IOC
Révélons votre différence

Gaïa™

Where must protection is concerned,
nature knows best

LOW SO_2 SOLUTIONS

ACTIVE DRY YEAST — TECHNICAL DATA SHEET

Natural, pre-fermentation protection for grape harvests and musts

OENOLOGICAL APPLICATIONS

From harvest to vat, the micro-organisms responsible for acetic deviations or the triggering of an unwanted fermentation process may undergo uncontrolled multiplication. Risks are increased by reducing sulphites additions, by temperatures that are too high (>10°C) or if the process takes a long time.

The Institut Français de la Vigne et du Vin (French Wine and Vine Institute) has selected **GAÏA**™, a *Metschnikowia fructicola* yeast with no fermenting power, to combat this harmful flora. It fills an ecological niche by limiting deviations and the risk of triggering an excessively early alcoholic fermentation. **GAÏA**™ is a major tool for limiting pre-fermentation sulphiting whether used during vatting or in harvesting trucks. It also facilitates implementation of selected, inoculated *S. cerevisiae* yeasts to guide fermentation, and helps secure the following processes: grape harvest transport, pre-fermenting maceration, "macération de/sur bourbes" (grape lees maceration), skin maceration, must clarification, cold storage and transport of must and air-drying of grape bunches.

OENOLOGICAL CHARACTERISTICS

- Species: *Metschnikowia fructicola*
- Killer factor: active K2
- Resistance to alcohol: very weak
- Resistance to SO_2: 50 mg/L of total SO_2
- Resistance to low pH: at least down to pH 3.0
- Optimum temperature for use: 0 to 16°C (if cold soak, 4 to 12°C).
- Fermenting power: very weak
- Implantation power: high.
- Multiplication power: high.
- Competition power: high.
- Does not produce unwanted metabolites (in particular volatile acidity).
- Requires sequential use of selected *Saccharomyces cerevisiae* yeasts for alcoholic fermentation.

MICROBIOLOGY QUALITIES

- Revivable yeasts: > 10 billion cells/g.
- Microbiological purity: less than 10 wild yeasts per million cells.

DOSAGE AND USE

- Dosage: 7 to 20 g/hl, to be adapted to the time of use and degree of risk of microbial contamination (functioning depends on the length of the operation, the temperature, the pH, how ripe the grapes are and the amount of SO_2 added).
- Rehydrate in 10 times its weight in water at 20 to 30°C. Direct rehydration in the must is not recommended. It is essential to rehydrate the yeast in its own separate container.
- Shake gently and leave it in water for 15 minutes.
- If necessary, acclimatize the water to the temperature of the must by gradually adding the must. The difference in temperature between the must to inoculate and the rehydration environment should be no more than 10°C.
- Rehydrated **GAÏA**™ can be kept up to 6 hours in water alone before addition to the grapes/must. If use is delayed, add must to the suspension after 45 mins of rehydration.

Ensure good homogenization of **GAÏA**™ in the grapes/must to ensure good colonization over the whole volume.

PACKAGING AND STORAGE

- 500 g vacuum packed aluminium polyethylene sachet.
- **Store in a cold (4°C)** dry place. Once open the product should be used quickly.

Institut Œnologique de Champagne
ZI de Mardeuil - Allée de Cumières
BP 25 - 51201 EPERNAY Cedex France

