



OCHOA

- ECO Philosophy -



Living wine

- Index -

1. BODEGAS OCHOA

1.1. Who we are

1.2. What are we looking for?

2. RESEARCH & DEVELOPMENT R&D

3. RESPECT FOR THE ENVIRONMENT

3.1. Transition to organic vineyards

3.2. CO₂ Fixing

3.3. Parcel division

3.4. Preserving the local flora and fauna maintaining the natural environment and bushes in the area and boosting natural sources of water.

4. ECO-PROWINE

5. LOOKING AFTER OUR CLOSEST ENVIRONMENT



1

Bodegas Ochoa



1.1. *Who we are*

We are Bodegas Ochoa, a **family winery** dedicated to vineyards and wine **since 1845**.

We are our **145 hectares of own vineyard**. This means we only produce wine from the grapes that come from our vines, looked after us under our eco philosophy that respects the vine and the environment.

We have a very clear **philosophy**. We aim for research and development and we have incorporated this R&D in our DNA. Our concept of innovation is a help to the environment respecting it, a tool that gives us the information to understand the vine with the objective of improvement.

In Bodegas Ochoa we are “living wine”. This means that wine is a member of the family, the most looked after, the one who marks our rhythm of life, independent of watches and calendars.



1.2. What are we looking for?

Our objective is **to make wines of the highest quality**. In order to achieve this, we look after the whole process from viticulture and winemaking, including distribution and sale, so the final consumer can obtain our products in the conditions we mark from the start. Furthermore, we have a constant budget for **R&D**.

We look for **respect for the environment**. We firmly believe in a careful viticulture and **low yielding** in the vineyard. We do not over exploit our vineyards and we are in the process of transition into organic viticulture. Furthermore, we are also making improvements in the winemaking and bottling of our wines.

We respect the vineyard and we respect ourselves too. We have an innovative spirit but we are loyal to the **legacy** of our previous generations. Our vineyards are made of wood multiplied from old vineyards from our ancestors. We have selected the best vines and R&D has helped us to multiply its “material vegetal” to continue making Ochoa quality standards.

We want **to improve our closest environment** also in a social meaning. Therefore, we look after our team of 14 professionals, our distributors and our customers.

2

Research & Development R&D

2. *Research & Development R&D*

At Ochoa, we **invest efforts and money in R&D** and we have a clear goal: **maintain the natural** balance of nature, using the new technologies and launching new projects that **might help us improve**.

In 1994, Bodegas Ochoa was **the first Spanish winery to make a R&D project**, and since then we have not stopped investing and experimenting from a respectful perspective, based in “integral viticulture”.

Since 1994 **we have had one or more on-going projects** because we believe this is the only way to improve our products and increase the quality standards.



Some of our R&D projects:

1994-1997

Project for winemaking of a
Sweet White Wine of Moscatel
Late Harvest

2000-2002

Development of a new sweet
Red Wine

2004-2007

Start up a super-intensive olive
tree plantation to make high
quality of extra virgin olive oil

2006-2008

Project to launch a new product:
8A Moscato de Ochoa MdO,
sparkling and semi sweet
wine with fine bubbles
from fermentation

Winemaking of different
grape varieties of red wines
without sulphur dioxyde

1997-1999

Development of a Red
wine made from 100%
Tempranillo grapes

2002-2004

Winemaking of low alcohol spar-
kling wine with residual sugar,
made of grape Moscatel

2005-2008



2008-2009

Study of environmental benefits
of using green covers in vineyard

2010-2012

November: sweet wine from
Moscatel very late harvest

2012-2014

Red winemaking tool for stabili-
zation of tannins and colour.

Winemaking of sparkling
Rose low alcohol.RdO

2008-2010

Precision Model of Viticulture
based on TIC low cost tools for
monitoring the hydric status
of the vines

2011-2013

New Red Crianza Wines based on Tem-
pranillo grapes, more natural, fresh and
sustainable environmentally speaking,
reducing alcohol with natural procedures

2014-2016



3

Respect for the environment

3. Respect for the environment

In Bodegas Ochoa we are respectful with the environment. However, this is not enough to continue working to improve our vineyard and our procedures. In this chapter we present **the base of our actions** with this objective.

