A20-305-890FE

Efficacy of ozone applied alone and in mix, against Erysiphe necator on grape. Italy 2020-2021

Trial ID:	A20-305-890FE	Location:	Italy	Trial Year: 2020
Protocol ID:	890A20FE2	Investigator (Creator):	Matteo Freddi	
Project ID:		Study Director:	Renzo Bucchi - Agri 2000 Net Srl	
Official Trial ID:	A20-305-890FE	Sponsor Contact:	Giulio Senese - MET Srl	
		Trial Origin:	C contracted trial	

TREATMENT LIST

Trt No.	Type	Treatment Name	Form Conc	Form Unit	Form Type	Description	Other Rate	Other Rate Unit	Appl Code	Comment 1	Comment 2
1	CHK	Untreated Check									
2	FUNG	Ozone			SN		5	PPM PR	ABCDEFGHIJ	500-1200 L/ha	Spray application with water
3	FUNG	Zolfis 80 Sector	80	%	WG		6	kg/ha	ABCDEFGHIJ	500-1200 L/ha	Spray application
4	FUNG	Ozone			SN		5	PPM PR	ABCDEFGHIJ	500-1200 L/ha	Spray application with water
	FUNG	Zolfis 80 Sector	80	%	WG		6	kg/ha	ABCDEFGHIJ	500-1200 L/ha	Apply Zolfis 80 Sector after Ozone on dry leaves
5	FUNG	Ozone			SN		5	PPM PR	ABCDEFGHIJ	500-1200 L/ha	Ozone spray application in emulsified sunflower oil with water
	FUNG	Sunflower oil			EC	Rate: 1-5 %V/V	2,5	% V/V	ABCDEFGHIJ	500-1200 L/ha	

OBJECTIVES

- Do the Ozone used alone have efficacy comparable to the standard Zolfis 80 Sector?
- Does the addition of Ozone to the standard Zolfis 80 Sector increase the efficacy of Zolfis 80 Sector used alone?
- Does the addition of Ozone emulsified Sunflower oil increase the efficacy of Ozone used alone?
- Are all treatments safe for the crop?

SITE DESCRIPTION

Trial Location

City: Castenaso **Country:** ITA Italy
State/Prov.: Bologna BO **Region:** Emilia R.
Postal Code: 40055 **Climate Zone:** EPOMED EPPO Mediterranean

Crop Description

Crop 1: **V**itis vinifera (European grape)
Variety: Trebbiano
Perennial Age: 18 YR
Planting Density: 1905 P/ha
Rows per Plot: 1
Row Spacing: 3,5 m
Spacing within Row: 1,5 m

Pest Description

Pest 1 Type: Erysiphe necator
Common Name: Powdery mildew of grapevine

Site and Design

Treated Plot Width: 3,5 m
Treated Plot Length: 6 m
Treated Plot Area: 21 m2
Replications: 4
Study Design: Randomized Complete Block (RCB)
Untreated Arrangement: INCLUDED single control randomized in each block

