

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

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(||) COOPERATIVES EMPOWER BRAZILIAN COFFEE GROWERS

55% of Brazilian coffee is produced by farmers who are members of cooperatives. Farmers of all sizes but specially small ones benefit from belonging to cooperatives that play a fundamental role in technical assistance, processing, storage, trading and industrialization. The Brazilian cooperative system started 175 years ago to support farmers, to achieve economies of scale in the activities it carries out and to improve market access. The Brazilian Cooperative Organizations (OCB, for its initials in Portuguese) has 97 coffee cooperatives registered in its system, e.g.: Cooxupé, Coopercitrus, and Coagril. Source: Folha Rural

94% OF ALL AGROCHEMICAL PACKAGES ARE RECYCLED IN BRAZIL

Brazil is a world reference in the recycling of agrochemical packages: 94% of the packages placed in the market are recycled. The National Institute for Processing of Empty Packages (Inpev, for its initials in Portuguese) is responsible for integrating the entire agricultural chain through the "Campo Limpo" (Clean Fields) System (https://bit.ly/3Pp6x5i) to ensure an environmentally correct destination for the empty packages. The system has already processed and correctly disposed of more than 650 thousand tons of empty packages of agrochemicals since 2002. In addition, GCP's



"Responsible Use of Agrochemicals" Collective Action Initiative in Brazil (https://bit.ly/3MmsdNk) not only supports package recycling but also promotes the use of personal protection equipment, safe application of agrochemicals and suitable storage.

Sources: Federal Government and P&A

(||) BRAZIL'S PARTICIPATION AT SCA EXPO 2022 TO GENERATE US\$ 166 MILLION WORTH OF BUSINESS

The Brazilian Specialty Coffee Association (BSCA) and the Brazilian Trade and Investment Promotion Agency (ApexBrasil) promoted Brazil's participation at the Specialty Coffee Expo 2022 held in Boston, USA, last April. More than 10,000 participants attended the event and more than 420 companies exhibited there. Brazilian participation generated immediate business of US\$ 18.6 million and US\$ 147.6 million is expected to be generated in the next 12 months.

Source: BSCA

) VOLUME AND QUALITY OF COFFEE CONSUMPTION GROWING IN BRAZIL

Brazilian coffee consumption keeps growing above the world average: 1.71 vs. 1.33% last year. Local consumption accounted for about 45% of production. The drop of consumption in restaurants, coffee shops and office coffee services due to the pandemics caused retail sales for at-home consumption to reach 84% of total sales. Brazilian coffee consumers have three different profiles. The largest group consumes traditional and extra-strong coffees and is not yet concerned with higher quality coffees. The second group brings together those who are also familiar with superior, gourmet and specialty coffees and consume them in different situations. The third and smallest group is more quality minded and only consumes specialty coffees. The trend of specialty coffee consumption started 20 years ago in Brazil and gained greater momentum in the last 10 years.

Source: Fast Company Brazil

(I) BRAZILIAN COFFEE PRODUCTIVITY MAY EXCEED 1.8 TONS PER HECTARE

Coffee production in Brazil is estimated at 55.7 million bags in 2022 with an average productivity of 30.6 bags per hectare. Arabica coffee is expected to reach 38.7 million bags and Conilon 17 million bags. The area planted with Arabica is estimated at 1.43 million hectares with an average productivity of 27.1 bags/ha, a decrease of 0.2% and an increase of 23.6%, respectively, compared to 2021. The estimate of the area planted with Conilon and Robusta is 389 thousand hectares and productivity 43.4 bags/ha, an increase of 3.7% and 0.4%, respectively, compared to 2021.



Source: Embrapa Café

(I) AMAZON ROBUSTA PRODUCTION TO INCREASE 10% IN 2022

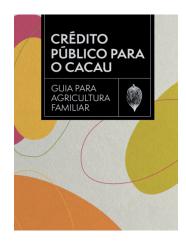
Coffee harvesting of Amazon Robusta coffee in Rondônia has already started and the total crop is expected to reach 2.5 million bags, an increase of 10% compared to 2021. Amazon Robusta is a hybrid of two varieties that have adapted well to the region's climate and soil conditions and is produced sustainably.

