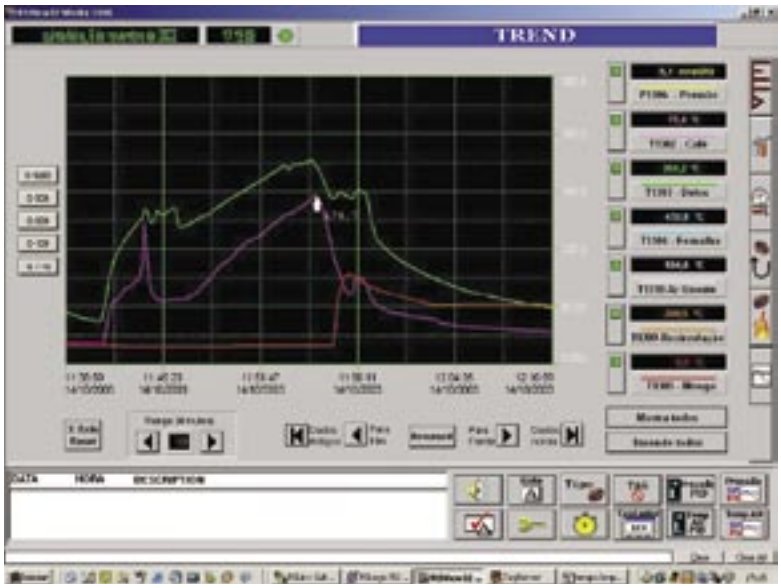
A PUBLICATION FOR THE COFFEE MARKET

WHAT PROFILING CAN DO FOR YOUR COFFEE

THIS SYSTEM EXPLAINS WHY IT IS POSSIBLE TO PRODUCE DIFFERENT CUPPING USING THE SAME RAW MATERIAL (GREEN COFFEE) AT A SAME DESIRED COLOR, WITH FULL CONTROL ON THE BEAN OIL MIGRATION, ACIDITY, BITTERNESS, BODY AND OBTAIN THE BEST RESULTS ON AROMA RETENTION.



COLOR CONSISTENCY – The profiling system assures the repeatability of the beans color, despite the fact there are several variables that may have influence on the fluctuation of the temperature during the roasting process, such as different raw material humidity, environment humidity, external temperature etc.

"Consistency" has been a word and a goal aimed by coffee roasting companies for many years and now has become an imperative to most of them. Customers have become more demanding and firms have been striving to improve the quality of their products. But the question is: how can you improve it? In our opinion, consistency is the path and the basic requirement for that purpose. It consists of achieving the same desired results at every roast.

technology

A roast master can probably reach a certain level of consistency in the bean color due to the experience accumulated during the years. But who guarantees that the results will be the same if another person conducts the process? In that sense, profiling systems can help coffee roasters not only to enhance the quality of the final product, but also to maintain it independently of who is operating the equipment.
Lilla's Profile Roasting System 3rd. Generation allows full control of all the parameters that influence the roasting process:

1. **Hot Air Temperature Control Curves System**
   Presetting of the air temperature that the coffee beans will be submitted to along the complete roasting process.

2. **Drum Pressure Control Curves System**
   Presetting of the pressure inside the roasting chamber during the roasting process.

3. **Drum Rotation Control Curves System**
   Presetting of the drum rotation speed, which optimizes the coffee discharge time and the perfect distribution of the beans inside the drum.

4. **Air Flow Control Curves System**
   Presetting of the hot air flow velocity in order to optimize the heat transference between the beans and the hot air passing through the drum.

SCAA Long Beach 2007 – *Lilla will be present in the 19th Annual SCAA Conference & Exhibition to be held in Long Beach-USA on May 4-7, 2007. At this occasion our staff will be demonstrating the system. Please look us up booth 2129.*

LILLA

NEW VISUAL IDENTITY

As of January 2007, Lilla will be featuring a newly revised logo aligned with the concept of modernization and new design of its products.

approval

LILLA AMONG THE INDIAN TOP COFFEE SOLUBLE EXPORTERS

One of the most important concerns of soluble coffee manufacturers is the extraction rate obtained after the roasting process. This is due to the fact that in average, for each kilo of soluble coffee, about 2,5 Kg. of green coffee is required by the solubilization process. In view of this expensive process, Lilla has been particularly very successful in helping such companies to attain higher levels of productivity and quality,

CMP HAMMER GRINDERS A SIMPLE SOLUTION FOR TURKISH COFFEE ROASTERS

Lilla has been manufacturing coffee grinders for many years and supplies today a full range of grinding technologies, from discs to roller systems. Many people consider the latter as the most sophisticated technology. However, when it comes to reach extremely fine granulometries, there is no better technology than the hammers (pins) system in terms of cost/benefit.

The photo beside shows Lillla's exclusive hammer grinder model CMP with one grinder head. Each head has an hourly output of 120 Kg. of Turkish coffee or approx. 500 Kg. considering a regular coarse grinding. One can couple up to 5 heads onto the same battery.

