AGRI 2000

Efficacy of ozone applied alone and in mix, against Botrytis sp. and Erysiphe sp. on cannabis. USA and Italy 2020-2021

Trial ID:	A20-321-890FE	Location:	Italy	Trial Year: 2020
Protocol ID:	890A20FE10	Investigator (Creator):	Giovanni Caputo	
Project ID:		Study Director:	Renzo Bucchi - Agri 2000 Net Srl	
Official Trial ID:	A20-317-890FE	Sponsor Contact:	Giulio Senese - MET Srl	
		Trial Origin:	C contracted trial	

TREATMENT LIST

Trt No.	Type	Treatment Name	Form Conc	Form Unit	Form Type	Other Rate	Other Rate Unit	Appl Code	Comment 1	Comment 2
1	CHK	Untreated Check								
2	FUNG	Ozone			SN	3	PPM PR	ABCDEF	300-1500 L/ha	Spray application with water
3	FUNG	Serenade ASO	14,1	g/L	SC	180	mL/100 L	ABCDEF	300-1500 L/ha	Spray application
4	FUNG	Ozone			SN	3	PPM PR	ABCDEF	300-1500 L/ha	Spray application with water
	FUNG	Serenade ASO	14,1	g/L	SC	180	mL/100 L	ABCDEF	300-1500 L/ha	Apply Serenade Aso after Ozone on dry leaves
5	FUNG	Ozone			SN	3	PPM PR	ABCDEF	300-1500 L/ha	Ozone spray application in emulsified sunflower oil with water
	FUNG	Sunflower oil			EC	1	% V/V	ABCDEF	300-1500 L/ha	

OBJECTIVES

- Do the Ozone used alone have efficacy comparable to the standard Serenade ASO?
- Does the addition of Ozone to the standard Serenade ASO increase the efficacy of Serenade ASO 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: Cerignola **Country:** ITA Italy
State/Prov.: Foggia FG **Region:** Puglia
Postal Code: 71042 **Climate Zone:** EPOMED EPPO Mediterranean

Crop Description

Crop 1: Cannabis sp. (Hemp)
Variety: Fortuna
Planting Date: Mar-26-2020
Planting Rate: 35 kg/ha
Row Spacing: 16 cm

Pest Description

Pest 1 Type: Botrytis sp.
Common Name: Botrytis sp.

Site and Design

Treated Plot Width: 1,5 m
Treated Plot Length: 15 m
Treated Plot Area: 22,5 m2
Replications: 4
Study Design: Randomized Complete Block (RCB)
Untreated Arrangement: INCLUDED single control randomized in each block

Soil Description

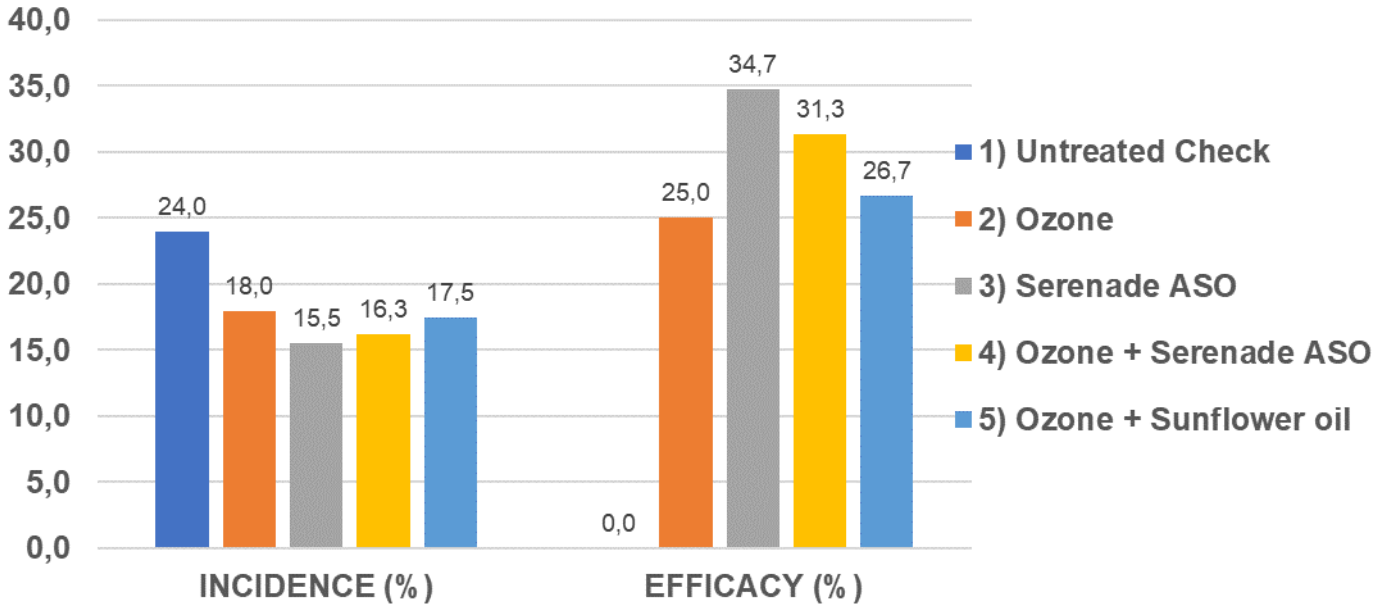
Texture: SL sandy loam

Application Description

	A	B	C	D	E	F
Application Date	Aug-25-2020	Sep-4-2020	Sep-14-2020	Sep-24-2020	Oct-5-2020	Oct-15-2020

RESULTS

11 Days after last application



COMMENTS

English version: At the end of the experimental program for the control of *Botrytis* sp. on hemp, during which 6 applications were carried out with a 10-11 days spray interval, the untreated check showed an incidence on flower clusters equal to 24,0% (24,0 attacked flower clusters on 100 flower clusters), 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 Serenade ASO and by Serenade ASO alone, which reduced the *Botrytis* sp. damage to 16,3% and 15,5%, 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 18,0% and 17,5%.

Versione italiana: Al termine della strategia sperimentale per il controllo di *Botrytis* sp. su canapa, durante la quale sono state realizzate 6 applicazioni con intervalli di 10-11 giorni, il testimone non trattato ha mostrato un'incidenza su infiorescenza pari a 24,0% (24,0 infiorescenze colpite su 100 infiorescenze), 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 Serenade ASO e dallo standard Serenade ASO da solo, che hanno ridotto l'attacco della *Botrytis* sp. a 16,3% e 15,5%, 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 18,0% e 17,5%.

CONCLUSIONS

English version: Within the test aimed at controlling *Botrytis* sp. on hemp with the use of organic products, Ozone alone showed efficacy on flower clusters. Ozone in strategy with Serenade ASO 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 di *Botrytis* sp. su canapa con utilizzo di prodotti biologici, l'Ozono da solo ha mostrato efficacia su infiorescenza. L'ozono in strategia con il Serenade ASO 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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