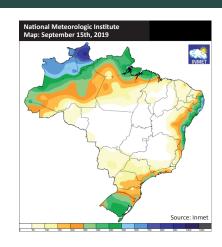
YOUR BEST SOURCE OF INFORMATION ABOUT THE BRAZILIAN COFFEE BUSINESS. THIS ISSUE:

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- NATURALS FROM RIPE CHERRIES: MECHANICAL SIPHONS, GREEN CHERRY SEPARATORS AND COLOR **SORTERS (PAGE 4)**

### (||) LACK OF RAIN AFFECTS COFFEE GROWING AREAS

The Brazilian coffee belt is being affected by high temperatures and low rainfall in the period of development of the 2020/21 crop. According to Sismet, Cooxupé's agrometeorological monitoring system, coffee producing areas have not registered substantial rainfall in the last four months. In spite of rain showers at some locations in the beginning of September, the development of coffee beans may be impacted by smaller rainfall and higher temperatures than usual. This scenario is concerning growers who are holding their coffee. Coffee quality may also decrease this season when coffee production may reach 50 million bags, a decrease of 20% compared to 2018.

Sources: Agência Estado, Cepea and Notícias Agrícolas



## (||) SEVERE DEFOLIATION CONCERNS CERRADO COFFEE GROWERS

Coffee growers in the Cerrado region, Minas Gerais, are concerned with the high rate of defoliation that may significantly reduce their 2020 production potential. The region registered a decrease of 10% in the production this crop due to adverse weather and this scenario indicates that the large crop expected for next year may not occur.

Source: Canal Rural

# (||) MORE EFFECTIVE AND LESS TOXIC FUNGICIDE TO CONTROL NEMATODES RELEASED

Products based on active ingredient Fluopiram have been released by the Brazilian government 10 years after their initial analysis was requested. The product is currently available in European countries, the United States and Australia. This highly effective and less toxic fungicide is a new option to control nematodes and fungi in potato, coffee, rice and soybean crops. All research results and information presented as well as the recommendations to be used in the packages were evaluated and approved from a toxicological and environmental point of view by the health and environmental agencies Anvisa and Ibama, respectively. The products have been considered safe to human health and the environment.

Source: Estadão Conteúdo

# (||) A DIFFERENT TYPE OF LEPROSE ATTACKS NORTH MINAS COFFEE

Leprose, a disease caused by the annular spot virus, affects leaves, branches and beans of the coffee plant. Although the disease has a widespread distribution, more severe attacks have been observed in warmer and drier regions. Leprose is presenting different symptoms in North Minas Gerais. Its impact is being observed in the external leaves facing the morning sun instead of the internal leaves facing the afternoon sun. Its lesions, usually circles, are small yellowish dots in North Minas.

Source: Procafé

### UPDATE OF RURAL ENVIRONMENTAL REGISTRY APPROVED BY DEPUTIES TO GO TO SENATE

Farmers all over Brazil will be able to apply for and update their Rural Environmental Registry (CAR, for its initials in Portuguese) at any time if the government's CAR Provisional Measure is approved by senators. The system will then be updated much more frequently and the environmental agencies, banks and other government institutions will be able to use the Registry to access information about

what is produced on properties and the status of their Legal Reserves and Permanent Protection Areas. Growers will in turn be able to join the Environmental Regularization Programs (PRA, for its initials in Portuguese) to settle their environmental liabilities.

Source: Agência FPA

# DIFFERENT SENSORS EVALUATE CONDITIONS OF PRODUCING AREAS TO INCREASE EFFICIENCY

Research is under way to evaluate the use of different sensors to identify areas that are predisposed to high or low coffee productivity. The objective is to have new tools to increase the efficiency of coffee production and to achieve higher sustainability levels. Data collection to estimate plant health and vigor is done through 14 sensors coupled to an agricultural tractor in a frequency of 5 hertz. Information about plant height, diameter, volume, vegetative vigor and vegetation index, etc. are obtained from images made with the help of drones. In addition, satellite images are also used to collect historic information, from the time of implementation of the area until today, through vegetation indexes. These techniques, already used in other cultures, have never been used in coffee.

Source: Esalq/USP

### (I) RECORD SOLUBLE COFFEE EXPORTS

Following a historical green coffee export record in 2018, Brazil soluble coffee shipments reached a record level in the 12 months from September 2018 to August 2019 with 4.0 million bags of green-coffee equivalent exported, 2.7 million of which from January to August 2019. This represents 9.8% of total Brazilian coffee exports and an increase of 10% compared to 2018. The United States imported 430 thousand bags and was the main destination of Brazilian soluble coffee in 2019 with an increase of 2.8% compared to the same period last year. Russia imported 257 thousand bags, a decrease of 10.3%, and Indonesia 196 thousand bags, an increase of 6.9% compared to 2018.