3.1. Transition to organic vineyards

Organic production of grapes implies a group of techniques of the work of the soil, the planting and the environment that not only respond to the substitution of chemical products by others more respectful with the environment.

The changes affect not only to the production system and are deeper. They are orientated to:

- * Plant grape varieties adapted to the climate in the area of Traibuenas and Olite.
- * Improve natural soil fertility through:
 - Minimum work of the soil that reduces the erosion and permits the soil to maintain its structure.
 - Providing Organic materials : reconstructs the fertility of the soil, improves its structure and permits to have a healthy condition.
 - Breaking and adding the rests of the pruning in order to give back to the soil the nu-

trients that have been extracted during grape growing, and are part of the soil. In the end, give back to the soil what was his.

- Use of green covers: reduces erosion, improves the soil and make possible the existence of natural enemies of plagues.

- * Increase biodiversity of the system, boosting the organic processes that benefit a right nutrition for plants and biotic regulation.



In Bodegas Ochoa we are converting into organic grapes growing progressively in all our vineyards and olive trees plantation.

This transition improves the respect for the environment and improves the quality of our wines, already very healthy!

- Reduction of the effect of global warming in our wines
- Waste Reduction by our preventive actions
- Reuse the waste to garbage dump
- Recycling materials
- Reduction of synthetic fertilizers
- Pesticide Reduction
- SO2 Reduction
- Reduce water consumption
- Use of renewable energies
- Reduction of energy consumption

Our efforts are basically:

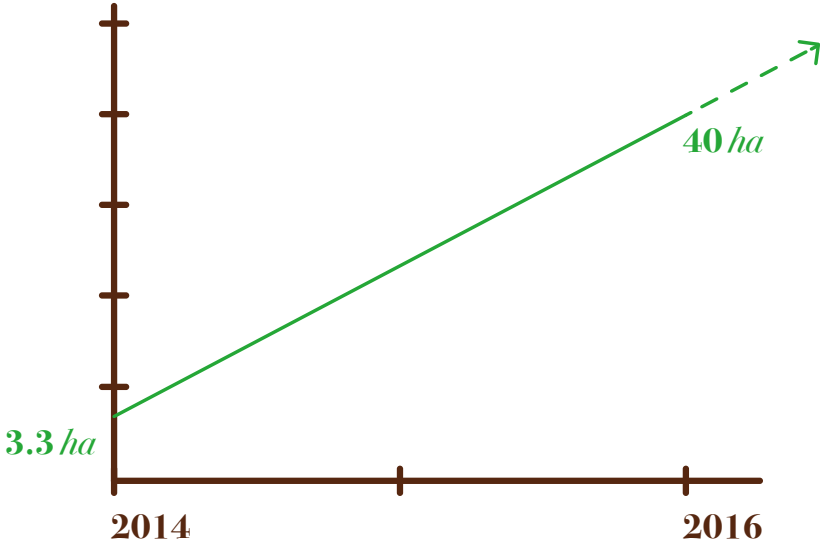
- Use of green covers improves the soil, provides nutrients to the vine, increases the quantity of natural enemies that control plagues and improves the environment of the vineyard
- Maintain a fertile soil, alive and well structured
- Have a balanced vine, well aired
- And last, keep this high level of quality in the wine we make

Our evolution in this transition to organic are:

- **2014:** 3.3 hectares of Garnacha
- **2015:** 3.3 hectares of Garnacha, 18 hectares of Tempranillo
- **2016:** 3.3 hectares of Garnacha, 28.35 hectares of Tempranillo and 4 hectares of Cabernet Sauvignon

We will continue working and converting more hectares of vineyard to the transition to organic in the following years

Transition to organic vineyards 2014-2016



3.2. *CO2 Fixing*

Olive tree plantation:

This project of Bodegas Ochoa contributes to fixing CO₂ to the soil to compensate our emissions.

Green Covers:

We carry out a study with green covers in our vineyard Finca Santa Cruz in Traibuenas. This study gives us very interesting data in comparison to the traditional system of yielding of the soil:

- Green covers increase the quantity of organic material, mainly in the first layers 9-5cm
- Vineyards with green covers improve quality and concentration in the Tempranillo grapes.
- Green covers improve the quality of biological balance of the soil of the vineyards in more than 5 years.
- The quantity of CO₂ fixed in the soil is approximately of 6.5 tons of CO₂ per hectare
- The conclusion of this study is that with each bottle of Ochoa Crianza Tempranillo we eliminate 1 kg of CO₂ from the atmosphere.



