ARTIFICIAL INTELLIGENCE SYSTEM TO ANALYZE COFFEE QUALITY


The Brazilian coffee supply chain may introduce a smart and unique system to accelerate and improve coffee quality analysis in the near future. CoffeeClass, as the technology is called, was developed by researchers at Embrapa Instrumentation and uses computer vision, artificial intelligence (AI) and advanced techniques to automatically analyze and assess, in a few minutes, the overall quality of roasted and ground coffee without the need of coffee preparation/brewing or cupping. The smart tool, still at prototype stage, has a great potential to bring innovation to the coffee chain when it becomes available for coffee growers in the field as well as consumers in supermarkets.

Source: Emprapa

COFFEE FLOWER BUDS PROTECT THEMSELVES AGAINST HIGH TEMPERATURES AND DROUGHT

A white skin/crust that partially covers coffee flower buds and then crumbles is being observed in coffee regions of Minas Gerais and São Paulo. This phenomenon is probably related to the need of coffee trees to protect themselves and their flowers against the high temperatures and droughts that have been affecting crops in these regions. The skin protects the buds against excessive water loss, high radiation, heat desiccation and burning. This self-protection of flowers at the bud stage shows how coffee trees can develop resilience to adverse weather conditions in order to ensure the viability of flowering and its reproductive structures.
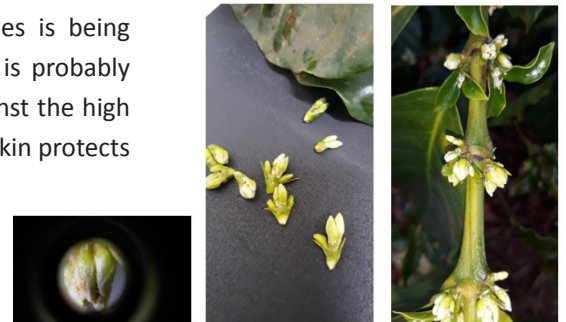
Source: Peabirus

MODEL TO UNDERSTAND BIENNIAL PRODUCTION AND ITS IMPACTS ON BREEDING AND YIELDS

Research supported by the National Council for Scientific and Technological Development (CNPq) and the Empresa de Pesquisa Agropecuária de Minas Gerais (EPAMIG) shows that the biennial production pattern makes it challenging for coffee breeders to compare yields of different varieties of coffee. Breeders cannot know and recommend which varieties of coffee are most useful for farmers to grow without accurate measurement of yields. A computational model has been developed to compensate for the biennial effect in coffee production, to reduce experimental error and to increase the usefulness of data obtained from field trials. The model may help improve both the quality of coffee varieties supplied to farmers and their yields as effective management of growing conditions directly impacts them. Farmers can tailor cultivation strategies to individual plants using the information obtained from such model. Researchers also discovered that the biennial effect in coffee production does not follow a well-defined pattern as previously thought. Some coffee plants have reasonably stable yields across years. Others may have high yields for two years and reduced yields in the third one. The new model also enables researchers to determine why individual coffee plants may have high or low yields each year.

Source: American Society of Agronomy

CACIQUE LAYS FOUNDATION STONE OF NEW SOLUBLE PLANT IN ESPÍRITO SANTO

The soluble coffee group Cacique has held a launching ceremony of its new manufacturing plant in Linhares, Espírito Santo state, scheduled to start operating in the first semester of 2021. Cacique, the leading soluble coffee maker in Latin America, will invest approximately R$ 300 million (US$ 75 million) in this new factory with production capacity of 12,000 tons of coffee per year and generation of 200 direct and 800 indirect jobs. This will be the group's first plant outside Londrina, state of Paraná, where it is based.

Source: Jornal Fato

ITALIAN MASSIMO ZANETTI BUYS CAFÉ PACAEMBU

Massimo Zanetti has bought Brazilian roaster Café Pacaembu to expand its presence in the country, the second largest coffee consuming market in the world. Café Pacaembu, a family company founded in 1957 and located in the town of Vargem Grande do Sul, in the Mogiana region of the state of São Paulo, is currently Brazil's 9th largest coffee roaster.

Sources: Valor Econômico and Estadão

BRAZILIAN COFFEE CONSUMPTION TO RESUME STRONG GROWTH IN 2020

Industry leaders believe coffee consumption is likely to grow faster in Brazil in 2020 after this year's adverse economic scenario led to shy consumption growth and reduced margins in the sector. Even though coffee prices reached historic lows at exchanges, industries could not repass the lower prices to consumers due to the smaller availability of coffees with the quality they needed. Internal consumption should remain stable at 21 million bags of green coffee in 2019.

