintained to build up the temperature inside the Poly House Dryer.

iii) There is no uniformity in the overall structure of Poly House Dryer installed across the coffee estates. In some of the estates, the Solar Tunnel Dryer fitted with turbo ventilator on the top of the Poly House Dryer and also exhaust fan on the sides of Poly House Dryer. In other estates, no turbo ventilator and exhaust fan fitted in the Poly House Dryer.

iv) Mould infestation was observed in cherry coffee samples in the Poly House Dryer with no turbo ventilator and exhaust fans fitted. This is due to rewetting of cherry coffee samples (Fig 7).

v) In some of the estates, heaters are being used to supply hot air inside the Poly House Solar Dryer. Some planters are using dehumidifier to drive out the moist air from Poly House Solar Dryer (Fig. 8).

Fig 8. Poly House Dryer Fitted With Dehumidifier

Taking into account the observations made during the survey, it appears that the Poly House Solar Dryer installed across the coffee estates are not matching to the standard Poly House Solar Dryer recommended for drying various agro-products. It is pertinent to mention at this juncture that Solar Tunnel Dryer/Poly House Solar Dryer are different from Nursery Poly Houses. Solar Tunnel Dryers/Poly House Solar Dryers are meant for drying various agro-products where the temperature will be high but RH will be less. In contrary, Nursery Poly Houses are designed for raising seedlings/saplings where RH will high but temperature will be less. Therefore, it is highly recommended to give due considerations while installing the Poly House Solar Dryer in respect of location (place where Poly House Solar Dryer to be housed), standard structured (Hightened width) specifications, additional fittings [adequate numbers of turbo ventilator (preferably sensor-based turbo-ventilator to regulate the RH levels inside the Poly House Solar Dryer, exhaust fans and dehumidifiers (if required)], so as to achieve the maximum potential of the Poly House Solar Dryer.

JUNE

South-West Monsoon Areas:

1. Completion of dadap lopping.
2. Planting stakes/ seedlings of shade plants (both temporary & permanent) in new clearings and open patches.
3. In new clearings closing of pits.
4. Supply planting, staking and mulching.
5. Weeding & de-suckering in established fields.
6. Clearing of drains and renovation of cradle pits / trenches.
7. Installation of light traps for collection and destruction of moths of hairy caterpillars.
8. Control measures against shoot-mealy bug, and green scale, if necessary.
9. **Black rot**: Completion of handling centring of bushes in black rot endemic blocks and spraying with 1% Bordeaux mixture or 0.03% (120g / 200 litres of water) Bavistin 50 WP (Carbendazim).
10. **Leaf Rust**: Pre-monsoon spraying of 0.5% Bordeaux mixture as pre-monsoon application against coffee leaf rust. Susceptible varieties like S.795, Cauvery etc., should be sprayed with systemic fungicide like Bayleton 25 WP @ 0.02% a.i. (160g in 200 litres of water)
11. **Nursery**: Thinning and removal of pendal depending on weather and aftercare.
12. **Berry Borer**: If berry borer is noticed, spot sprays with chlorpyriphos 20EC or Beauveria bassiana may be taken up.

North East Monsoon Areas:

Same as above, except items 1 and 2. Liming for correction of soil pH wherever necessary.

JULY

South –West Monsoon Area:

1. Handling, centring and de-suckering. In marginal areas, centring should be minimised in Arabica to avoid exposure of main stem so as to minimise the risk of stem borer attack.
2. **Black Rot**: In black rot effected plants, removal and destruction of black rot affected twigs, leaves etc. should be done followed by drenching spray with *Bavistin* 50 WP @ 0.03% (*Carbendazim* 120g per barrel) during the break in rains.
3. Sash weeding.
4. Planting including supply planting- weather permitting.
5. Removal and burning of shot-hole borer infested twigs.
6. **Nursery**: Aftercare of seedlings.
7. **Berry Borer**: If berry borer is noticed, spot sprays with *Beauveriabassiana* may be taken up.

North-East Monsoon Areas:

1. Dadap lopping.
2. Planting dadap stakes, permanent shade seedlings and Coffee depending on weather conditions.
3. Rest as above.

AUGUST

South-West Monsoon Areas:

1. Weeding to be continued.
2. Handling, centring and de-suckering to be continued. In marginal areas, centring should be minimised in Arabica to avoid exposure of main stem so as to minimise the risk of stem borer attack.
3. Planting, if weather permits.
4. **Stem Borer:** Tracing & destruction/disposal of stem borer affected plants.
5. Control measures against cockchafer, if necessary.
6. Removal and burning of shot-hole borer infested twigs.
7. **Black Rot**: In black rot affected plants, removal and destruction of black rot affected twigs, leaves etc. should be done followed by drenching spray with Bavistin 50 WP @ 0.03% (*Carbendazim* 120g per barrel) during the break in rains.
8. Mid monsoon manuring (during break in the monsoon)
9. **Berry Borer**: If berry borer is noticed, spot sprays with *Beauveriabassiana* or *Chlorpyriphos* 20EC may be taken up.