Source: ABICS

# (I) COFFEE VALUE: MINAS GERAIS' ACCOUNTS FOR OVER HALF OF BRAZIL'S AND ESPÍRITO SANTO'S FOR 3/4THS OF THE STATE'S VALUE FOR ALL AGRI-PRODUCTS

The gross production value (GPV) of all Brazilian crops must reach R\$ 399 billion (US\$ 96.8 bi) in 2019. Such estimate is led by soybeans (R\$ 129.1b / US\$ 31.3b), corn (R\$ 60.4b / US\$ 14.6b), sugarcane (R\$ 58.3b / US\$ 14.2b), cotton (R\$ 41.6b / US\$ 10.1b) and coffee (R\$ 19.6b / US\$ 4.8 b). Minas Gerais gross coffee revenues represent 54.9% of the country's total. Coffee accounts for 76.5% of revenues from all crops in Espírito Santo, 28.0% in Minas Gerais, 24.8% in Rondônia, 4,3% in Bahia, 3.8% in São Paulo, and only 1.0% in Paraná.

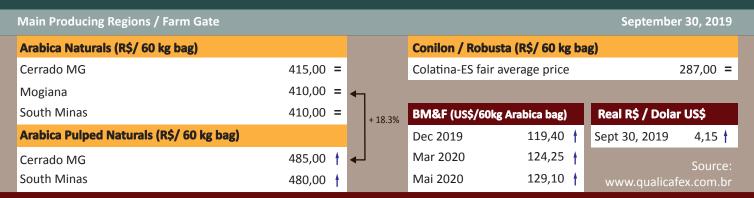
Source: Embrapa Coffee

### (||) BRAZIL THE COFFEE NATION PROGRAM HAS NEW VISUAL IDENTITY

The Brazilian Specialty Coffee Association (BSCA) presented the new visual identity of the project "Brazil. The Coffee Nation" last September during the Specialty Coffee Association of Japan's World Specialty Coffee Conference and Exhibition, Asia's main coffee event in this field. Developed as part of its partnership with the Brazilian Trade and Investment Promotion Agency (Apex-Brasil), the new concept highlights the Coffee Nation as a producer of micro and nano lots of special, exotic and high-quality coffees from different Brazilian coffee origins. It also shows the efficiency of the entire national production chain, with coffee growers of all sizes producing specialty coffees sustainably. The new visual identity aims to respond to buyers' growing demands for quality coffee.

Source: BSCA

#### **Brazilian Prices**





#### RETAINING ORIGIN DIVERSITY\*

Tough, hard realities have to be addressed in coffee producing countries to retain origin diversity. Coffee growers must make money to ensure the diversification of supply. To increase coffee prices alone may not be enough in many countries.

My experience in most producing countries, marketing coffee processing machinery to growers and traders of all sizes, cooperatives and governments, has given me good insights into what happen to coffee from seed to harbor. My work with the Global Coffee Platform has deepened these insights.

What strikes me the most is low productivity and the small percentage of the FOB export price that reaches growers. The small average farm size is another reality in most producing countries outside Brazil.

To increase productivity alone may be a double-edged sword because it may lead to over-supply and even lower prices. Therefore, we also have to bring together the FOB export prices and farm gate prices to transfer more income to growers. It is striking how much of the export price does not reach growers in many producing countries.

In order to increase both productivity and the price that reaches growers, producing countries have to improve what is called the enabling environment, i.e.: extension and training services, supply chain for inputs, equipment and coffee itself, financing, legislation, logistics, etc. This shows that the real solution does not lie within farm gate alone but also beyond it, in the business environment between farm gate and harbor

Government actions play a critical role and can make a large impact on the enabling environment that helps farmers' income to grow. An effective way to leverage government and private actions to improve the enabling environment may be precompetitive platforms involving government itself, the supply chain from seed to cup, donors and civil society.

Another structural factor that prevents many coffee growers from having a larger income is the small average size of the coffee holding. In round figures, out of US\$ 200 billion that consumers pay for coffee, US\$ 20 billion reach the producing countries and only US\$ 14 billion effectively reach the 12.5 million coffee farms around the globe. Estimating an average of a family of 4 persons per farm, the 50 million people who depend on coffee for their living receive an average of US\$ 280 each per year or less than US\$ 25 per month!

It is too many people for too little land, for too little coffee. The average size of the coffee farm around the world, between 1 and 2 hectares, is not big enough to guarantee a decent living income for coffee growers.

There will have to be fewer people growing coffee and living from it or their income will have to be increased by diversification. One possibility for growers to make more money is by planting other products, including intercropping, but the best option may be to diversify income, with many growers and their family members seeking jobs outside the farm, not necessarily in farming but especially urban jobs. Those who remain on the farms will have to treat coffee growing as a business.

