



LILLA GAZETTE

LILLA OPUS 3G EXPANDING ITS MARKET SHARE

THE INTRODUCTION OF THE LILLA ROASTER OPUS 3G ALREADY EVIDENCES ITS GREAT ACCEPTANCE AMONG THE MAJOR COFFEE ROASTERS IN BRAZIL AND IN OTHER COUNTRIES.



This equipment is the result of an intensive Research and Development (R&D) process conducted by our engineers, taking into consideration the extensive feedback received from researches with Lilla customers in several countries for the development of a new roaster capable of attending the strictest Health & Safety international norms and the demands of the world's biggest food industry in terms of roast quality, flexibility, reliability and fuel economy.

Lilla has recently installed several units, among them are:

- Marila Balirny A.S. – one of the major roasters in Czech Republic;
- Café Três Corações - a Straus-Elite Group company based in Minas Gerais State/Brazil, which has recently established a joint venture with Santa Clara Group, one of the top roasters in Brazil;
- Café Pimpinela – a Santa Clara Group company based in Rio de Janeiro State/Brazil;
- Café Pacaembu – based in Sao Paulo State/Brazil. It is one of the top 20 roasters in Brazil according to the Brazilian Coffee Industry Association (ABIC).

LILLA WELCOMES INDONESIAN DELEGATION

On August 2006, Lilla had the pleasure to receive in its factory a delegation from the Association of Indonesian Coffee Exporters (AICE). In that occasion, Lilla could make some presentations about the latest roast technology and learn about the coffee industry trends in Indonesia. On the next day, they could see the new Opus 3G in operation on their way to another city in Sao Paulo.



Indonesian delegation at Lilla

LILLA ROASTERS IN THE WORLD - OPUS

The Opus roaster is widely accepted by many customers, many of whom are returning customers already in their second order or more, such as PT Semangat in Indonesia, Café Imperial in Venezuela, which have recently purchased their new units of the Opus Roasters.

CCL PRODUCTS - EXPANSION

CCL once more expanding its activities in India just commissioned another Opus 40 at Andrapradesh's plant. This unit follows to the previous unit informed at Lilla Gazette # 3, and shows the total approval of CCL Products on the Opus roasters, which work 24 hours a day, 7 days a week, providing the roasted coffee for the solubilization processes.

technology on display

PROFILE ROASTING TRENDS

In the spirit of cooperation, Café Pacaembu, hosted a meeting in August. A technical crew from Lilla supervised the roasting and Eng. Eliana Relvas from ABIC supervised a cupping panel supplied by participating roasters. At that occasion, almost 100 people among entrepreneurs and coffee cuppers had the opportunity of seeing the roaster in operation and test today's most modern available roast profiling technology.



Speech given by Eng. Fernando Fernandes at Café Pacaembu

The attending companies, such as Santa Clara and Café Iguazu, produce a multitude of products and were quite impressed. Mr. Valcir Labs of Café Jaguari remarked, : "Using the space of another roasting company, located far from the big centers, to present the theory and practice of new technologies in an accessible language was a brilliant initiative for a manufacturer. Once again Lilla has shown that it knows what it does"



SUPER 10 SHOWS THE INTERNATIONAL MARKET WHAT IT HAS COME FOR

Fully approved in the Brazilian market as a small size roaster with high technology, the Super 10 is ready to show the international market what it has come for, aiming at those people who make the coffee sipping a special moment of pleasure and elegance.

Occupying an area of a little more than 2m², the Super 10 is ideal for the French typical coffee shops, very popular in other European countries and in the United States as well. Its main appeal is to be the first and unique small roaster to incorporate all the technological resources of the large-scale equipment, also including an optional cooling

system. The result is a high-quality finishing, homogeneous roast and preservation of all the virtues of the original beans.

In Brazil, the Super 10 has contributed to the success of, among others, Café Santo Grão, located in one of the most traditional and elegant regions of Sao Paulo. The store, furnished and decorated with originality and extreme refinement, became a reference of a place where you can taste one of the best coffees of the capital or even afford to create your own blend with beans derived from several high-qualified origins.

Today, Café Santo Grão roasts coffee not only for the consumption of its direct clients, but also to distribute it to cafeterias, emporiums and restaurants spread over several cities of Brazil, which focus mainly on the "Class A" of the population. "I simply am loving the results and taste of the coffee achieved with Super 10", says Marco Karkmeester, ex-director of an American company based in Asia and founder of Santo Grão.

Now, this same satisfaction can be extended to the international clients, who will have access to the Super 10.



