



BASIC INFORMATION

TARGET	Vinification in red wine
CROP	Wine grape, cv. Cabernet Sauvignon (<i>Vitis vinifera</i>)
SPRAY VOLUME	250 l/ha
LOCATION	Faenza (RA), Emilia Romagna, Italy
TRIAL DATE	April 2014 - January 2016
RESEARCHER(S)	Nicola Graziani, ASTRA Innovazione e Sviluppo

FIELD SITUATION

A trial in open field conditions was performed in order to evaluate on red grapevine the unintentional effects of **PREV-AM** on ripeness, on wine-making processes and on the organoleptic characteristics of the red wine. The results obtained were compared with the Untreated control. The trial considered the following treatments:

1. **PREV-AM** at 0,8 % (6 applications with 8±1 days of spray interval and 2 days of PHI);
2. UNTREATED CONTROL

The applications were carried out with a special self-moving pneumatic mist-sprayer on plots with 3 repetitions; each plot included 18 plants (59 m²).

FIGURE 1

Test results on harvested bunches

* data expressed as H₂SO₄

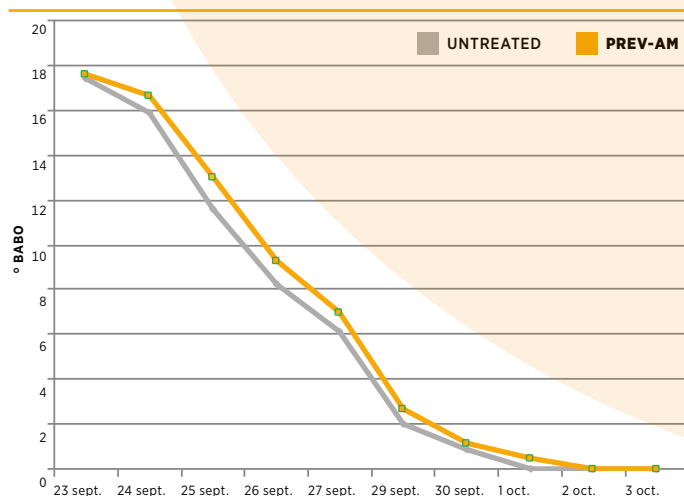
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THESIS	ANALYTICAL PARAMETERS		
	SUGAR (°BRIX)	TOTAL ACIDITY* (g/l)	pH
PREV-AM	16,4	7,62	3,13
UTC	16,93	7,6	3,13

FIGURE 2

Fermentation trend of must

and complete transformation of the sugars to alcohol



VITVIO832ENG

LAB & PROCESSING SITUATION

The evaluation of the unintentional effects was carried out with:

- chemical analysis on bunches samples collected at harvest;
- various assessments performed during the wine making process;
- chemical analysis on must and finished wine samples collected during the wine-making;
- tasting tests on young wine (about one month and half after the bottling) and aged wine (about twelve months after the bottling).

CONCLUSIONS

The results of this oenological study performed on red grapevine reveal that the field treatments with **PREV-AM** did not cause negative effects on:

- the ripeness process of the grapes;
- the fermentation process of the must (the most important phase of the grapes processing into wine);
- the main chemical compounds of must and finished wine;
- the organoleptic characteristics of the finished wine tasted at two different times (about one month and half after the bottling and after about one year of storage at low temperature).

FIGURE 3

Test results on must

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ANALYTICAL PARAMETERS	THESIS	
	UTC	PREV-AM
Reducing sugars (g/l)	166,2	159,4
pH	3,01	2,97
Total acidity (g/l)	6,16	6,30
Volatile acidity (g/l)	0,05	0,05
Available nitrogen (g/l)	147	148,4
Potassium (mg/l)	1367	1295
Total SO ₂ (mg/l)	9	9

FIGURE 4

Test results on finished wine

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ANALYTICAL PARAMETERS	THESIS	
	UTC	PREV-AM
Actual alcohol (% vol.)	10,6	10,47
Residual sugar (g/l)	< 1,0	< 1,0
pH	3,72	3,68
Total acidity (g/l)	4,74	4,64
Volatile acidity (g/l)	0,21	0,19
Total phenol index (d280)	20,6	20,1
Optical density 420 nm, 520 nm, 620 nm	0,570-0,749-0,098	0,555-0,711-0,091
Colour intensity Od420 + Od520 + Od620	1,417	1,357
Colour tonality Od420 ÷ Od520	0,761	0,781
Total and free SO ₂ (mg/l)	118/42	113/42

