

## IMPROVES ADAPTATION AND RESISTANCE OF GRAPEVINE TO WATER STRESS

**LalVigne PROHYDRO™** is a natural product that increases the tolerance of grapevines to water stress, reducing the negative impact that water deficit can have on grape and wine quality.

An excessive deficit of water will reduce the physiological activity of the vine, and may even reach limits which do not allow the recovery of the photosynthetic system of the leaf, producing an early senescence and abscission, which will lead to a worse ripening of the bunches, an increase in their direct exposure to solar radiation and a lower accumulation of reserve substances in the plant. **LalVigne PROHYDRO**, applied preventively to water stress conditions, will improve vine adaptation and resistance to excessive water deficit and will increase its recovery after periods of water stress.



*Saccharomyces cerevisiae* yeast (Lallemand Group)  
 © Getty Image

## WHY SHOULD I USE LALVIGNE PROHYDRO?

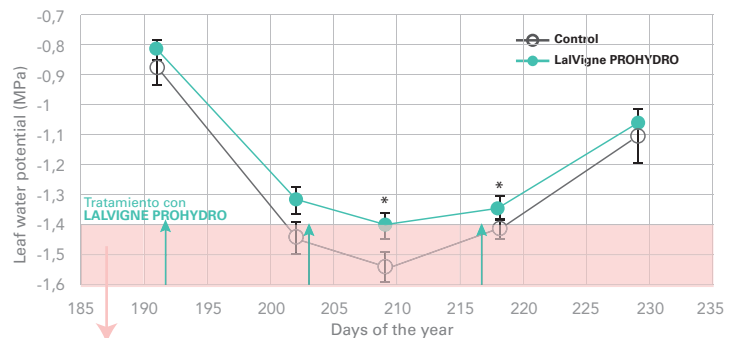
**LalVigne PROHYDRO** increases vine tolerance to water stress by reducing its negative impact on the plant, grapes, and wine.

With **LalVigne PROHYDRO** you will increase your yield.

The use of **LalVigne PROHYDRO** reduces the level of sunburn in the bunches and dehydration of the berries.

The use of **LalVigne PROHYDRO** mitigates the effects of global warming:

- Improves the normal development of the vineyard
- Increases the quantity and quality of the harvest
- It allows to recover the typicity of the wines lost due to over-ripening



High water stress: treatment avoids experiencing the extreme value of the leaf water potential

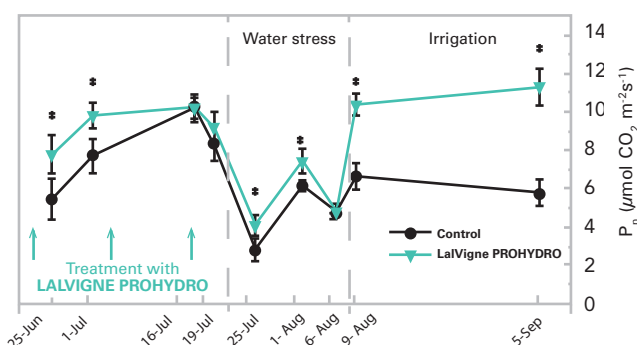
Leaf water potential measured at solar noon in MPa of a vine plant treated with **LalVigne PROHYDRO** versus an untreated one. Means  $\pm$  standard errors (n=12)  
 \* Indicates significant difference for  $P < 0.05$  (SNK test)

In this graph, result of a test carried out by the Università Católica de Piacenza (Italy), it is observed how the vine treated with **LalVigne PROHYDRO** shows better leaf water potential values, demonstrating that this treatment reduces the level of water stress suffered by the plant, which will translate into maintaining a more important physiological activity, with higher photosynthesis and transpiration values. This will improve the balance of the grape components resulting in a higher wine quality.

# BENEFITS

It naturally improves the vine tolerance to water stress.

- Increases yield
- Improves the quality and balance of the grape
- Preserves or recovers the typicity of the wine
- Increased physiological activity of the plant
- Improves values of leaf water potential
- Maintains greater tissue elasticity, which allows for greater vine recovery after episodes of water stress
- Reduces the level of sunburn in bunches
- Increased chlorophyll level in leaves



Level of photosynthesis in vines treated with LalVigne PROHYDRO versus untreated vines. P<sub>n</sub> (µmol CO<sub>2</sub> m<sup>-2</sup>s<sup>-1</sup>)

In the previous graph obtained from a trial carried out by the University of Perugia (Italy), in controlled vines subjected to severe water stress between 20 June and 8 August, it was observed that the application of **LalVigne PROHYDRO**, already from the first application, had a positive effect on the physiological activity of the plant, increasing its level of photosynthesis. This positive effect is maintained during the period of greatest water deficit increasing significantly once the water stress ceases, demonstrating that the plant treated with **LalVigne PROHYDRO** recovers in a more important way thanks to the greater elasticity of its tissues.

## WARNING

The information contained herein is true and accurate to the best of our knowledge. However, this document should not be considered a contract or warranty. On the other hand, the buyer and seller understand that the cultivation of vines is influenced by many circumstances. It is the buyer's responsibility to adapt the use of our products to such circumstances. There is no substitute for good wine growing and winemaking practices and permanent monitoring.

March 2022

# CHARACTERISTICS

Product for foliar application.

## Composition

Oenological yeast derivative (*Saccharomyces cerevisiae*) from Lallemand Oenology, L-Proline (*Corynebacterium glutamicum*).

NO GMO.

## Packaging

10 kg carton containing 10 bags of 1 kg.

## Storage

Non-flammable product.

Store in sealed original packaging. Store preferably in a cool and dry place. Avoid extreme storage conditions.

## Organic Agriculture

Product suitable in organic farming according to Regulation (UE) 2018/848 and 2021/1165.

# DOSE AND APPLICATION

It is recommended to start preventive applications before the onset of conditions that may cause water stress in the vineyard.

## Recommended dose by application on vines

1 kg/ha.

1<sup>st</sup> application: prior to stressful conditions.

Effective from the first application.

Situations of severe post-bloom stress (3 applications at the phenological stages JKL according to M. Baggiolini)

1<sup>st</sup> application: STATE J. Fruitset

2<sup>nd</sup> application: STATE K. Pea size

3<sup>rd</sup> application: STATE L. Bunch closure

Interval between applications around 14 days.

In case the water stress appears before flowering, it is recommended to start the treatment earlier and increase the number of applications up to 4 or 5.

Foliar application.

Dilute in water its application (approximately 100 - 1000 l / ha; 10 - 110 gal / acre).

Follow the instructions on the application method and recommended crops.