BEST PRACTICES AND TIPS TO IMPROVE JUICE FLOTATION

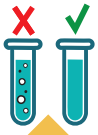
Flotation is a fast and effective clarification method utilized prior to fermentation. Flotation has many benefits such as improving clarification efficiency while respecting quality and sustainability, but it requires more extensive technical know-how to implement it correctly and efficiently, as well specialized equipment.

This document will detail some of the important practical aspects, tools, and tips to best perform flotation.

How Does Flotation Work?

Flotation relies on specialized equipment which disperses micronized gas bubbles into juice or must via a flotation pump. These micronized bubbles will slowly rise to the top of the tank and bring grape solids and particulates up with them, forming a floating lees cake or "flees" at the top. The clarified juice is then racked from the floating lees cake, leaving the flees in the tank.

1 How to prepare the juice



Add enzymes **EnartisZym RS** or **EnartisZym EZFILTER**, when juice is transferred to tank. Check for the presence of pectins, and proceed with flotation as soon as the results are negative.

Do not wait overnight!

2 Connect the flotation pump

Connect the flotation pump to the tank. Make sure that the delivery hose is short (3 m/10 ft) and connected to the bottom valve, while the suction hose is connected to the racking valve.

Start mixing the tank, keeping the gas off for now.

3 Add flotation aids

Slowly add flotation aids through the flotation pump while tank is mixing. Make sure the whole volume of juice is well homogenized with the appropriate **fining agents**.

Take a look at the table on page 2 to choose the appropriate flotation aid.

4 Start floating

It's time to inject gas and start floating.

Open the gas injection valve and adjust the inlet pressure according to the flotation pump manufacturer instructions.

5 End of flotation and waiting time

Make sure that at least 1/3 of the volume of the tank goes through the flotation pump.

Afterwards, disconnect the pump and wait 30 min per every meter of tank height containing juice.

Then, **rack off immediately**.

Lab Parameters to Check

- ✓ After adding the enzyme, perform a pectin test every 2 hours until results are negative.
- ✓ Check turbidity before and after flotation. The target NTU depends on the winemaker's preference for conducting alcoholic fermentation.
- ✓ Measure % solids before performing flotation. If the solid % is >8, flotation would be very difficult and static settling in recommended.
- ✓ Keep temperature between 15-20 °C (59-68 °F) throughout the process.

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Additional Considerations

- ✓ Flotation pump and tank must have appropriate size and shape. For optimal flotation do not use conical or egg-shaped tanks, but rather use tall and small diameter tank
- ✓ Fill the tank 70-80% of total volume to ensure space for cap formation
- ✓ Ensure the juice has not started fermenting
- ✓ Juice must be free of glucans

A Look into Flotation Aids

	ENARTIS RECOMMENDATION	PURPOSE	DOSAGE
ENZYMES	**EnartisZym RS** Liquid pectolytic enzyme	Fast depectinization and difficult-to-clarify varieties	2-4 mL/hL
PLANT-BASED FINING AGENTS	**PLANTIS L** Liquid preparation of pea protein	Highly reactive protein to ensure optimum speed and compaction of lees	40-100 mL/hL
PLANT-BASED FINING AGENTS	**PLANTIS AF-Q** Allergen-free preparation made of pea protein and activated chitosan	Fast and clean clarification, preserving young color and extending wine shelf life	5-30 g/hL
SELECTIVE FINING AGENTS	**CLARIL OX** Bentonite, pea and potato proteins, activated chitosan	Reduce the risk of must oxidation and preserve the fresh character	30-50 g/hL
SELECTIVE FINING AGENTS	**CLARIL SMK** Activated carbon, pea protein and chitosan	Great in removing off-flavors such as smoke taint, volatile phenols, molds, etc.	20-40 g/hL

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