Soil Description

Texture: SICL silty clay loam

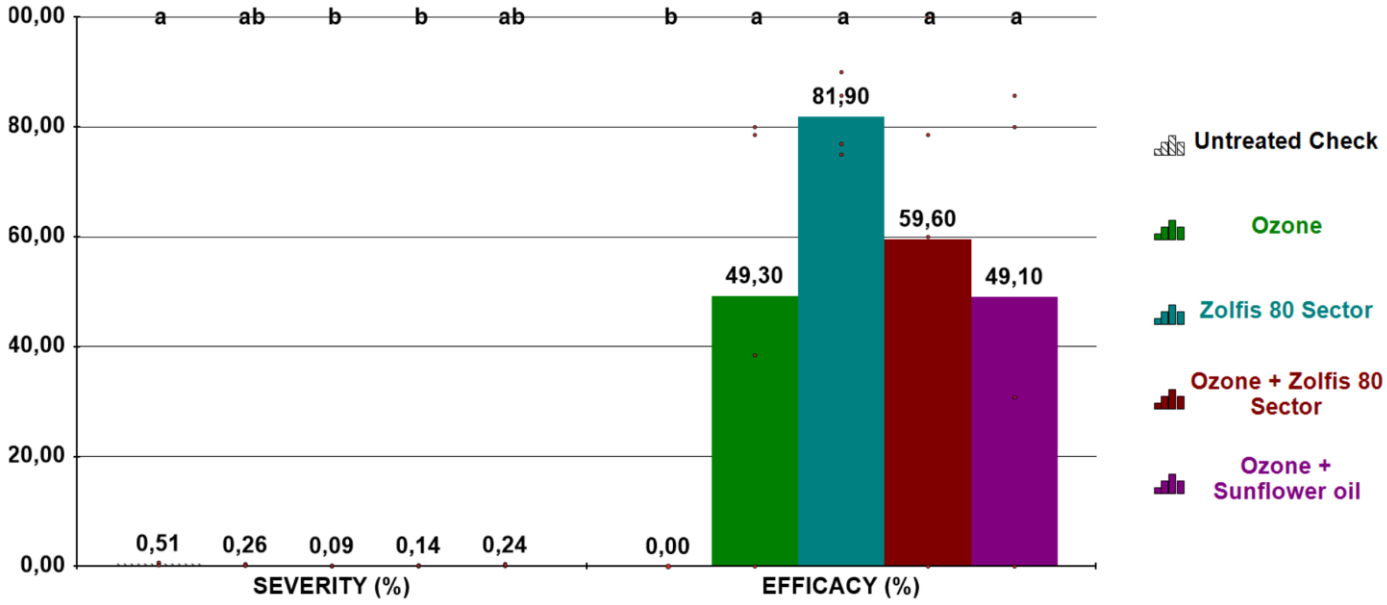
Application Description

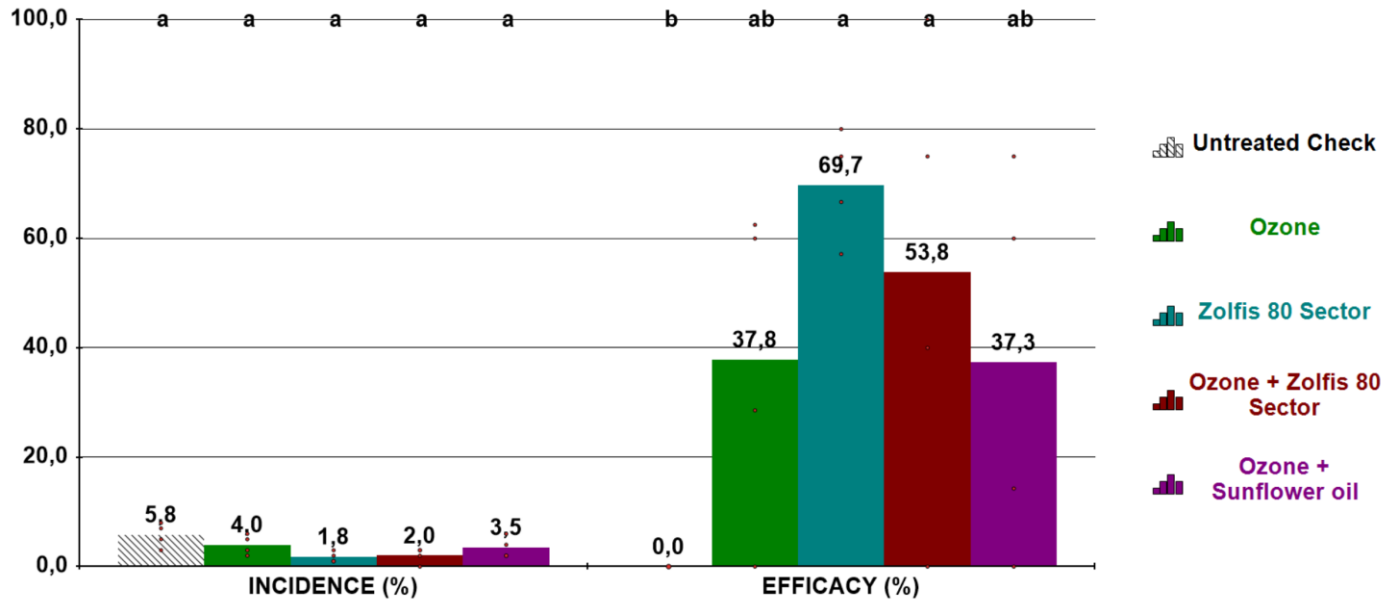
	A	B	C	D	E	F	G
Application Date	May-16-2020	May-25-2020	Jun-1-2020	Jun-8-2020	Jun-16-2020	Jun-23-2020	Jun-30-2020