Tél +33 (0)3 26 51 96 00
Fax +33 (0)3 26 51 02 20
www.ioc.eu.com

VERSION 11-01-2024

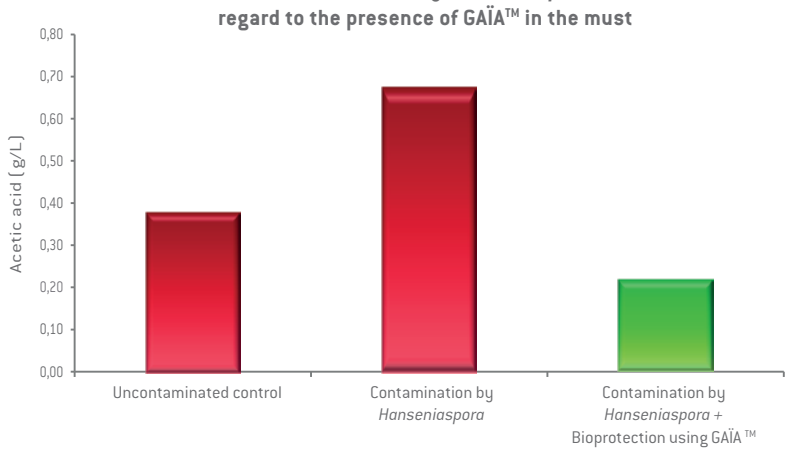
IOC
Révélons votre différence

Gaïa™

PRE-FERMENTING STAGES: KEEPING LIVING BEINGS UNDER CONTROL WITH LIVING BEINGS

Kloeckera apiculata (or Hanseniaspora uvarum) is a microorganism capable of producing up to ten times more acetic acid than the *Saccharomyces cerevisiae* oenological yeasts. This wine spoilage yeast is often the cause of acetic differences in pre-fermenting maceration. The use of SO_2 effectively enables the limitation of its growth, however sometimes large doses are required to reduce the risk down to an acceptable level. In the absence of SO_2, the situation is clearly more random. With **GAÏA™**, the initial population of *Hanseniaspora* is contained and only grows slightly during the pre-fermenting phase. Consequently, acetic acid content remains very low in comparison to samples contaminated with *Hanseniaspora* but not protected by **GAÏA™**.

Production of acetic acid by *Hanseniaspora uvarum* regard to the presence of GAÏA™ in the must



(Sugars 230 g/L, pH3.20, no S02, pasteurisation)
Values of acetic acid after alcoholic fermentation for 14 days – standard deviation: 0.05 g/L

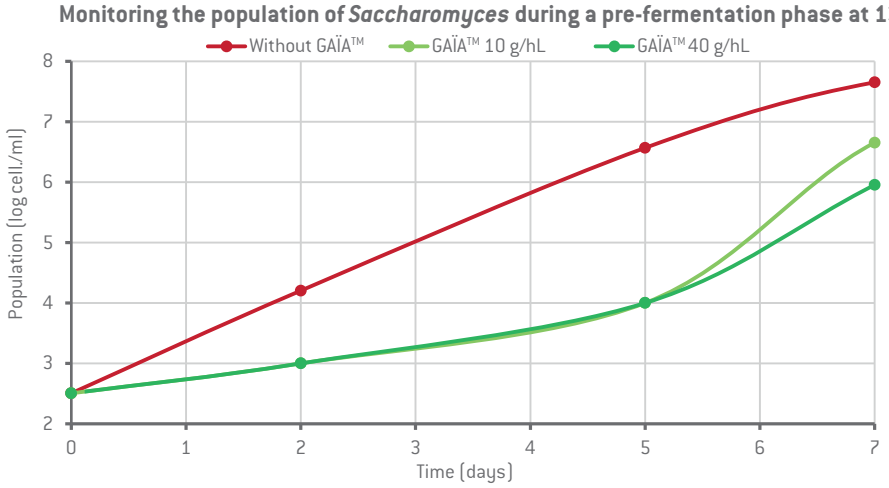
LIMITING RISKS OF TRIGGERING UNWANTED FERMENTATION

GAÏA™ achieves its biocontrol by preventing the development of indigenous Saccharomyces cerevisiae yeasts during pre-fermenting phases and delays the triggering of the fermentation process. The efficiency of such a slow-down delay depends on must temperature. After inoculation with selected Saccharomyces yeasts (at sufficient population to trigger fermentation), and as the alcohol increases, the **GAÏA™** population dies off.

GAÏA™ is also active against acetic bacteria (*Acetobacter, Gluconobacter*) and *Botrytis cinerea*.

The earlier **GAÏA™** is inoculated, the more effective it is in limiting the growth of different micro-organisms.

Monitoring the population of *Saccharomyces* during a pre-fermentation phase at 13°C



*Biocontrol performed by **GAÏA™** on a* Saccharomyces cerevisiae *population in pre-fermentation phase (13°C) – must of chardonnay- pinot noir blending pH 3.6.*

One of the strategies and tools developed by the IOC for the control of oxidation and microbiological contamination, whether during pre-fermentation, fermentation or ageing, **GAÏA™** is a powerful tool for reducing the overall use and concentration of SO_2 in your wine.

LOW SO_2 SOLUTIONS

Institut Œnologique de Champagne
ZI de Mardeuil - Allée de Cumières
BP 25 - 51201 EPERNAY Cedex France

Tél +33 (0)3 26 51 96 00
Fax +33 (0)3 26 51 02 20
www.ioc.eu.com

VERSION 11-01-2024