North-East Monsoon Areas:

Pre-monsoon spraying with 0.5% *Bordeaux* mixture against leaf rust. Rest as above.

SEPTEMBER

South-West Monsoon Areas

1. Planting coffee and shade trees
2. Stem Borer: Tracing & burning of Stem borer affected plants to be completed before end of March in the entire estate without fail. If uprooted stumps are to be retained for further use, immerse them in water for about 10 days to kill all pest stages.
3. Control measures against cockchafer, if necessary
4. Control measures against hairy caterpillars
5. Control measures against green scale, if necessary
6. **Leaf Rust:** Post-monsoon spray against leaf rust in Arabica with systemic fungicides like *Triademefon* @ 0.02% a.i. (*Bayleton* 25 WP @ 160g in 200 litres of water) or *Hexaconazole*@ 0.01% (*Contaf* 5% EC @ 400 ml in 200 litres of water). Tolerant VARITIES LIKE Chandragiri, Sln.6, Sln.5B can be sprayed with 0.5% *Bordeaux* mixture
7. **Nursery:** Spraying nursery seedlings with dithane M-45 or Ferbam at 0.4% or Foltaf at 0.3% against brown eye-spot disease
8. Post monsoon manuring
9. Regulation of dadapshade
10. Shot-hole borer tracing, removal and burning of infested twigs
11. **Berry Borer:** Control measures against berry borer. Harvesting of borer infested berries, if present and treat them with hot water. Spot spray with *Chlorpyriphos* especially in the case of Robusta.

North-East Monsoon Areas

Same as above.

OCTOBER

South-West Monsoon Areas:

1. **Leaf Rust:** Post monsoon spraying with 0.5% *Bordeaux* mixture or 0.2% a.i of *Bayleton* 25 WP to be completed.
2. Menuring (post monsoon)
3. **Stem Borer:** Spraying / Swabbing / with *Chlorpyriphos* to protect the healthy plants, In open patches and in border areas adjoining poorly maintained estates, adopt any one the measures like scrubbing or coating with 10% lime or wrapping with woven polythene strips made from used fertilizer bags.
4. Control measures against green scale, if necessary.
5. Control measures against cockchafer, if necessary.
6. Control measures against hairy caterpillars.
7. Clean weeding in Arabica blocks.
8. Handling, centring and de-suckering, where excess vegetative growth is observed. In marginal areas, centring should be minimised in Arabica to avoid exposure of main stem so as to minimise the risk of stem borer attack.
9. Regulation of temporary shade (by lopping dadaps)
10. Cover digging in new clearings and light digging in older areas, if necessary.
11. Opening cradle pits / staggered trenches in sloppy areas.
12. Removal of hanging branches in permanent shade trees.
13. Cleaning and preparation of drying yard, pulper site and pulping equipment.
14. Removal and burning of shot-hole borer infested twigs.
15. **Berry Borer:** Harvesting of borer infested berries, if present and treat them with hot water. Installation of Broca traps. Spot spray with *Chlorpyriphos* in Robusta.
16. **Nursery work:** Erection of pendal. Spraying of nursery seedlings with *Dithane* M-45 or *Indofil* M45 at 0.4% against brown eye-spot disease.
17. **Root diseases:** Drench the soil with *Bavistin* 50 WP at 0.4% (24 g/3 lt.) or *Vitavx* 75 WP at 0.3% (12g/3 lt.) in the early wilting stage. It should be followed by application of F.Y.M. or compost @ 10 kg/plant once in 2 or 3 years.

North East Monsoon Areas:

1. Planting of coffee
2. Rest as above

NOVEMBER

South-West Monsoon Areas

1. Clean weeding in Robusta blocks.
2. Liming for correction of soil wherever necessary
3. In new clearings, cover digging during the year of planting followed by scuffling during 2nd and 3rd year
4. Control measures against hairy caterpillars.
5. Forking, mulching and hutting young plants in new clearings.
6. Winter irrigation with sprinklers in Robusta blocks, depending on rainfall conditions and availability of water.
7. Lime washing young dadap stems.
8. Commencement of Arabica harvesting and processing.
9. Removal and burning of shot-hole borer infested twigs in Robusta coffee.
10. Control measures against coffee berry borer-installation of Broca traps. Spot spray with *Chlorpyriphos* in Robusta.

