



LALCAFÉ™
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FREQUENTLY ASKED QUESTIONS

COFFEE FERMENTATION USING SELECTED LALCAFÉ™ YEASTS

With which post-harvest processing technique can we use LALCAFÉ™ YEASTS?

- LALCAFÉ™ yeasts can be used with all post-harvest processing techniques except when mechanical demucilagination is used.
- Submerged process (depulped or whole fruit).
- Dry process (depulped (honey) or whole fruit).

What is fermentation?

- Fermentation is a biological process carried out by micro-organisms and mainly yeasts and bacteria. During the coffee fermentation, the LALCAFÉ™ yeasts help by degrading the mucilage on the beans due to their specific enzymatic activities and secondly to reveal the sensory potential of the beans, due to their specific metabolisms.
- Fermentation has a big impact on the final coffee quality, because it contributes directly to the sensory profile of the coffee. A better fermentation controlled by the inoculation of the yeast, resulting in better quality product.

Why control the fermentation with LALCAFÉ™ yeasts?

- During the fermentation (minimum 36 hours for impact on flavour), the LALCAFÉ™ yeasts help to protect the coffee from the growth of undesirable indigenous microflora that can produce spoilage characteristics, defects or simply unwanted flavors.

- With a fermentation step in processing, even after the mucilage falls off the bean, LALCAFÉ™ yeasts will help to respect and to reveal the varietal aromas of your coffee beans.

What makes the yeasts different?

- Each yeast is unique and has its own metabolism and enzyme activities that impact on the coffee substrate resulting in the release or conversion of sensory compounds, which will impact the demucilagination and the sensory quality.
- LALCAFÉ™ yeasts have been characterized and selected for their capabilities to maintain and improve coffee fermentation and quality during the coffee processing. Many studies carried out by several research and technical centers recognized by the coffee sector, such as CIRAD, have confirmed the positive impact of selected yeasts on coffee quality.

Why use LALCAFÉ™ yeasts in coffee fermentation?

They will help to:

- Better control the fermentation
- Accelerate coffee demucilagination,
- Facilitate washing (reduction in water used),
- Depending on the LALCAFÉ™ yeasts used and the duration of the fermentation, they will more or less impact the aroma expression of your coffee. This has been observed in wine, beer and other fermented beverages.
- To protect your coffee through out-

competing the other microbes present during the fermentation process. This means we have more of the good microbes controlling the fermentation.

- To increase the green coffee shelf life
- Better consistency

How long is the fermentation for maximum yeast impact?

- We recommend fermentation duration of 36 to 96h to obtain a perceivable aromatic expression of LALCAFÉ™ yeasts.
- Even though demucilagination is complete, continued contact may benefit flavor development, LALCAFÉ™ yeasts need more time to reveal the coffee aromas.

How do I use LALCAFÉ™ yeasts?

- Yeasts are produced in dry form (active dry yeast) to make their transportation and storage easier. They have to be rehydrated before use.
- First, they must be rehydrated in 10 times the volume of water (10 liters for 1kg).
- The rehydration water must be clean (no smell, no chemicals inside), and between 25 °C and 37 °C.
- Stir gently the yeast into the water to avoid lumps.
- Leave for 20 minutes.
- Inoculate within 30 minutes of rehydration
- NOTE: Bring the temperature of the rehydrated yeast to within 5 °C of the coffee mass before inoculation.





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What if lumps are present?

Lumps are formed because yeast was added too quickly, or it was too cold. To solve this problem, you should stir again (gently) after 10 minutes of rehydration then let it stand for another 10 minutes to complete the rehydration.

What if I do not see foam?

There is no relationship between foam (which could appear during rehydration) and the fermentation activities of the yeast. This is just a physical phenomenon of CO₂ released which may be trapped by the yeast during the drying process. So, foam does not impact the activity of the rehydrated yeast and they can be inoculated and used for coffee fermentation.

What LALCAFÉ™ dose should I use?

The optimal dosage is 1 g per kg of coffee. If the water quality is doubtful, an adjustment of the dosage is required. For example, dirty water (brown color, smell of fermentation, alcohol...) you will need to increase the dosage to 1.5 g per kg of coffee or double the dosage.

How and when should the coffee be inoculated?

- Inoculation (adding the yeast for the coffee fermentation) is done just after pulping or after sorting the ripe from unripe whole fruit. How the yeast is added to the fermentation tank is determined by the quantity of coffee to ferment:
 - Up to 1,000 kg: put coffee in the bin then add the yeast at once then stir. The bin must be free of any chemicals or other compounds which could contaminate the coffee.
 - From 1,000 kg to 5,000 kg, split the yeast addition. Add half of the yeast dosage when the tank is half-filled and then add the rest of the yeast addition once the tank is filled.

- **⚠** Once yeast is rehydrated, never leave it at ambient temperature for more than 30 minutes. You should prepare the yeast in function of the filling of the fermentation tank. If a tank takes 4h to be filled and you would like to make 3 inoculations, it will be better to do the yeast rehydration just before each inoculation.

When using wet processing, how much water do I have to add to the tank and at which moment in the process?

To facilitate mixing of yeast into the cherries and to encourage anaerobic fermentation conditions, we submerge the coffee (depulped or whole fruit) in sufficient water (approx. 1cm above the coffee).

Does it need to be clear?

Yes, the water used to submerge the coffee must be as clear as possible. If you are using recycling water, never use water recycled more than two times..

Must I do my fermentation with LALCAFÉ™ yeasts in closed tank?

- You may use a closed tank if you have one but ensure that there is an outlet for the CO₂ that builds up as fermentation progresses.
- You can also use an open tank, in the case of submerged process, we create anaerobic conditions thanks to the water. In other cases, where we heap the coffee, oxygen is only in contact with the surface, so for the better part we are still encouraging anaerobic conditions. We recommend covering the heaps with tarpaulin or canvas.

May I re-use water from previous fermentation?

- If you are recycling water, never recycle water more than two times

- If the water quality is doubtful, an upward adjustment of the dosage is required.
- Towards the end of every fermentation, there is a reduction of the inoculated microbial load, it is therefore advisable to inoculate every fermentation.

What happens in case of yeast overdosing?

- Overdosing will have no impact on final coffee quality.
- It will not reduce fermentation time.
- On the other hand, using too low of a yeast dosage will show no difference compared to your normal process or your coffee quality.

How to store the active dry yeast?

- You must keep yeast in a cold and dry place (the best condition is at 4 °C). Shelf-life is 2 years for LALCAFÉ CIMA™, 3 years for LALCAFÉ INTENSO™ and 4 years for LALCAFÉ ORO™, LALCAFÉ BRIOSA™ and LALCAFÉ BSC™.
- Avoid storage in hot place (up to 30 °C) for more than 6 months.
- Once the bag is opened, use as rapidly as possible (during the following 15 days and it is best to close it and keep it at 4 °C away from humidity).
- Do not store the yeast in the freezer or below 4 °C.



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