Source: Valor Econômico

WINNER COFFEE AT 2019 CUP OF EXCELLENCE SCORES ABOVE 92 POINTS

The coffee lot from Pai e Filho Farm in the municipality of Ibiraci, Minas Gerais, that scored 92.23 points, took the first place at the 2019 Brazilian Cup of Excellence contest held by the Brazilian Specialty Coffee Association (BSCA) in partnership with the Brazilian Trade and Investment Promotion Agency (Apex-Brasil) and the Alliance for Coffee Excellence (ACE). The contest had a total of 27 winners – coffees that scored 87 points and above – from nine Brazilian producing origins. These winners will now participate in an online auction on November 26 when the main buyers in the world will compete for the best Brazilian coffees. The price paid for the winner bag last year was R$ 73,000 (US$ 143 per lb), a value 13,180% higher than the going price at New York's ICE exchange at the time.

Source: BSCA

WINNER OF 7TH CERRADO MINEIRO REGION AWARD SOLD FOR RECORD PRICE

This year's Cerrado Mineiro Quality Award registered a new price record of R$ 20,017 (US$ 4,918) per bag in the Natural Category. The price paid for the Rubi variety coffee grown in Londrina Farm, that scored 90.04, exceeded the R$ 19,000 (US$ 4,668) paid in the 2018 edition. The Red Catuaí coffee from Fazenda Douradinho and the Mundo Novo coffee produced at Fazenda Jacu Lugar Tijuco were second and third places. The winner coffee lot in the Pulped Natural / Honey category was a Yellow Bourbon grown on Dona Nenem Farm that scored 87.63 points. Estrela Farm took the second place with its Red Catuaí coffee and Guima Café took the third place with a Yellow Bourbon. The advanced sales and the auction itself generated a total turnover of R$ 509,433 (US$ 125,168), exceeding the amount of R$ 389,983 (US$ 95,819) in 2018. The 2019 edition of the Award introduced the Traceable Ethical Prize that aims to value and recognize social, environmental or good agricultural practices. It was won by Guima Café's project "Sprout - The child as a multiplier".

Source: Cerrado Coffee Growers Federation and Notícias Agrícolas

COFFEE PRICE CRISIS AND BETTER CONTROL OF PROCESSING

The use of information technology to fully automate coffee processing has been used in large dry mills in Brazil with mixed results. The state-of-the-art seems now to be automation of specific parts of the process where control is more needed and gains are more tangible.

In this line of thought, the control of the drying process should be at the forefront. Many experts claim that drying is where most quality is lost in the full processing chain with emphasis on poor temperature control of coffee either in machines or under the sun. Mechanical drying can be equivalent to sun drying if proper controls are available with the additional advantage that mechanical drying can take place irrespectively of weather conditions. In addition, to use information technology to monitor sun drying is not practical and much less efficient.

The control of temperature of coffee being dried – the critical parameter – must be performed by using temperature sensors not only at the coffee mass itself but also at the incoming hot air and the heat source to adjust for the delay between what happens at heat source and coffee. Coffee drying curves and profiles can be then created for different types and qualities of coffee and replicated when needed.

Automatic sampling of coffee at different dry milling stages can be used to increase both transparency and efficiency. For example, the strategic placing of samplers enables the life-scale verification of impurity content, hulling out-turn (hulled vs. unhulled coffee) and physical defects to be compared with those in coffee samples of the same lot. The combination of automatic samplers and flow scales connected to a computer control system enables real-time measurement of performance and adjustments if and when required.

Blending is becoming ever more relevant to deliver specific qualities required by clients of all sizes and to retain the consistency of large lots. Conventional blending systems are no longer enough as the capacity of mills grows in most origins and the requirements for efficiency and accuracy of blending increases for mills of all sizes. Automated and programmable blending systems provide greater precision and homogeneity, replication of blends, and short set-up time.

Electronic bag and big-bag scales offer higher precision and efficiency, better performance, and smaller losses than mechanical machines. Programable and with interface for computers, printers and automation, these scales must cover a wide range of needs, from the high weighing and bagging capacities of large lots to the requirements of micro lots, with solutions specific for each case.

Big-bags are becoming an economic and efficient alternative to store incoming volumes of coffee to be milled as well as intermediate stocks of pre-processed coffee to be blended and shipped to clients in conventional bags, big-bags or bulk in containers.