North-East Monsoon Areas

1. Regulation of dadap shade.
2. Post-monsoon spraying with 0.5% *Bordeaux* mixture against leaf rust.
3. Rest as above.

May and June 2021

In this column, the extracted information from May 2021 and June 2021 Coffee Market Reports of ICO on global production, global prices, world consumption and global exports as well as domestic coffee prices and exports are covered.

Global Production and Consumption

Global coffee production in coffee year 2020/21 is estimated to rise by 0.3% to 169.50 million bags. Arabica production is expected to increase by 2.2% to 99.1 million bags while the production of Robusta coffee is expected to decrease by 2.1% to 70.4 million bags. At the regional level, African output is expected to remain unchanged at 18.68 million bags in coffee year 2020/21 in comparison with the previous coffee year. Production for Asia & Oceania is forecast to fall by 1.1% from 49.45 million bags in 2019/20 to 48.93 million in 2020/21. Production for Mexico & Central America is expected to decrease by 2.6% at 19.01 million bags against 19.60 million bags in coffee year 2019/20. An increase of 2% in production is expected from South America at 82.8 million bags, compared with 81.2 million bags in 2019/20.

However, Brazilian production for the next crop year 2021/22, which has already started, is expected to decrease significantly as it is the off-year production cycle of Arabica coffee and was substantially affected by below average rainfall. Regarding performance expected from groups, production of Colombian Milds and Brazilian Naturals will increase by 2.4% and 4.3% to 15.9 million bags and 54.4 million bags respectively. The production of Other Milds and Robusta will decrease by 1.8% and 2.1% to 28.8 million and 70.36 million bags respectively.

World coffee consumption is projected to increase by 1.9% to 167.2 million bags in 2020/21 compared to 164.1 million bags for coffee year 2019/20, but still 0.8% below the level of 168.5 million bags before the outbreak of the pandemic. With the easing of pandemic restrictions related to Covid-19 and the subsequent prospects of economic recovery, world consumption is expected to continue growing. Consumption in importing countries is anticipated to increase by 2.3%, to 116.7 million bags, while domestic consumption in coffee-exporting countries is expected to increase by 1% at 50.5 million bags. The supply/demand ratio is expected to tighten as total supply is forecast 1.4% higher than demand in coffee year 2020/21 as compared to 3.2% in 2019/20. With the expected reduction in outputs from many exporting countries in coffee year 2021/22, total supply is likely to fall below world consumption.

Prices

Domestic Market Prices: ICTA (Bangalore) Weekly Auction Prices (Rs./kg)

Month/ Week	May'21	May'20	May'21	May'20	May'21	May'20	May'21	May'20	May'21	May'20
	I		II		III		IV		Average	
Plant . 'A'	---	---	---	---	---	---	---	295.50	---	**295.50**
Arb.chy. 'AB'	---	---	---	---	---	---	---	---	---	---
Rob.Pmt. 'AB'	---	---	---	---	---	---	---	---	---	---
Rob.Chy. 'AB'	---	---	---	---	---	---	---	---	---	---

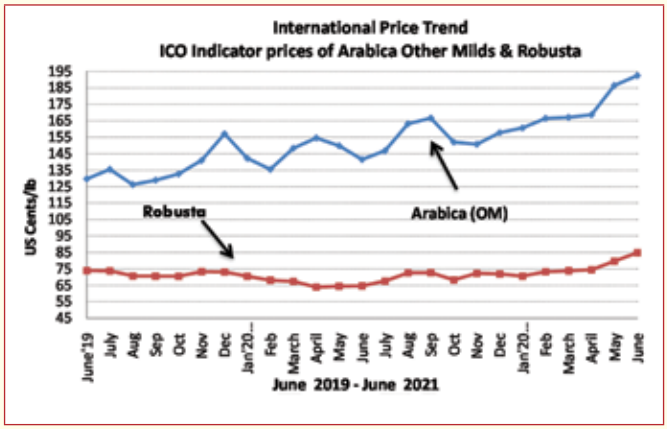
Month/	Jun'21	Jun'20	Jun'21	Jun'20	Jun'21	Jun'20	Jun'21	Jun'20	Jun'21	Jun'20
Week	I		II		III		IV		Average	
Plant . 'A'	---	295.00	---	295.00	---	295.00	---	295.00	---	**295.00**
Arb.Chy. 'AB'	---	---	---	---	---	---	---	---	---	---
Rob.Pmt. 'AB'	---	---	---	160.00	---	---	---	---	---	**160.00**
Rob.Chy. 'AB'	---	---	---	---	---	---	---	---	---	---

International Spot Prices – ICO Daily Group Indicator Prices of Arabica (Other Milds) and Robustas

In June 2021, coffee prices recorded the eighth consecutive month of increase, triggered by the expectations of reduced supply from some origins in addition to disruptions in trade flows. The monthly average of the ICO composite indicator rose by 4.6% from 134,78 US cents/lb in May 2021 to 141.03 US cents/lb in June 2021. This level reached in June 2021 is 42.4% higher than June 2020 and represents the eighth consecutive month of increase and this is also the highest monthly average since the level of 145.82 US Cents/lb registered in November 2016. Prices of all four groups of coffee have recorded a substantial increase. Increased activities of non-commercial speculative sector were also recorded in June 2021, as growing net long positions supported price trends upward.

