FLASH INFO

JULY 2023

IOC

Révélons votre différence

BIO-SANITATION OF EQUIPMENT: A DEFENSIVE BARRIER AGAINST THE RISK OF DEVIATIONS

Disinfecting harvesting and vinification equipment is a major problem when it comes to maintaining hygiene in the winery. In-depth monitoring sometimes reveals levels of undesirable populations that are excessive and potentially difficult to control during the pre-fermentation phase. On arrival at the winery, the presence of uncontrolled yeasts and bacteria can reach very high levels (10^5 CFU/mL), as shown in Figures 1 and 2. These populations can then multiply during stabulation, maceration or the initial fermentation phases.

Figure 1: Distribution of microbiological populations on the surfaces of a grape harvesting machine before harvesting total yeasts = 5,00.10^5 UFC/mL

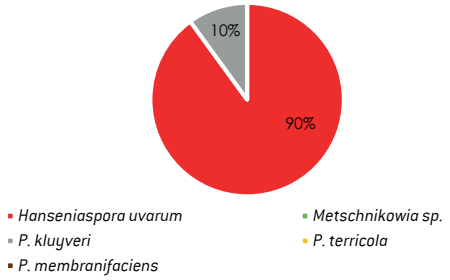
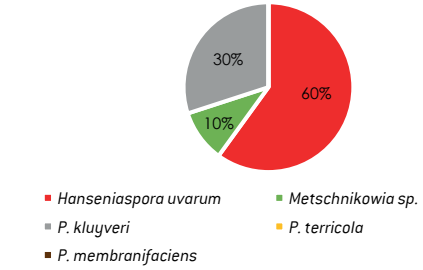


Figure 2: Distribution of microbiological populations in the juices of a harvesting machine tipper before harvesting total yeasts 1,00.10^4 UFC/mL

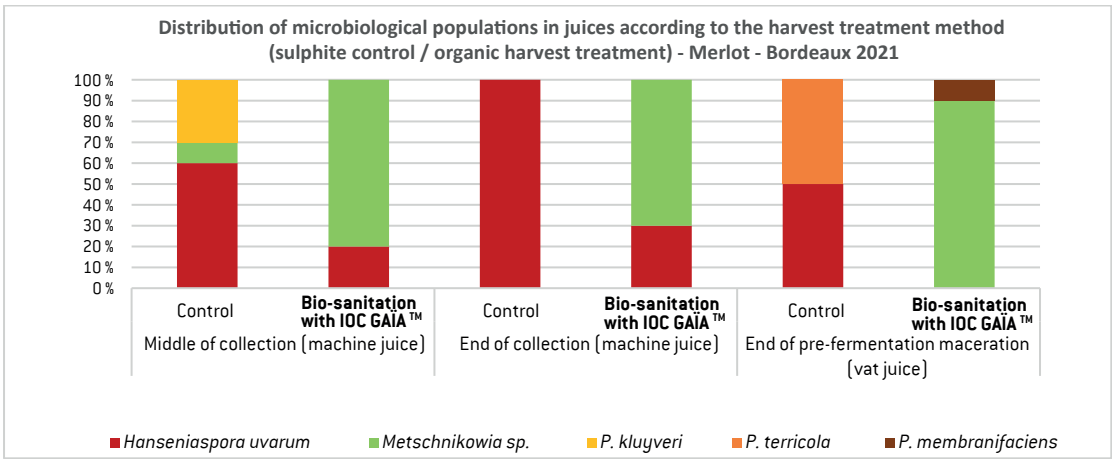


BIO-SANITATION WITH IOC GAÏA ™: HOW DOES IT WORK?

IOC GAÏA ™ is a non-fermenting *Metschnikowia fructicola* yeast, selected in partnership with the IFV (French Institute for Vine and Wine) for its remarkable ability to limit the development of undesirable yeasts and bacteria. Its pulcherriminic acid production enables the combination of free iron in the must. This combination then inhibits the growth of other microorganisms that require iron to develop, in particular *Brettanomyces*, *Hanseniaspora and Pichia*. It is also likely that there is a nutrient competition between **IOC GAÏA ™** and, for example, *Hanseniaspora uvarum* for micronutrients such as thiamine. Other mechanisms (cellular interactions, toxins) are also possible.

EARLY ADDITION FOR EVEN GREATER EFFECTIVENESS

Over the last few vintages, our teams have tested bio-sanitation of harvesting / reception equipment surfaces that come into contact with the grapes, using **IOC GAÏA ™** to slow the development of contaminants.