This indicates that whereas we may be seeking solutions for the crisis within the coffee business alone, solutions also belong to the field of regional and national development. The challenge of increasing the very low income of coffee growers has to be addressed with the support of regional economic development policies that are beyond the coffee sector and include employment generation outside coffee farms in the forefront. The challenge will have to be addressed jointly by the coffee sector and governments with precompetitive initiatives like the Global Coffee Platform has been proposing and implementing.

Recent data collected by Enveritas shows that in countries like Costa Rica, Vietnam, Brazil and Colombia, where, I add, there are more opportunities outside farms, more coffee farmers' children are willing to leave the coffee farms because, I add again, they have better alternatives elsewhere. The large majority of children wants to stay on coffee farms in countries where, I understand, job alternatives are fewer outside.

Last but not least, another strategy to be considered by coffee producing counties is the development of local consumption. The case of Brazil shows that local coffee consumption is a unique safety net for growers at times of low prices not to say all the time. In countries where coffee consumption increases, coffee growers can sell their product to local roasters, a captive market, not to say become small roasters themselves or to open coffee shops. A sure way to ensure that a good number of origins survive is to develop domestic coffee consumption in these countries.

\* As presented in the panel "Back to the Future: The Value of Origin Diversity" at SCTA's Forum (www.sc-ta.ch). The corresponding slide deck may be accessed at http://www.peamarketing.com.br/SCTA-CarlosBrando-P&A-out2019-vfinal.pdf.



# MACHINE OF THE MONTH

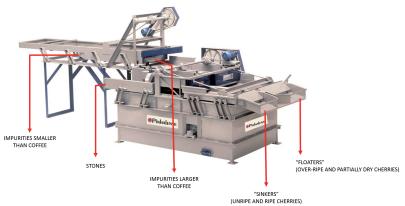


# NATURALS FROM RIPE CHERRIES: MECHANICAL SIPHONS, GREEN CHERRY SEPARATORS AND COLOR SORTERS

To produce naturals from ripe cherries requires separation of the cherries harvested except when manual picking is perfect which is seldomly the case today. Traditionally used in Brazil, where naturals play a key role in coffee supply for local consumption and exports, the Pinhalense mechanical siphons have found their place in many other producing countries as the first machine in wet mills, preceding pulpers and replacing water and labor consuming siphon tanks. However, their role in the production of naturals in typical washed coffee origins has been largely ignored until recently.

The role of the Pinhalense mechanical siphon LSC is to separate "floaters" from "sinkers", i.e., the over-ripe and partially dry cherries from those that are mostly ripe with the immature ones mixed depending on the quality of harvesting. As a result of this separation, the mechanical siphon makes over-ripe and partially dry cherries available for immediate drying under the sun, in mechanical driers or in a combination of these two drying systems, to produce one type of naturals.





To produce naturals from ripe cherries that sink in the mechanical siphon may require further separation to eliminate the unripe cherries before drying. There is much talk in the market today about using color sorters to perform this task. In spite of their cost, color sorters for cherry coffee may be an alternative for producers of high-price micro lots and specialty coffee. Yet another possibility is to use Pinhalense high-performance unripe cherry separators and produce black honeys, dried with all mucilage attached, whose cup features will be very close if not equal to naturals in most processing environments.

Producers of naturals from over-ripe and partially dry cherries may wish to separate them to be further processed in different ways. With Pinhalense technology, it is possible to separate these two types of cherries that are at different drying stages, have different organoleptic features and should be dried separately to produce naturals that can have different cup features. The larger over-ripe cherries, mostly at the "raisin" stage, have body and sweetness that make them a unique ingredient for top quality espresso blends. A combination of Pinhalense machines is therefore required to produce these so-called super-naturals: mechanical siphons and cherry graders.

The LSC mechanical siphon, that recycles all the little water that they use, is today the first piece of equipment to be used irrespectively of the type of coffee produced – natural, pulped natural / honey or washed – and offers other benefits besides cherry separation. It removes impurities smaller and larger than coffee cherries as well as stones all of which are discharged continuously and without the need for any labor. The separation of extraneous materials is critical to avoid damages to equipment and to extend the useful life of hullers and roasters, in the case of naturals, or pulpers and mucilage removers in the case of washed coffee processing. Pinhalense mechanical siphons have many advantages over conventional siphon tanks that consume a lot of water, require frequent manual discharge of stones (and also floaters, in some cases) and do not separate extraneous materials.

Pinhalense mechanical siphons LSC, available in several sizes and capacities, can be used independently from other machines to produce natural coffee from ripe cherries, to be added easily to existing milling lines made by any supplier to replace conventional siphon tanks, or used as the initial machine in Pinhalense wet milling lines.

Pinhalense unripe cherry separators and cherry color sorters will be the subject of a future Machine of the Month.