3.3. Parcel division

Our soil is different, we know it well and we want to get data from it to make the best of it. Thus, we are carrying a very ambitious project of dividing our vineyard in subzones to know the potential of each one of them.

This is the study of our vineyard El Secadero, one of the most appropriate for OCHOA RESERVA and OCHOA GRAN RESERVA wines.

El Secadero Vineyard

- Always special for wines to age for a longer period of time.
- Harvest with GPS to differentiate in the winery the characteristics of each type of soil.
- Measure different parameters in 95 spots: yield-

ding (RDT), number of bunches per vine (NR), weight of the grape at harvest (PB vend), probable alcohol level (GP), total acidity (AT), pH, Total anthocyanins (AntT), Total polyphenols (PT).



El Secadero Vineyard

NDVI + ECa + NR							
	1		2		3		P
Rdt (kg)	1.75	a	1.71	a	1.26	b	0.008
PB (g)	2.87	a	2.59	b	2.52	b	0.001
GP	13.25		13.22		13.25		0.968
pH	3.58	b	3.60	b	3.67	a	0.003
AT (g AT L ⁻¹)	6.58	b	7.17	ab	7.38	a	0.007
AMal (g L ⁻¹)	4.09	b	4.60	ab	4.91	a	0.002
ATart (g L ⁻¹)	6.71	b	7.09	b	7.14	a	0.001
FAN (mg L ⁻¹)	250.94	b	275.38	ab	302.79	a	0.010
AntT (mg L ⁻¹)	350.56		346.89		353.22		0.853
AntE (mg L ⁻¹)	58.72		61.99		61.81		0.122
PT (mg L ⁻¹)	1432.43		1404.84		1464.90		0.588

Subareas of the vineyard

NDVI
Normalized Difference Vegetation Index

+

ECa
Aparent electric conductivity of the soil

+

Nrac
Number of bunches

Class 1 Class 2 Class 3



IR Termographies (Dron)



Multispectrum camera: NDVI with 4 cm/pixel precise
Thermal camera: gives the real status of the parcel in terms of hydric stress. It is very interesting in soils like this one of gravel to compare with the NDVI
Our parcel is the first one in the world to make such precise study. This has been done before for single plants, but not as a parcel of vineyard



3.4. Preserving the local flora and fauna maintaining the natural environment and bushes in the area and boosting natural sources of water



4

ECO-PROWINE

4. ECO-PROWINE

Winemaking involves the use of high quantities of natural resources and it is high in energy consumption. We estimate our carbon footprint at 1kg per standard bottle and from 0,5 to 14 litres of residues water.

At Bodegas Ochoa, we care about the environment because we are conscious that the better we treat it, the easiest will be to get back the best out of it, with a high quality in the raw material that we will use to make our wines.

Therefore, we have joined the ECO-PROWINE European initiative as a pilot winery, we are one of the 20 ones chosen in Spain to develop this project.

ECO-PROWINE's objective is to develop an auto evaluation tool for the Vine life cycle analysis and cost analysis in the viticulture sector.

This tool includes a comparative evolution of the data allowing us to identify the weak points specific to the winemaking process, to increase our competitiveness.

The main objective of the ECO-PROWINE project is to offer tools and methods that allow wineries to reduce environmental impact making wines more competitive and higher quality wines.



Results of the study of ECO-PROWINE for Bodegas Ochoa



Water footprint. 0,9387 litres/L



Water indicator. 14536,8246



Energy footprint. 2,7357 kWh/L



Air indicator. 173,1049



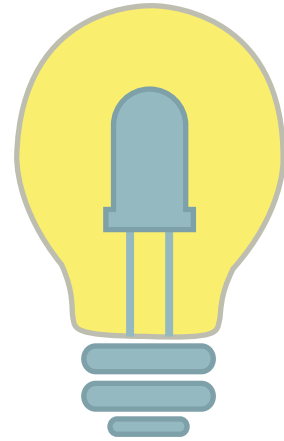
Soil indicator. 151,6271

The measures that we have carried to obtain the certificate ECO-PROWINE are:

