

Irrigation

Functional unit: 1 ha vineyard / year

- Surface
- Sprinkler
- Drip



Surface



Water flows over and across the land by simple gravity in order to wet it and to get it infiltrated into the soil. The main characteristic of surface irrigation is that the soil itself is the water distribution system.

The main drawback of this system is that it requires manpower to circulate the water and a great instantaneous flow rate, so the pump power consumption is also noteworthy.

ENVIRONMENTAL ASPECTS

- | | |
|--|--|
| <input checked="" type="checkbox"/> Energy consumption | <input type="checkbox"/> Non-hazardous waste |
| <input checked="" type="checkbox"/> Water consumption | <input type="checkbox"/> Hazardous waste |
| <input type="checkbox"/> Resources consumption | <input type="checkbox"/> Wastewater |
| <input type="checkbox"/> Noise | <input type="checkbox"/> Atmospheric emissions |

ECONOMIC STUDY

Functional unit: 1 ha vineyard

Initial investment:
900 €

Annual expenditure:
20 627.12 €

CRITICAL FACTORS

- | | |
|---|---|
| <input type="checkbox"/> Large investment | <input type="checkbox"/> Organisational changes |
| <input checked="" type="checkbox"/> Improvement potential | <input checked="" type="checkbox"/> Training needs |
| <input type="checkbox"/> Technological changes | <input type="checkbox"/> Impact on vineyard quality |

Sprin



ENVIRONMENTAL

- Energy consumption
- Water consumption
- Resources consumption
- Noise

ECONOMIC

Functional unit:

Initial investment:
10 226.14 €

CRITICAL

- Large investment
- Improvement potential
- Technological changes

Sprinkler

Water is piped to one or more central locations within the field and distributed by overhead high-pressure nozzles (sprinklers). This method generates an artificial rain produced by spraying water.

Wind can have significant effects on the distribution of irrigation. In addition, special care should be taken to avoid excessive moisture on the leaves, which may result in the generation of pests.

Drip



Water falls drop by drop, on a continuous flow, as close as possible to the position of the roots. In this way, water efficiency is maximum, keeping the zone near the root constantly wet.

The pipe that supports the drippers can be located just in the surface or dangled at certain distance from the soil. This last position presents better conditions for vine trellis systems. It optimizes labour and can be complemented with fertigation systems.

AMBIENTALES

- Non-hazardous waste
- Hazardous waste
- Wastewater
- Atmospheric emissions

ECONÓMICO

1 ha vineyard

Annual expenditure:
11 459.51 €

CRÍTICOS

- Organisational changes
- ✓ Training needs
- ✓ Impact on vineyard quality

ENVIRONMENTAL ASPECTS

- ✓ Energy consumption
- ✓ Water consumption
- ✓ Resources consumption
- Noise
- Non-hazardous waste
- Hazardous waste
- Wastewater
- Atmospheric emissions

ECONOMIC STUDY

Functional unit: 1 ha vineyard

Initial investment:
21 540.08 €

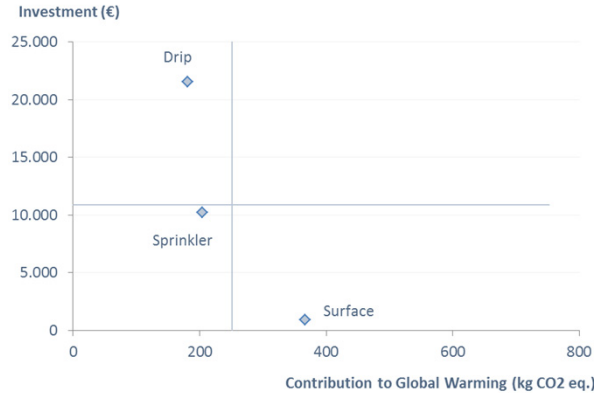
Annual expenditure:
10 186.23 €

CRITICAL FACTORS

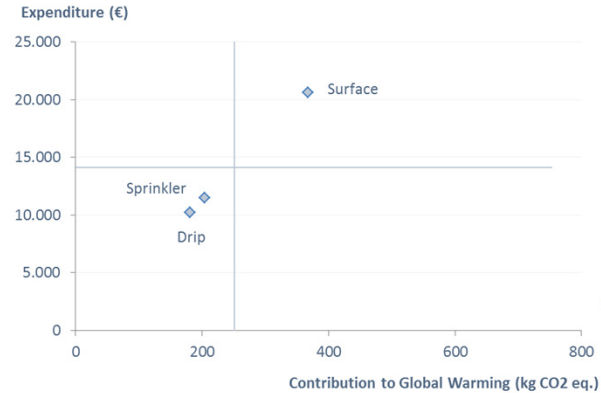
- ✓ Large investment
- Improvement potential
- ✓ Technological changes
- ✓ Organisational changes
- ✓ Training needs
- ✓ Impact on vineyard quality

Economic – Environmental Results

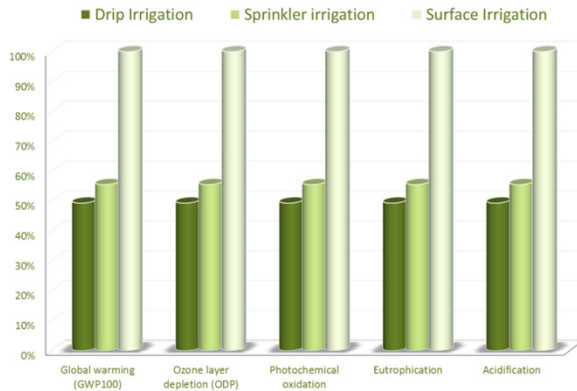
INVESTMENT - ENVIRONMENTAL LOAD



EXPENDITURE - ENVIRONMENTAL LOAD



ENVIRONMENTAL



PRIORITISATION

INVESTMENT - kg CO ₂ eq.	EXPENDITURE - kg CO ₂ eq.	TOTAL	RESULTS
2	3	5	SURFACE
2	1	3	DRIP
1	1	2	SPRINKLER