Source: Globo Rural

FERMENTED COFFEE ATTRACTS GROWERS AND COFFEE SHOPS

Undue fermentation of coffee beans can cause defects in the product. However, when fermentation is carried out in a controlled way, positive flavors and aromas are obtained. The production of specialty coffees with induced fermentation has been increasingly attracting growers and coffee shops in Paraná. The 19th edition of the Paraná Coffee Quality Contest, held in 2021, included the "induced fermentation" category and the winning coffee lot scored 86.60 points.

Source: Cafeicultura Magazine

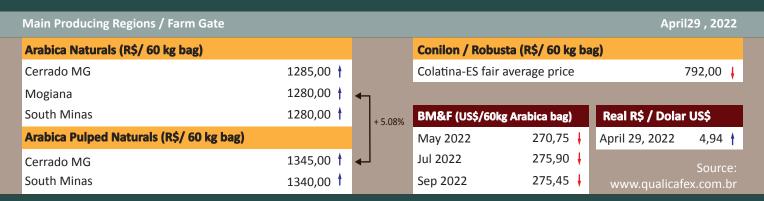


(I) GUIDE FOR SMALL COCOA FARMERS TO ACCESS CREDIT IS RELEASED

More than 10 different lines of credit offer up to R\$ 400,000 (US\$ 78,000) per grower in financing for small cocoa farmers in Brazil. With interest rates ranging from 0.5% to 4.5% per year, the program is an important tool for promoting family agriculture. However, many farmers fail to obtain the credit due to the complexity of the operation. In order to facilitate the understanding of this process, Instituto Arapyaú and the Solidaridad Foundation developed the Guide for Family Agriculture to Access Government Credit. The guide can be accessed at https://bit.ly/3yGEFno.

Source: CocoaAction Brasil

Brazilian Prices





THE RISE IN ROBUSTA PRODUCTION AND CONSUMPTION

The share of Robusta in world coffee production has risen from about 25% in 1980 to around 35% in 2005, exceeded 42% in 2020 and may be moving towards 45% or above. Brazil will have a record Conilon crop this year, Vietnam is likely to have a normal year and Uganda is the new rising star in Robusta production. in addition, traditional Arabica producers like Mexico and Nicaragua are increasing their Robusta production not to mention that Colombia is also planting it.

The recent rise in green coffee prices as well as the drop in incomes in many countries due to the pandemics are likely to call for the increase of the Robusta share in coffee blends in order to limit the increase in coffee prices to consumers. These recent trends add up to more fundamental and long-term coffee market changes that have favored the long-term increase in Robusta production and consumption.

An important market development this century has been the introduction of coffee in traditional tea-drinking large-population emerging markets like Indonesia, China, India and Vietnam. The initial coffee beverage of choice has been instant/soluble coffee, that is mostly produced with Robustas. Tea drinkers tend to enter the coffee market via soluble coffee, whose preparation is similar to that of tea. From spray-dried soluble coffee they tend to move to higher quality freeze-dried soluble coffee. Depending on income and perception of coffee quality, consumers may move to roast-and-ground and espresso coffee and eventually specialty products. Young soft-drink consumers may prefer ready-to-drink coffee beverages or "3-in-1", small single-serve envelopes with soluble coffee, non-dairy milk and sugar. The next step may be milk-based coffee beverages like shakes or cappuccinos and eventually specialty coffee, again depending on income and education about coffee quality.

On a different market front, the improvement in the quality of Robustas, wet-processing included, is causing the increase of its share in roast-and-ground and single serve blends offered by roasters of all sizes. There is a new perspective about the quality of Robustas, with cupping competitions and single-origin and 100% Robusta blends. Robusta coffees, that were mostly present in the basis of the income pyramid with lower-priced products for the lower-income segments of the population, are now spanning the whole pyramid and approaching its top. The Coffee Quality Institute (CQI) now has both Q Arabica and Q Robusta Graders, who are individuals credentialed to grade and score coffees utilizing standards developed by the Specialty Coffee Association (SCA). CQI is in the process of introducing Q Robusta Processing courses, that certify stages of competencies abound Robusta coffee processing, as it is currently done for Arabica coffees.

At the same time that Robusta based soluble products open up new markets, they pave the way for the consumption of more Arabicas as some consumers seek different higher quality, more expensive products. On the other hand, the soluble coffee industry is improving the quality of its products to retain consumers. The Brazilian Soluble Coffee Roasters Association (ABICS, from its initials in Portuguese) is developing a methodology to evaluate the quality of soluble coffees and to describe their sensorial features. This will help widen the market for soluble coffees.