With coffee prices so low and margins squeezed, growers and traders should rely on information technology to get the most out of their existing processing facilities.

Brazilian Prices

Main Producing Regions / Farm Gate   **October 31, 2019**

Arabica Naturals (R$/ 60 kg bag)	
Cerrado MG	465,00 ↑
Mogiana	460,00 ↑
South Minas	460,00 ↑

Arabica Pulped Naturals (R$/ 60 kg bag)	
Cerrado MG	545,00 ↑
South Minas	540,00 ↑

+ 18.5%

Conilon / Robusta (R$/ 60 kg bag)	
Colatina-ES fair average price	308,00 ↑

| BM&F (US$/60kg Arabica bag)		Real R$ / Dolar US$	
Dec 2019	121,20 ↑	Oct 31, 2019	4,01 ↓
Mar 2020	126,10 ↑		
May 2020	129,10 =		

Source:
www.qualicafex.com.br

BETTER CONTROL OF PROCESSING TO INCREASE EFFICIENCY AND MARGINS

The **CSP DRYING CONTROL SYSTEM** with unique three temperature measuring points lowers temperature oscillation, shortens drying time and lowers fuel consumption. With the help of customized drying curves it can use "drying profiles" to simulate sun-drying conditions in a controlled environment and improve control of coffee quality.

*Coffidential 141: http://peamarketing.com.br/imgs/pa_coffidential__141__april2019.pdf*
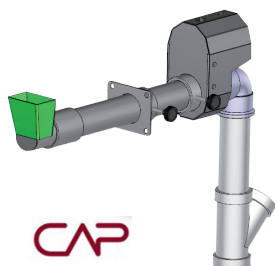
The **CAP PNEUMATIC SAMPLERS** can be installed at any piping to enable sampling at any processing stage. The interval and timing of sampling are easy to adjust in an operation that is 100% automated. The suction system of sample collection provides maximum fidelity and prevents physical damage to product.

*Coffidential 143: http://peamarketing.com.br/imgs/pa_coffidential__143__june2019.pdf*

The **VEDP VALVE-AND-BELT BLENDING SYSTEM** prepares any recipe or blend desired with high precision and replicates them with 100% fidelity. It is easy to operate with the help of and interfaces for touch screens, has short set up time and provides a high pattern of blending homogeneity.

Coffidential 143:
http://peamarketing.com.br/imgs/pa_coffidential__143__june2019.pdf
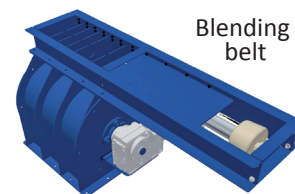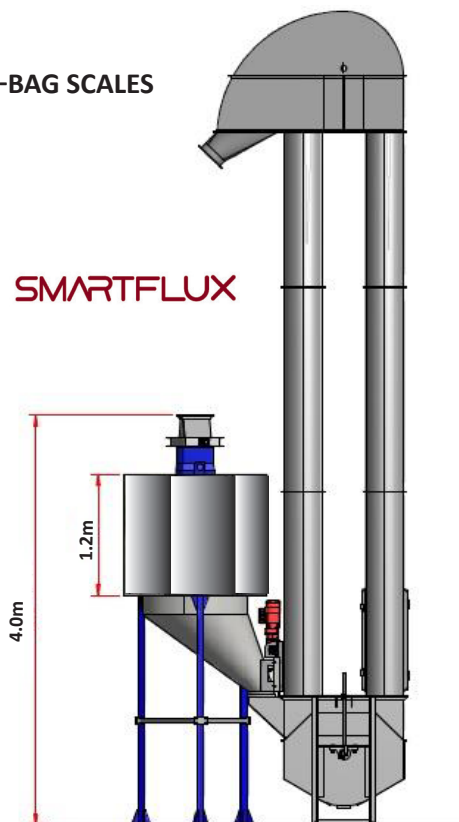
Blending belt
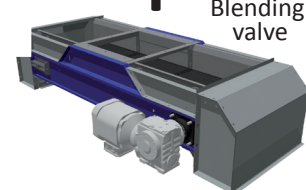
Blending valve

ELECTRONIC BAG, FLOW AND BIG-BAG SCALES

SMARTSAC

SMARTFLUX

1.2m

4.0m

SMARTBAG

Coffidential 143:
https://bit.ly/33Gz6TD

Coffidential 139:
https://bit.ly/2NFpB17

Coffidential 139:
https://bit.ly/2NFpB17