Prices for all group indicators increased in June 2021 and achieved their highest records over many years. The price of 206.53 US cents/lb for Colombian Milds reached in June 2021 is the highest monthly average since the level of 222.59 US cents/lb recorded in October 2014. It also represents a rise of 40.3% from the level of 147.16 US cents/lb recorded in June 2020. Price for Other Milds increased by 3.2% to 192.45 US cents/lb compared to 186.46 US cents/lb in May, which is the highest monthly average since 193.60 US cents/lb in December 2014. The average price for Brazilian Naturals, which rose by 5.2% to 148.12 US cents/lb, is the highest monthly average since 157.12 US cents/lb in November 2016. Moreover, compared to its level of 92.56 US cents/lb in June 2020, the Brazilian Naturals indicator increased by 60% in June 2021. The Robusta indicator price recorded a 6.5% increase to 84.85 US cents/lb compared to 79.68 US cents/lb in May 2021. The Robusta price in June 2021 is also the highest monthly average since 85.32 US cents/lb recorded in October 2018.

The continued price firmness is confirmed by the behaviour of the futures markets. The monthly average of the 2nd and 3rd positions in the New York Futures market rose by 2.6%, to 156.43 US cents/lb, in June 2021 from 152.42 US cents/lb in May 2021, the highest level since November 2016. In the case of the London futures market, the monthly average of the 2nd and 3rd positions rose by 5.8%, to 73.16 US cents/lb, in June 2021 compared with 69.15 US cents/lb in May 2021. The level of June 2021 for the London futures market is the highest since 75.23 US cents/lb recorded in November 2018.



The differential between Colombian Milds and Other Milds increased by 12.2% to 14.09 US

cents/lb and the differential between Colombian Milds and Brazilian Naturals increased by 0.4%. The differentials between Other Milds and Brazilian Naturals decreased by 2.8% to 44.32 US cents/lb in June 2021. As the price increase for Robusta group was the highest of the four groups in June 2021, the differentials between the Arabica groups and the Robusta group widened by only 2%, 0.8% and 3.4% by Colombian Milds, Other Milds and Brazilian Naturals respectively.

Exports:

Global exports of all forms of coffee in May 2021 totalled 9.78 million bags, representing a 10.1% decrease compared with 10.9 million bags in May 2020. Exports of green coffee in May 2021 declined by 12.3% on May 2020 while exports of roasted and soluble coffee increased by 20.1% and 9.7% respectively. The decline in green coffee exports was significant for Colombian Milds, as shipments in May 2021 were 55.2% lower than in May 2020. Green coffee exports of Other Milds and Robusta declined by 3.9% and 6.5% respectively in May 2021 compared with their levels of May 2020. The decline in the exports of the Colombian Milds was due largely to the social unrest throughout Colombia, the main origin of this group, which hampered the normal flow of exports. Nevertheless, cumulative green coffee exports of the four groups over the first eight months of coffee year 2020/21 increased by 3.1%, to 79.53 million bags, compared with 77.06 million bags during the same period in coffee year 2019/20.

In regional terms, exports of all forms of coffee from Africa decreased by 3.2% to 8.68 million bags in the first eight months of coffee year 2020/21. Asia & Oceania's coffee exports declined by 6.0% to 26.06 million bags in October 2020 to May 2021.

Exports from Mexico & Central America fell by 6.5%, to 10.43 million bags, compared with 11.16 million bags exported over the same period during coffee year 2019/20. From October 2020 to May 2021, South America's exports increased by 12.3%, to 42.11 million bags.