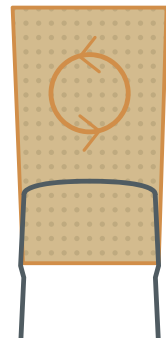
1. Light weight bottles



2. Change of lights to led



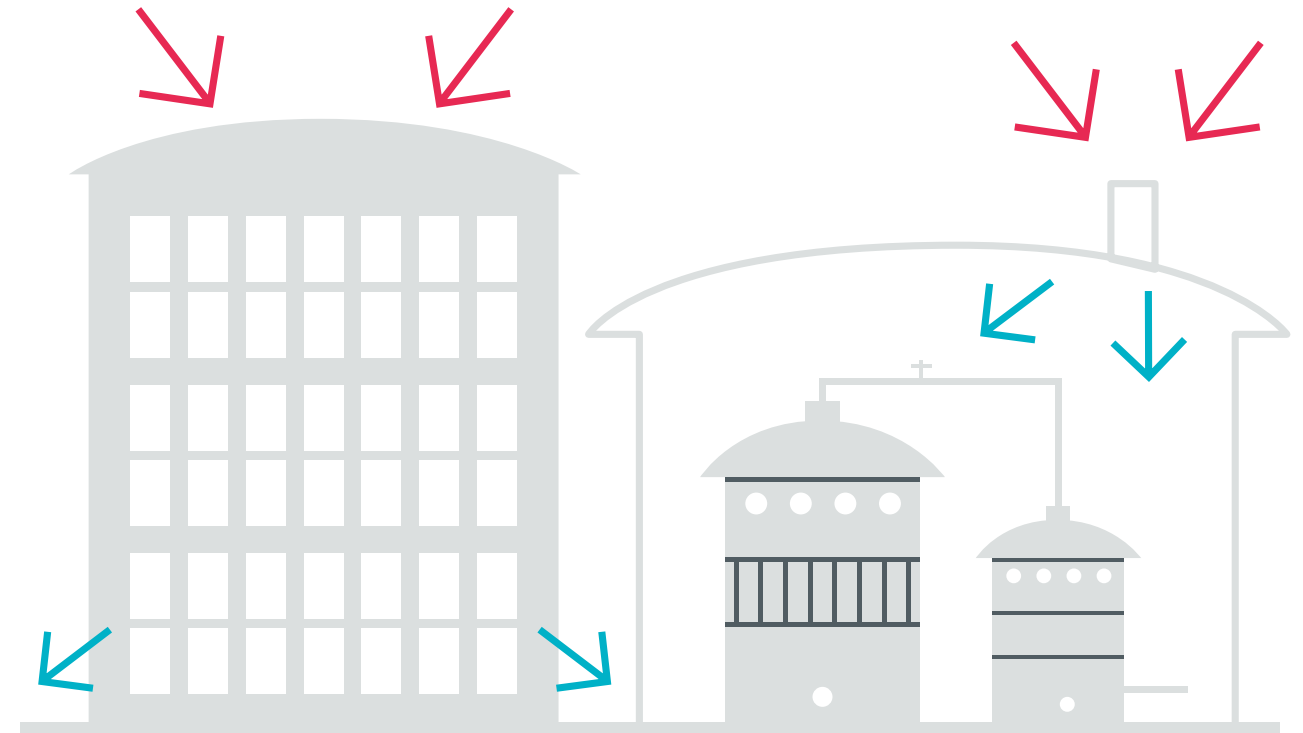
3. Use more sustainable synthetic corks



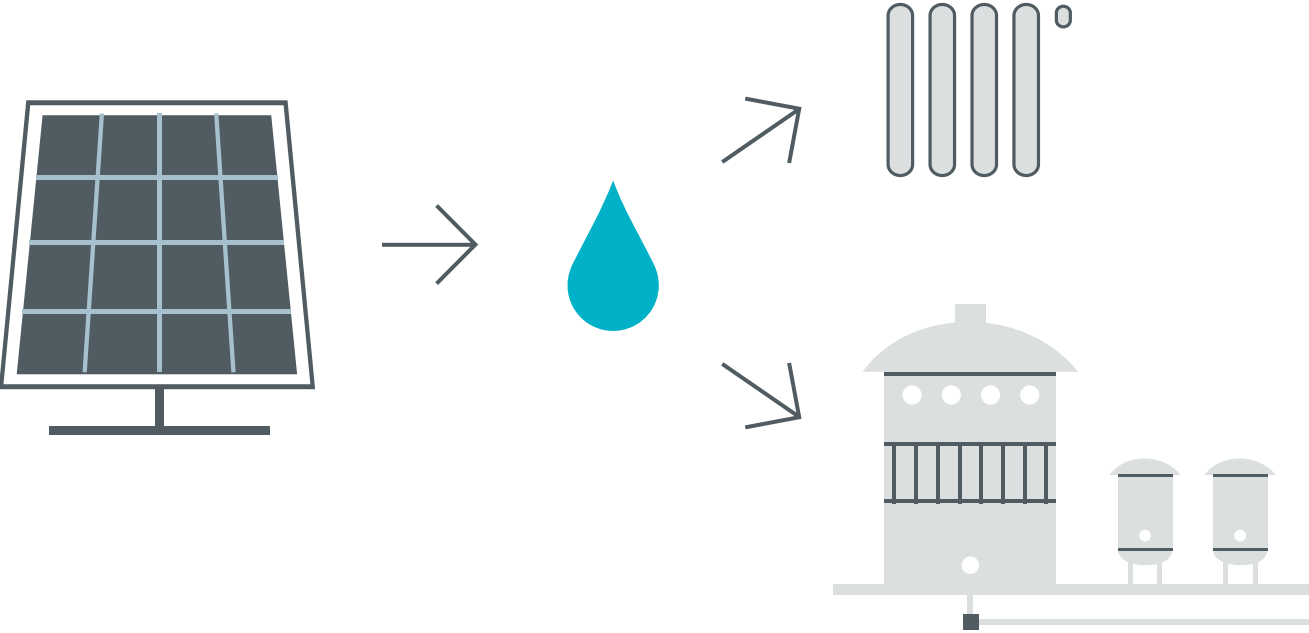
4. Promote the use of natural corks



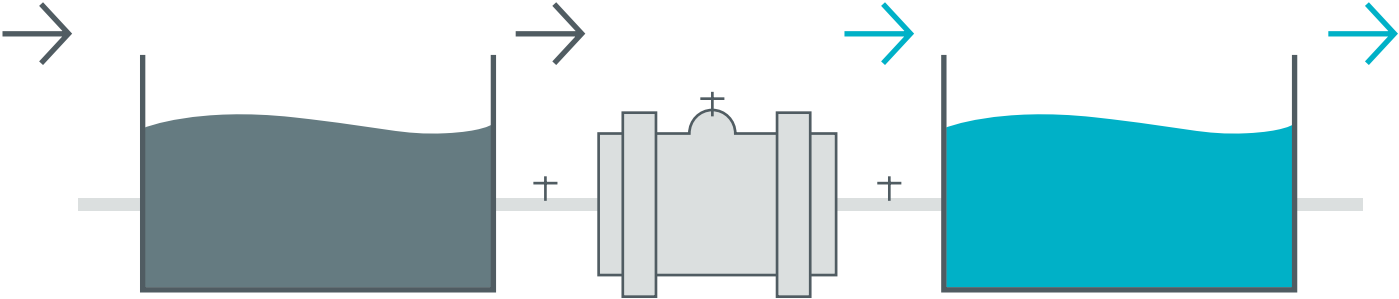
5. Natural air conditioning of winery and offices(not forced systems)



6. Use of solar panels to warm water in our offices, heating system and cleaning of the winery



7. Install a water cleaning system for our residual water



5

Looking after our closest environment

5. *Looking after our closest environment*

In Bodegas Ochoa we look after our vines and the grapes but we are also conscious that our fundamental assets are PEOPLE. Therefore, we look after human capital and contribute to our closest environment.

Employees: Ochoa team is a group of 14 professionals. The majority are local people to boost local economy.

Suppliers and Raw Materials: we choose our closest suppliers (when possible) and the most respectful raw materials for our environment.

Customers: they are our most valued asset. Therefore we aim for long term relationships with our customers from a close relation and trying to satisfy to detail their needs.





OCHOA

- *ECO Philosophy* -