CMP grinders have been exported to the major Middle-East companies, in many countries, such as:

- Café Super Brasil – Lebanon
- Café Najjar – Lebanon and Egypt
- Café Rio – Lebanon
- Al-Khair Trading – Saudi Arabia
- Lakhlef Trading – Algeria
- Bashanfer Trading – Ethiopia
- Café Abi Nasr – Lebanon

This type of grinder is very sturdy and employs a very simple technology, being virtually maintenance free. This is an example of how simple solutions can solve big problems.

and thus, competitive advantage, besides the best relation between aroma and extraction of soluble solids.

Solubilization process does not require the use of quality coffees and this is one of the reasons why Lilla provides the best technology for that purpose too. Lilla roasters employ drum technology, which allows to roast any type of coffee, even the smallest beans. At the same time, the same equipment is flexible enough to get the best from the Roasted and Ground (R&G) applications with high quality coffees.

Indians top soluble manufacturers, such as Tata Coffee Limited and CCL Products have been using several Lilla roasters for many years and some months ago, Lilla shipped a complete R&G coffee plant, including the new Opus 3G to SLN Exports, which will be commissioned soon. This has become Lilla's flagship roaster and represents the most advanced technological innovation in the new roaster generations (see Lilla Gazette Issue # 4 for further information – available on www.lillaroasters.com).

Part of this success may be attributed to the fact that Brazil has been leading the world exports of soluble coffee for many years, and as result, has built a strong tradition in the manufacturing of equipment for that industry.

THE SCIENCE OF THE ROASTING PROCESS - Part III

THE OIL ON THE ROASTED COFFEE – I

Opinions about oil migration

This is an issue that often results in very divergent opinions. In fact, this is perfectly normal that different views come up in diverse marketplaces around the world, questioning the good or bad points about the formation of oil on the surface of the roasted coffee beans.
We have heard about customers in the U.S. that become delighted with the fact of being able to preset a roast profiling recipe and obtain as a result of the oil migration to the bean surface, a shiny coffee.
In contrast, if you are talking about espresso coffee consumed in Brazil, this is generally an undesirable result.
Who is wrong? Could all of them be right?

The influence of the roasting process on oil migration

Oils are very steady substances, once 95% of the oils present in the bean do not suffer physic-chemical changes even when submitted to high temperatures during the roast process. Then, we can conclude that roasted coffee beans with oily appearance do not have necessarily more oil than those with opaque aspect. The phenomenon verified in oily beans is related to the intensity of the oil migration stimulated by the roast process.

Advantages and disadvantages of oil migration

As the advantage of oily beans in terms of good appearance is easily perceived, let's analyze the disadvantages. The first problem occurs in the grinders of espresso machines, which undergo constant maintenances due to the oils. When the roast profiling stimulates their retention inside the cells, consequently, they are held inside the granules produced in the grinding process and does not interfere in the grinder operation.
Once that barrier is broken, a part of the oils comes out from those granules, impregnating the grinder internal components of the espresso machine, hampering its good performance.
Another disadvantage pointed out by many coffee roasters is the oxidation of the oils that migrate to the surface of the beans. We have to consider, though, that oils constitute 12% of the green coffee weight. Therefore, in coffees with little oil migration, that is, with sufficient quantity to enhance the coffee brightness, early oxidation problems are not expected to happen, once the major part of the oils is still inside the beans.

What stimulates oil migration?

We discussed about the good and bad points about the coffee oil migration, now we should understand which factors stimulate this phenomenon.
Oils are held inside the cells of the green coffee beans by the cellulose fibrous structures of the celullar walls. Thus, the basic factor that influence on the oil migration is the intensity of the expansion and rupture that happen in these structures during roasting process. The darker the roast, the more intense is the expansion. This fact explains why it is so difficult to obtain dark roasts without oil migration.

The influence of the cooling process on oil migration

It is worth mentioning a question now and then raised by some coffee roasters: does the coffee cooling process influence on oil migration?
With the purpose of getting a scientific evaluation on this issue, Lilla Company has conducted exhaustive comparative tests, changing only the coffee cooling final temperature.
In the various experiments performed, the hottest samples were cooled down to 60ºC; and the coldest ones, down to practically the ambient temperature, considering a maximum cooling time of 2 minutes. All other roast parameters remained unchanged: color, humidity and roast profiling.
During those tests, the intensity of the oil migration was evaluated and the results of those observations showed equal external oily aspect and the same product visual aspect in all the experiments accomplished.
The samples were observed during several days in a period of two weeks, in order to allow a detailed observation of the oil migration evolution.
This battery of tests was repeated using different final roasting colors.
The final analysis of all the observations allow us to make the following statement: "the preponderant factor that stimulates the oil migration to the surface of the bean is the final color of the roasted coffee, while coffee cooling has despicable effect taking into consideration the temperature range considered by the experiment".

Read in the next edition **"The oil on the roasted coffee – II"**

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