Indian coffee exports (01.01.2021 to 30.06.2021) in MT

Sl. No.	Exports	Provisional exports		Provisional re-exports		Total provisional exports	
		Indian coffee	corresp-onding period last year	Provisional re-exports	corresp-onding period last year	Total provisional exports	corresponding period last year
		1	**2**	**3**	**4**	**(1+3)**	**(2+4)**
1	Ar. Pmt.	27572	21630	0	5	27572	21635
2	Ar. Chy.	7806	8003	1	0	7807	8003
3	Rob. Pmt.	14089	17170	0	0	17089	17170
4	Rob. Chy.	83087	78039	0	0	83087	78039
5	Roasted seeds	25	27	0	0	25	27
6	R&G	112	88	1	0	113	88
7	Instant	12950	6250	47116	42663	60066	48913
8	Total	145641	131208	47119	42668	192759	173876

Compiled by: *Dr. D.R. Babu Reddy, Dy. Director (Research), MIU, Coffee Board, Bengaluru*

मई और जून 2021

इस कॉलम में, स्वदेशी कॉफ़ी मूल्य एवं निर्यात के साथ-साथ वैश्विक उत्पादन, वैश्विक मूल्य, विश्व उपभोग तथा वैश्विक निर्यातों पर आईसीओ कॉफ़ी बाज़ार रिपोर्ट मई 2021 और जून 2021 की सार-सूचना सम्मिलित है।

वैश्विक उत्पादन एवं उपभोग

कॉफ़ी वर्ष 2020/21 में वैश्विक कॉफ़ी उत्पादन 0.3% बढ़कर 169.50 मिलियन बैग्स होने का अनुमान लगाया गया है। अरेबिका का उत्पादन 2.2% बढ़कर 99.1 मिलियन बैग्स होने की उम्मीद की गई है। रोबस्टा कॉफ़ी का उत्पादन 2.1% घटकर 70.4 मिलियन बैग्स होने की उम्मीद की गई है। क्षेत्रीय स्तर पर, अफ्रीकी उत्पादन पिछले कॉफ़ी वर्ष की तुलना में कॉफ़ी वर्ष 2020/21 में 18.68 मिलियन बैग्स पर अपरिवर्तित होने की उम्मीद की गई है। एशिया और ओशियानिया का उत्पादन 2019/20 में 49.45 बैग्स से 1.1% घटकर 2020/21 में 48.93 मिलियन बैग्स होने का पूर्वानुमान है। मेक्सिको और मध्य अमेरिका का उत्पादन कॉफ़ी वर्ष 2019/20 में 19.60 मिलियन बैग्स के विपरीत 2.6% की कमी के साथ 19.01 मिलियन बैग्स होने की उम्मीद की गई है। दक्षिण अमेरिका का उत्पादन वर्ष 2019/20 में 81.2 मिलियन बैग्स की तुलना में 2% वृद्धि होने के साथ 82.8 मिलियन बैग्स होने की उम्मीद की गई है।

हालांकि, अगले फसल वर्ष 2021/22 के लिए ब्राज़ील का उत्पादन, जो पहले ही शुरू हो चुका है, काफ़ी कम होने की उम्मीद है क्योंकि यह अरेबिका कॉफ़ी का अनुत्पादन चक्र है। यहां औसत से कम वर्षा ने उत्पादन को काफी हद तक प्रभावित किया गया था। समूहों के निष्पादन के संबंध में, कोलम्बियाई मृदु और ब्राज़ीलियाई नैचुरल्स का उत्पादन क्रमश: 2.4% और 4.3% बढ़कर 15.9 मिलियन बैग्स और 54.4 मिलियन बैग्स हो जाएगा। अन्य मृदुओं और रोबस्टा का उत्पादन क्रमश: 1.8% और 2.1% घटने के साथ 28.8 मिलियन बैग्स और 70.36 मिलियन बैग्स हो जाएगा।

कॉफ़ी वर्ष 2019/20 में विश्व कॉफ़ी का उपभोग 164.1 मिलियन बैग्स की तुलना में 2020/21 में 1.9% बढ़कर 167.2 मिलियन बैग्स होने का अनुमान किया गया है, लेकिन महामारी के प्रकोप से पहले 168.5 मिलियन बैग्स के स्तर से भी 0.8% नीचे है। कोविड-19 महामारी के अवधि में लगे प्रतिबंधों में ढ़िलाई से और इसके साथ-साथ आर्थिक सुधार की संभावनाओं से विश्व उपभोग बढ़ जाने की उम्मीद किया गया है। आयातित देशों में उपभोग 2.3% बढ़कर 116.7 मिलियन बैग्स की प्रत्याशित किया गया है, जबकि कॉफ़ी निर्यातक देशों में घरेलू उपभोग 1% बढ़ने से 50.5 मिलियन बैग्स होने की उम्मीद है। आपूर्ति/मांग का अनुपात सीमित होने की उम्मीद है क्योंकि कुल आपूर्ति 2019/20 में 3.2% की तुलना में कॉफ़ी वर्ष 2020/21 में मांग से 1.4% अधिक होने का पूर्वानुमान है। कॉफ़ी वर्ष 2021/22 में अनेक निर्यातक देशों के उत्पादन में अपेक्षित कमी होने से, कुल आपूर्ति विश्व उपभोग से भी कम होने की संभावना है।