Cupping panel taking place after the roasting sections



Demonstrations of the roasting profiles at the plant



Partial view of audience at Eng. Fernandes speech

"It was a brilliant initiative of Lilla to invite the customers to teach the physic-chemical changes that occur in the bean during the roasting process, evidencing in practice how an unique blend with the same roast color can result in different beverages influenced by the modern technologies available in the Opus 3rd. Generation. The Brazilian roasters really need this kind of event to take place again, as these facts

were new to many of the attendants. Congratulations to all Lilla team!", adds Mr. Natal Martins of Café Canecão.

Further demonstrations with the Lilla roaster Opus 3G showed how by altering the profile on coffee roasted to the same color can have different cupping characteristics. For instance, bitterness can be reduced, acidity increased, aroma intensity and quality

can be improved. In addition, oil migration and roast uniformity can be positively influenced by this technology, which allows the roast master to create remarkable coffee or to maintain a consistent cup utilizing a changing blend.

The participants were impressed how technology will aid them in maintaining consistency and quality.

THE SCIENCE OF THE ROASTING PROCESS - Part II

THE PRESERVATION OF THE COFFEE AROMA

An element that certainly is part of the satisfaction of tasting a good coffee is the pleasure of feeling the aroma it exhales. The appreciators of good coffee value the preparation procedures, for instance, when it makes our mouths water just with the scent entering the room where it is being prepared. In fact, the appreciation of coffee is intrinsically associated with the aroma and not only with the palate. In fact, the aroma is the first requirement of the customer to make a good evaluation of the coffee.

The aroma characteristics are directly related to the quality of the beans used in the blending and to the final roast point. The relation between the raw material and the aroma is clearly associated with the chemical composition of the beans. This aspect is one of the most popular among the roasters, and everyone keeps the secrets of their blend formulation.

The relation between aroma and roast point relies on its development during the roast process. As we could see on our previous article about the "The Science of The Roasting Process", after the pyrolysis starts, chemical reactions will occur in a process that develops according to the increase of coffee temperature. The way the acids and other aromatic compounds are formed and destructed when the roast gets darker will define which aromatic components will be present in your coffee.

An aspect people often forget is the retention of such elements, which compose the aroma, in the coffee. A coffee that loses its aromas very fast will generate a negative perception on the customer who tastes it after a period of time. Concerning the factors that affect the retention, besides the final roast point, the way the coffee is roasted is also of great importance. We are focusing on this subject in this edition of Lilla Gazette.

The retention of aromas depends on the physical barriers that hinder the release of the gas generated inside the coffee bean during the roast. It is useful to remember that coffee is an organic element and, as such, one of

the most important barriers is represented by the walls of the cells, basically composed by cellulose.

The cellulose forms a semi-permeable fiber mesh. The more the structure integrity is maintained, the slower will be the release of the aromatic compounds.

The roasting process always leads to an expansion of the walls of the coffee bean cells, which opens the cellulose fiber mesh and facilitates the escape of the gas and aromatic compounds. The control of the intensity of this phenomenon is fundamental in achieving the desired final result.

For a better understanding on how to control the expansion of the beans, it is necessary to recall a few points discussed in the last article about the stages of the roasting process. Let's check below when the expansion of the cells structures happens:



PYROLYSIS INITIAL STAGE (160°C – 180°C):

The first crack of the coffee begins at the end of this stage. It is followed by the expansion of the bean and the rupture of the wall structure of the cells due to the escape of gas. Since this rupture is moderate, the good preservation of the aromas is not affected significantly.



PYROLYSIS – STAGE 2 (180°C – 230°C):

1. The pyrolysis reactions become more intense.
2. The volume of the beans may increase significantly from 40% to 60% due to the damage on the structures of the cells.

3. The control of the process flow at this stage directly affects the intensity of the cellular expansion and how fast the aromatic compounds will be lost. At this moment, a lower velocity of the process tends to better preserve the cellular structures, and to retain the aromatic compounds.



PYROLYSIS – STAGE 3 (ABOVE 230°C):

1. The second coffee crack occurs.
2. Severe damage occurs to the walls of the cells. It facilitates the fast loss of aromatic compounds.
3. In order to improve the retention of the aromatic compounds in coffees with 250°C or above, the heat supply will be nearly interrupted. We must recall that at this moment the pyrolysis process is potentialized by the same heat generated by the coffee beans.
4. From 250°C on, almost nothing can be done to preserve the coffee aroma. This happens because in addition to the great generation of vapors, there is also the destruction of the aromatic compounds, once the major part of it will finally be carbonized.

The most important thing to take into consideration for obtaining a good preservation of the aromatic compounds is the control of the heat transference rates during the roasting process. They are affected by the air flow, air temperature and pressure. These elements should be different in each roasting stage mentioned above. In this manner, we will be able to get the necessary control over the roasting process and preserve the coffee aroma, even if keeping the traditional roasting final color.

In the next editions of Lilla Gazette, we will be talking about other aspects of the science of the roasting process. The information and factors that directly influence the quality of your coffee.