The return of out-of-home consumption – coffee shops and office coffee services – in the post-pandemics world will create both risks and opportunities for Robusta coffees. The improvement of the quality of Robusta green coffee is a sure way to retain the markets it gained during the pandemics and to open up new ones. There are many ways to improve Robusta quality but perhaps the quickest one lies on post-harvest processing.

MACHINE OF THE MONTH



OPPORTUNITIES IN ROBUSTA PROCESSING

There are many opportunities to improve Robusta coffee processing to take advantage of the market developments described in the Outlook.

WET MILLING: different qualities, greater participation in blends and price premiums

The long experience with washed Robustas in India, more recently in Uganda, and now in Brazil with pulped natural Conilons show that a minimum price premium of 30% can be obtained by washing Robustas.

Pinhalense's wet milling line – mechanical washer LSC, pulper ECO SUPER and mucilage remover DMPE – can get the best qualities out of Robustas no matter how they are harvested.



DRYING: better and uniform quality, fewer defects and better prices

Robusta coffee cherries – immature, ripe and over-ripe – are usually dried *together* after harvesting. A great opportunity to avoid defects is missed when this is done. Coffee cherries with moisture contents from 40 to 60% are dried together, often faster than it is technically recommended, with the obvious result that the final product is not evenly dried. Worse yet, the unripe and partially ripe cherries tend to become black beans in the process.

A simple way to avoid unevenly dried and black beans is to use a mechanical siphon LSC, a machine invented and patented by Pinhalense, to separate over-ripe and partially dry cherries from unripe and ripe cherries. Each of these two groups of cherries has very different moisture contents and can then be dried *separately*, under the sun or mechanically, with savings in labor and fuel and the avoidance of black beans.

Fast drying, usually in vertical machines that often use hot air mixed with combustion fumes (smoke) contributes further to the creation of defects. Fast drying and/or the use of vertical machines that do not distribute heat well in the coffee mass also cause the final moisture to be uneven, with overdried and underdried beans. The overdried beans are likely to be broken at hulling while the underdried ("wet") beans may ferment in storage. In addition, the use of hot air that is not clean and free from smoke transfers unwanted odors to coffee beans.



MACHINE OF THE MONTH



A simple way to avoid black, broken and fermented beans is to use Pinhalense's SRE rotary driers with heat exchangers. The speed of drying can be fully controlled at Pinhalense rotary driers, that supply the same amount of heat to all beans in a process that ensures that the final product is evenly dried. The use of Pinhalense fuel-efficient FTD heat exchangers avoids the risk of unwanted odors in coffee beans. Last but not least, when drying *green/hulled* Robusta coffee that is received partially dried, which is the case in dry mills of many Robusta producing countries, there is a further benefit from using Pinhalense SRE rotary driers: green beans are polished to some extent, their appearance is improved and, some claim, astringency in the cup is reduced.

DRY MILLING: separation to improve quality and price and to access different markets

If defects cannot be avoided and Robusta coffee with defects arrives at the dry mills, defects must be then separated. The first step is to remove defects – all impurities, including stones – from incoming green coffee using Pinhalense pre-cleaners PRELI and destoners CPFBNR with their respective dust aspiration systems. The next step is the separation

first by *size*, using Pinhalense graders PFA to respond to clients' needs and to access different markets, and then by *density* ("weight"), using Pinhalense gravity separators MVF to remove defects (e.g.: light, hollow and malformed beans),

The role of size grading in the separation of Robusta defects is often not well understood. Pinhalense size graders have the ability to enhance in different ways the separation of density and color defects from Robusta coffee. The different sizes can be blended back, if necessary, to be shipped to different markets.

P&A/Pinhalense experts can address all your needs to avoid and remove defects and to refine the quality of your Robusta coffees. The Pinhalense machines above are offered in different models and available in different sizes to meet the needs of micro, small, medium and large growers as well as millers and traders of all sizes.



All opportunities mentioned above exist no matter the type of harvesting used – selective, stripping or mechanical – because all harvesting systems bring other-than-ripe coffee cherries and impurities into processing mills. P&A, Pinhalense and our agents are detecting a growing interest outside Brazil for Pinhalense's mechanical harvesters ROBUSTA in combination with manual or machine stripping or even pruning.