मूल्य

स्वदेशी बाज़ार मूल्य : आईसीटीए (बेंगलूरु) साप्ताहिक नीलामी मूल्य (₹/कि.ग्रा)

माह / सप्ताह	मई' 21	मई' 20	मई' 21	मई' 20	मई' 21	मई' 20	मई' 21	मई' 20	मई' 21	मई' 20
	I		II		III		IV		औसत	
प्लांटे 'ए'	---	---	---	---	---	---	---	295.50	---	295.50
अरे. चेरी 'ए बी'	---	---	---	---	---	---	---	---	---	---
रोब. पार्च. 'ए बी'	---	---	---	---	---	---	---	---	---	---
रोब. चेरी 'ए बी'	---	---	---	---	---	---	---	---	---	---

माह / सप्ताह	जून'21	जून'20	जून'21	जून'20	जून'21	जून'20	जून'21	जून'20	जून'21	जून'20
	I		II		III		IV		औसत	
प्लांटे 'ए'	---	295.00	---	295.00	---	295.00	---	295.00	---	295.00
अरे. चेरी 'ए बी'	---	---	---	---	---	---	---	---	---	---
रोब. पार्च. 'ए बी'	---	---	---	160.00	---	---	---	---	---	160.00
रोब. चेरी 'ए बी'	---	---	---	---	---	---	---	---	---	---

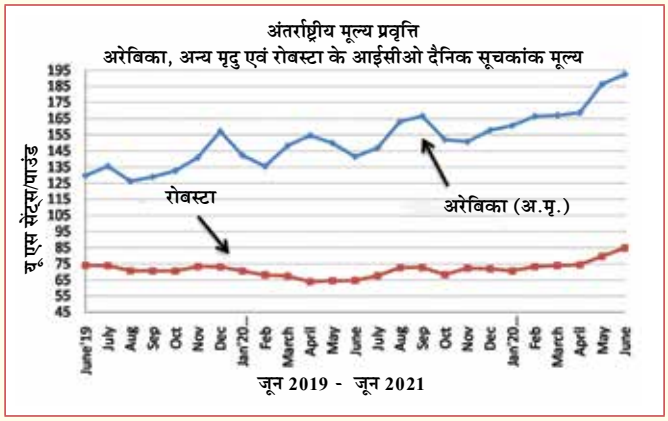
अंतर्राष्ट्रीय तत्स्थान मूल्य:- अरेबिका (अन्य मृदु) तथा रोबस्टा के आईसीओ दैनिक समूह सूचकांक मूल्य

व्यापार के बहाव में अवरोधों के अलावा, कुछ स्रोतों से आपूर्ति कम होने की उम्मीदों से जून 2021 में, कॉफ़ी की कीमतों में आठवें महीने तक लगातार वृद्धि दर्ज की गई। आईसीओ समष्टिक सूचकांक का मासिक औसत मई 2021 में 134.78 यू एस सेंट्स/पाउंड से 4.6% बढ़कर जून 2021 में 141.03 यू एस सेंट्स/पाउंड हो गया। जून 2020 की तुलना में जून 2021 में यह स्तर 42.4% उच्चतर रहा। यह आठवें महीने तक की लगातार वृद्धि को सूचित करती है और यह नवंबर 2016 में दर्ज किए गए 145.82 यूएस सेंट्स/पाउंड के स्तर के बाद उच्चतम मासिक औसत भी है। कॉफ़ी के सभी चार समूहों की कीमतों में पर्याप्त वृद्धि दर्ज की गई हैं। गैर-व्यावसायिक सट्टा क्षेत्र की बढ़ती हुई गतिविधियों को भी जून 2021 में दर्ज की गई थी, क्योंकि बढ़ती हुई नेट लॉग पोजीशन ने कीमतों के बढ़ते ट्रेंड की ओर समर्थन दिया।