	H	I	J
Application Date	Jul-8-2020	Jul-15-2020	Jul-22-2020

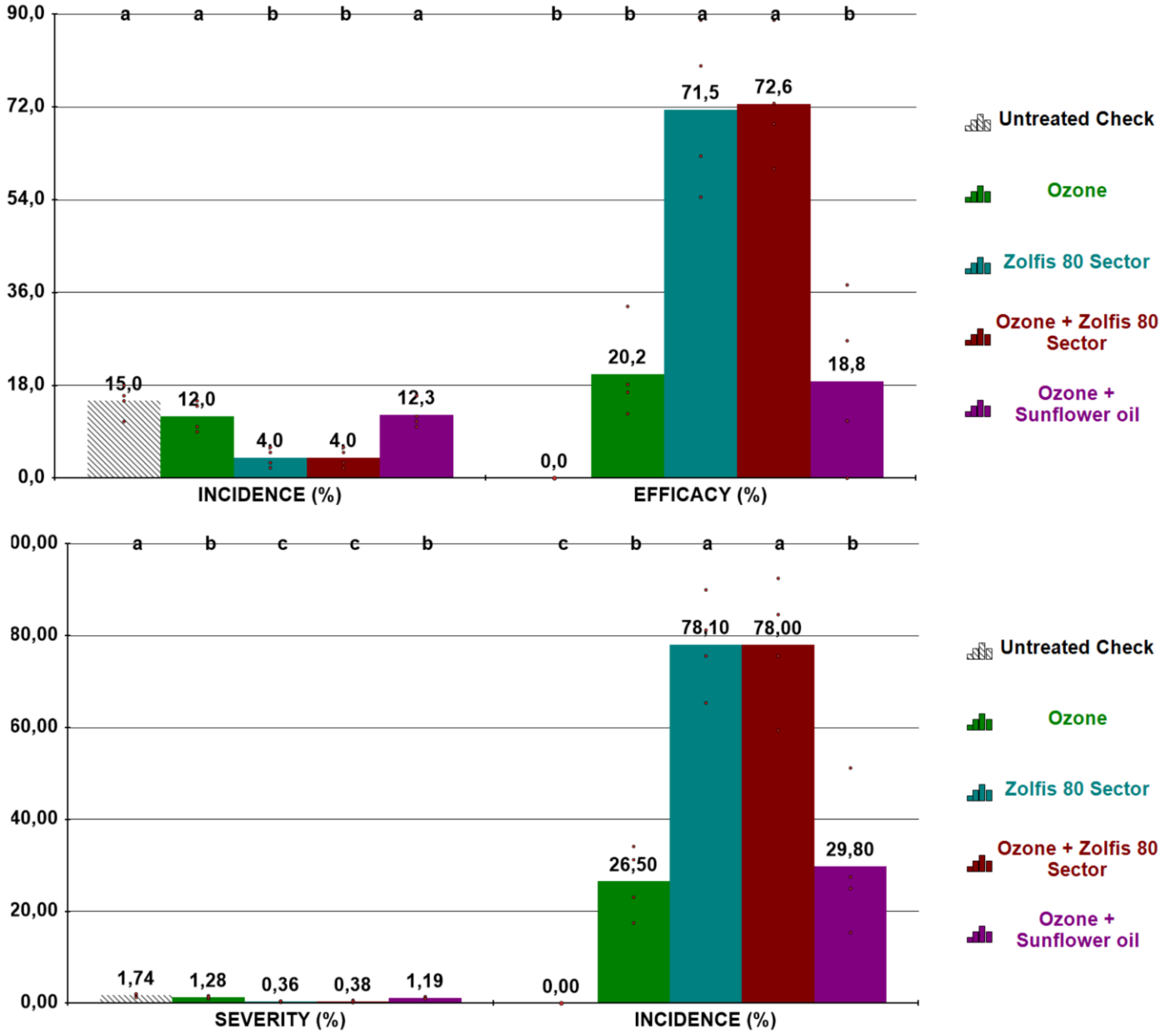
RESULTS

On leaves – 8 days after last application





On bunches – 8 days after last application



COMMENTS

English version: At the end of the experimental program for the control of powdery mildew of grapevine, during which 10 applications were carried out at 7-9 days interval, the untreated check showed an incidence on bunches equal to 15,0% (15,0 attacked bunches on 100 bunches), with a disease severity of 1,74% (the 1,74% of the totality of the bunch surface), with a consequent serious damage to the yield. All the products tested in field showed significant results if compared to the untreated check. The best result is showed by the Ozone applied in strategy with the standard Zolfis 80 Sector and by the standard Zolfis 90 Sector alone, which reduced the powdery mildew damage to 4,0% of bunches, with a disease severity limited to 0,38% and 0,36% respectively, ensuring a more qualitative production to the crop. Also the Ozone applied alone and the ozonated sunflower oil allowed a control of the disease, albeit lower, showing an incidence of 12,0% and 12,3% respectively and a severity of 1,28% and 1,19%.

Versione italiana: Al termine della strategia sperimentale per il controllo dell'oidio della vite, durante la quale sono state realizzate 10 applicazioni con un intervallo di 7-9, il testimone non trattato ha mostrato un'incidenza su grappolo pari a 15,0% (15,0 grappoli colpiti su 100 grappoli), con una severità