The distribution obtained (Figure 3) shows excellent implantation on surfaces and in juices, despite a very high initial population of *Hanseniaspora uvarum*. The early addition of **IOC GAÏA ™** prevented potential deviations that could have a negative impact on wine quality (higher volatile levels, loss of aromatic clarity, implantation of *Brettanomyces bruxellensis*). In addition to these microbiological properties, winemakers have been able to obtain clean and aromatic vintages, using reduced doses of sulphites, thanks to **IOC GAÏA ™** .

However, for a complete and long-lasting action, it is important to respect the precautions for using yeast, such as a total SO_2 level of < 50 mg/L within the must.

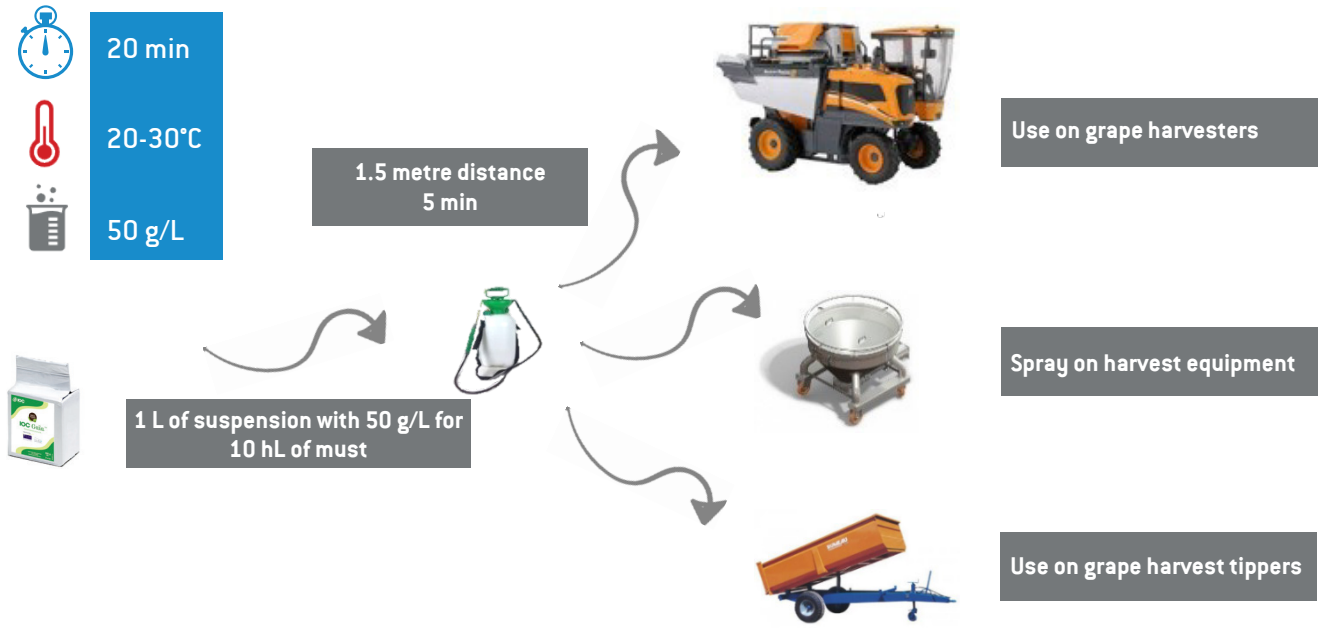
HOW DO YOU SET UP BIO-SANITATION FOR YOUR HARVESTING OR SORTING EQUIPMENT?

Rehydratation

- Dose: 50 g/L rehydration water.
- Rehydrate **IOC GAÏA ™** yeast in 10 times its weight in water at **20 - 30°C.***
- Wait for 20 minutes.
- Incorporate the solution into a clean manual sprayer.
- Stir.
- The suspension can last a total of **9h** (it can be prepared the day before for the next day).

Spraying

- When used on a grape harvester, be sure to leave the machine running for better uniformity.
- Spread the leaven evenly on the sides of the on-board tippers, on the beaters, on the conveyor belt or on the harvest reception equipment by standing **1.5 m** away from the harvesting machine, for **5 minutes**.
- Spray at different stages of the harvest or for greater effectiveness after each harvest (tipping/emptying of machine tippers, rotation of sorting table or empty vat).
- In the case of transfer by tipper lorry, it is also reco mended that the yeast suspension is sprayed onto the sides of the tippers before filling.



***IOC GAÏA ™** can also be used for direct sprinkling without any survival problems. However, to ensure better dispersion of each yeast cell in the grape/must mass and on the treated surfaces, it is obviously highly recommended to first resuspend the cells in water, which will optimise the homogeneous application of the yeast biomass and therefore its bio-protection effectiveness.

For further information, please contact your IOC contact person or visit our website www.ioc.eu.com.