जून 2021 में सभी समूह सूचकांकों की कीमतों में वृद्धि हुई हैं और कई वर्षों तक अपने उच्चतम रिकॉर्ड हासिल किए। जून 2021 में, 206.53 यूएस सेंट्स/पाउंड के कोलंबियाई मृदु की कीमत, अक्तूबर 2014 में दर्ज किए गए 222.59 यूएस सेंट्स/पाउंड के स्तर के बाद का उच्चतम मासिक औसत है। यह जून 2020 में दर्ज किए गए 147.16 सेंट्स/पाउंड के स्तर से 40.3% वृद्धि को भी दर्शाती हैं। अन्य मृदुओं की कीमत, मई में 186.46 यूएस सेंट्स/पाउंड की तुलना में कीमत 3.2% बढ़कर 192.45 यूएस सेंट्स/पाउंड हो गई, जो दिसंबर 2014 में 193.60 यूएस सेंट्स/पाउंड के बाद के सबसे अधिक मासिक औसत है। ब्राज़ीलियाई नैचुरल्स की औसत कीमत, 5.2% बढ़कर 148.12 यूएस सेंट्स/पाउंड हो गई, जो नवंबर 2016 में 157.12 यूएस सेंट्स/पाउंड के बाद का उच्चतम मासिक औसत है। इसके अलावा, जून 2020 में 92.56 यूएस सेंट्स/पाउंड की तुलना में, जून 2021 में ब्राज़ीलियाई नैचुरल्स सूचकांक में 60% की वृद्धि हुई। रोबस्टा के सूचकांक मूल्य मई 2021 में 79.68 यूएस सेंट्स/पाउंड की तुलना में 6.5% की वृद्धि के साथ 84.85 यूएस सेंट्स/पाउंड दर्ज की गई। जून 2021 में रोबस्टा की कीमत भी अक्तूबर 2018 में दर्ज किए गए 85.32 यूएस सेंट्स/पाउंड के बाद का उच्चतम मासिक औसत है।

फ्यूचर्स बाजारों के व्यवहार से स्थायी मूल्य स्थिरता की पुष्टि मिली है। न्यूयॉर्क फ्यूचर्स बाज़ार में दूसरे और तीसरे स्थान का मासिक औसत मई 2021 में 152.42 यूएस सेंट्स/पाउंड से 2.6% बढ़कर जून 2021 में 156.43 यूएस सेंट्स/पाउंड हो गया, जो नवंबर 2016 के बाद का उच्चतम स्तर है। लंदन फ्यूचर्स बाज़ार के मामले में, जून 2021 में दूसरे और तीसरे स्थान का मासिक औसत 5.8% बढ़कर 73.16 यू एस सेंट्स/पाउंड हो गया, जबकि मई 2021 में 69.15 यू एस सेंट्स/पाउंड था। नवंबर 2018 में दर्ज किए गए 75.23 यू एस सेंट्स/पाउंड के बाद लंदन फ्यूचर्स बाज़ार का जून 2021 के स्तर अत्यधिक है।

कोलंबियाई मृदु और अन्य मृदुओं के बीच का अंतर 12.2% बढ़कर 14.09 यूएस सेंट्स/पाउंड हो गया और कोलंबियाई मृदु और ब्राज़ीलियाई नैचुरल्स के बीच का अंतर 0.4% बढ़ गया। जून 2021 में अन्य मृदुओं और ब्राज़ीलियाई नौचुरल्स के बीच का अंतर 2.8% घटकर 44.32 यूएस सेंट्स/पाउंड हो गया। जून 2021 में चार समूहों में रोबस्टा समूह के कीमतों में अत्यधिक वृद्धि होने से अरेबिका समूह और रोबस्टा समूह के बीच का अंतर क्रमश: कोलम्बियाई मृदु, अन्य मृदु और ब्राज़ीलियाई नौचुरल्स द्वारा केवल 2%, 0.8% और 3.4% बढ़ा।



अंतर्राष्ट्रीय मूल्य प्रवृत्ति

अरेबिका, अन्य मृदु व रोबस्टा के आईसीओ दैनिक सूचकांक मूल्य

निर्यात:

मई 2021 में कॉफ़ी के सभी प्रकारों का वैश्विक निर्यात कुल 9.78 मिलियन बैग्स था, जो मई 2020 में 10.9 मिलियन बैग्स की तुलना में 10.1% की कमी दर्शाती है। मई 2021 में हरी कॉफ़ी के निर्यात में 12.3% की गिरावट आई, जबकि मई 2020 में भुनी हुई और घुलनशील कॉफ़ी के निर्यात में क्रमश: 20.1% और 9.7% की वृद्धि हुई थी। हरी कॉफ़ी के निर्यात में कमी होना, कोलंबियाई मृदुओं के लिए महत्वपूर्ण था, क्योंकि मई 2020 की तुलना में मई 2021 का नौभरण 55.2% कम थे। मई 2020 में अन्य मृदु और रोबस्टा के ग्रीन कॉफ़ी निर्यात के स्तर की तुलना में मई 2021 में, उनके निर्यात क्रमश: 3.9% और 6.5% तक गिरी । इस समूह के मुख्य स्रोत कोलंबिया में सामाजिक अशांति फैलने के कारण कोलम्बियाई मृदु के निर्यात में गिरावट आई, जो निर्यात के सामान्य प्रवाह को बाधित किया। फिर भी, कॉफ़ी वर्ष 2020/21 के पहले आठ महीनों में चार समूहों से संचयित हरी कॉफ़ी का निर्यात 3.1% बढ़कर 79.53 मिलियन बैग्स हो गया, जबकि कॉफ़ी वर्ष 2019/20 के इसी अवधि के दौरान जिनका निर्यात 77.06 मिलियन बैग्स था।