del 1,74% (il 1,74% della totalità della superficie dei grappoli), con conseguente grave danno alla produzione. Tutti i prodotti applicati in campo hanno fornito risultati significativi rispetto al testimone. Il miglior risultato è stato fornito dall'Ozono applicato in strategia con lo standard Zolfis 80 Sector e dallo standard Zolfis 80 Sector, che hanno ridotto l'attacco da oidio al 4,0% dei grappoli con una severità del danno limitata al 0,38% e 0,36% rispettivamente, garantendo una produzione più qualitativa alla coltura. Anche l'ozono applicato da solo e l'olio di girasole ozonato hanno permesso un controllo della malattia, seppur inferiore, mostrando un'incidenza rispettivamente del 12,0% e 12,3% e una severità del 1,28% e 1,19%.

CONCLUSION

English version: Within the test aimed at controlling powdery mildew of grapevine with the use of organic products, Ozone alone showed efficacy on bunches. Ozone in strategy with sulfur contributes to an improvement of the efficacy of the latter and the use of ozonated sunflower oil showed a higher disease control than ozonated water.

Versione italiana: All'interno della prova volta al controllo dell'oidio della vite con utilizzo di prodotti biologici, l'Ozono da solo ha mostrato efficacia su grappolo. L'ozono in strategia con lo zolfo contribuisce ad un miglioramento dell'efficacia di quest'ultimo e l'utilizzo di olio di girasole ozonato ha un maggior controllo della malattia rispetto all'acqua ozonata.

CONTACTS

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