क्षेत्रों के मद्दे नज़र, कॉफ़ी वर्ष 2020/21 के पहले आठ महीनों में अफ्रीका से सभी प्रकार की कॉफ़ी का निर्यात 3.2% घटकर 8.68 मिलियन बैग्स हो गया। अक्तूबर 2020 से मई 2021 तक एशिया और ओशियानिया का कॉफ़ी निर्यात 6.0% घटकर 26.06 मिलियन बैग्स हो गया।

मेक्सिको और मध्य अमेरिका से निर्यात 6.5% घटकर 10.43 मिलियन बैग्स हो गया, जबकि कॉफ़ी वर्ष 2019/20 के दौरान संगत अवधि में किए गए निर्यात 11.16 मिलियन बैग्स था। अक्तूबर 2020 से मई 2021 तक, दक्षिण अमेरिका का निर्यात 12.3% बढ़कर 42.11 मिलियन बैग्स हो गया।

भारतीय कॉफ़ी निर्यात (01.01.2021 से 30.06.2021 तक) मे.ट. में

क्र. सं.	निर्यात	अनंतिम निर्यात		अनंतिम पुन: निर्यात		कुल अनंतिम निर्यात	
		भारतीय कॉफ़ी	पिछले वर्ष की संगत अवधि	अनंतिम पुन:निर्यात	पिछले वर्ष की संगत अवधि	कुल अनंतिम निर्यात	पिछले वर्ष की संगत अवधि
		1	2	3	4	(1+3)	(2+4)
1	अरेबिका पार्चमेंट	27572	21630	0	5	27572	21635
2	अरेबिका चेरी	7806	8003	1	0	7807	8003
3	रोबस्टा पार्चमेंट	14089	17170	0	0	17089	17170
4	रोबस्टा चेरी	83087	78039	0	0	83087	78039
5	भुने बीज	25	27	0	0	25	27
6	भुने व पिसे	112	88	1	0	113	88
7	इंस्टंट	12950	6250	47116	42663	60066	48913
8	कुल	145641	131208	47119	42668	192759	173876

संकलन : डॉ. डी.आर. बाबू रेड्डी, उप निदेशक (अनुसंधान), एम आई यू, कॉफ़ी बोर्ड, बेंगलूरु

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1. The above rate is per insertion only
2. Advertisement charges are payable in advance. Demand Drafts should be in favour of Coffee Board **IEBR Account No. 64015049024** payable at Bengaluru.
3. Advertisement charges may also be paid through NEFT/RTGS/IMPS etc. to: **Beneficiary A/c No 64015049024 Bank: State Bank of India Branch: Dr. B.R. Ambedkar Veedhi, Bengaluru IFSC: SBIN0040022 (NOTE: please provide the UTR / Bank reference number once the money is transferred)**
4. A discount of 10% is allowed for advertisement booked for 6 continuous insertions, if paid in advance.
5. An Agency commission of 15% will be allowed for advertisements placed through accredited advertising agencies subject to submission of INS Accreditation Certificate copy. **(NOTE: Accredited advertising agencies should raise a GST invoice separately to claim agency commission)**
6. Inserts should be supplied by advertisers. Art work should reach the office of the Assistant Secretary (Indian Coffee), **Coffee Board, No.1, Dr. B.R. Ambedkar Veedhi, Bengaluru-560 001 one month in advance.**

IndianCoffee

Ministry of Commerce & Industry
No 1, Dr. Ambedkar Road, Bengaluru - 560 001
Karnataka, India
Website : www.indiacoffee.org

Preferred Soft Copy Formats: Corel Draw version 12, PDF, EPS, TIFF, JPEG-in that order meeting the following requirements:

1. Minimum Resolution 300 DPI
2. All fonts & etc., converted to curves
3. Colours/Graphics/Backgrounds/Images converted into CMYK colour profile in case of colour ads and Grey scales in case of Black & White ads.
4. The publisher cannot ensure quality of those artworks not satisfying the above

COFFEE BOARD

Ministry of Commerce & Industry, Government of India, #1, Dr. B. R. Ambedkar Veedhi, Bengaluru - 560 001
Karnataka, India Ph: 91-80-2226 6991 - 994, Fax: 91-80-2225 5557, Website: www.indiacoffee.org
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