

A20-315-890FE

Efficacy of ozone applied alone and in mix, against Botrytis sp. and Sclerotinia sp. on baby leaf vegetables. Italy 2020-2021

Trial ID: A20-315-890FE Location: Italy Trial Year: 2020
Protocol ID: 890A20FE7 Investigator (Creator): Renzo Bucchi
Project ID: Study Director: Renzo Bucchi - Agri 2000 Net Srl
Official Trial ID: A20-315-890FE Sponsor Contact: Giulio Senese - MET Srl
Trial Origin: C contracted trial

TREATMENT LIST

Trt No.	Treatment Type	Treatment Name	Form Conc	Form Unit	Form Type	Other Rate	Other Rate	Other Unit	Appl Code	Comment 1	Comment 2
1	CHK	Untreated Check									
2	FUNG	Ozone			SN	3PPM	PR	ABCD300-1500 L/ha		Spray application with water	
3	FUNG	Serenade ASO	14,1g/L		SC	8L/ha		ABCD300-1500 L/ha		Spray application	
4	FUNG	Ozone			SN	3PPM	PR	ABCD300-1500 L/ha		Spray application with water	
	FUNG	Serenade ASO	14,1g/L		SC	8L/ha		ABCD300-1500 L/ha		Apply Serenade ASO after Ozone on dry leaves	
5	FUNG	Ozone			SN	3PPM	PR	ABCD300-1500 L/ha		Ozone spray application in emulsified sunflower oil with water	
	FUNG	Sunflower oil			EC	1% V/V		ABCD300-1500 L/ha			

OBJECTIVES

- Do the Ozone used alone have efficacy if compared 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: Scanzano Jonico **Country:** ITA Italy
State/Prov.: Matera MT
Postal Code: 75020 **Climate Zone:** EPOMED EPPO Mediterranean

Crop Description

Crop 1: C LACSA Lactuca sativa Lettuce **BBCH Scale:** BVNH
Entry Date: Jun-30-2020 **Stage Scale:** BBCH
Variety: Chiara
Planting Date: May-5-2020 **Planting Rate:** 7 g/m2
Depth: 1 cm **Planting Method:** SEEDED seeded
Emergence Date: May-12-2020

Pest Description

Pest 1 Type: D **Code:** BOTRSP Botrytis sp. **Entry Date:** Sep-26-2020
Common Name: Botrytis sp. **Stage Scale:** BBCH
Artificial Population: N

Site and Design

Treated Plot Width: 1,5 m **Total Plot Width:** 1,5 m **Site Type:** GREENH greenhouse
Treated Plot Length: 6 m **Total Plot Length:** 6 m **Experimental Unit:** 1 PLOT plot
Treated Plot Area: 9 m2 **Treatments:** 5 **Tillage Type:** CONTIL conventional-till
Replications: 4 **Study Design:** RACOBL Randomized Complete Block (RCB)
% Slope: 0 **Plots arranged as in field?:** X
Untreated Arrangement: INCLUDED single control randomized in each block
Block Arrangement: BUPPSS all blocks lying upon each other, plots side by side
Distance between Blocks: 0 m

Field Prep./Maintenance:

No maintenance products were applied during the trial

Soil Description

% Sand: 33 **% OM:** 1 **Texture:** CSL clay sandy loam
% Silt: 42 **pH:** 6
% Clay: 24 **CEC:** 11

Application Description

	A	B	C	D
Application Date	May-19-2020	May-24-2020	May-29-2020	Jun-6-2020

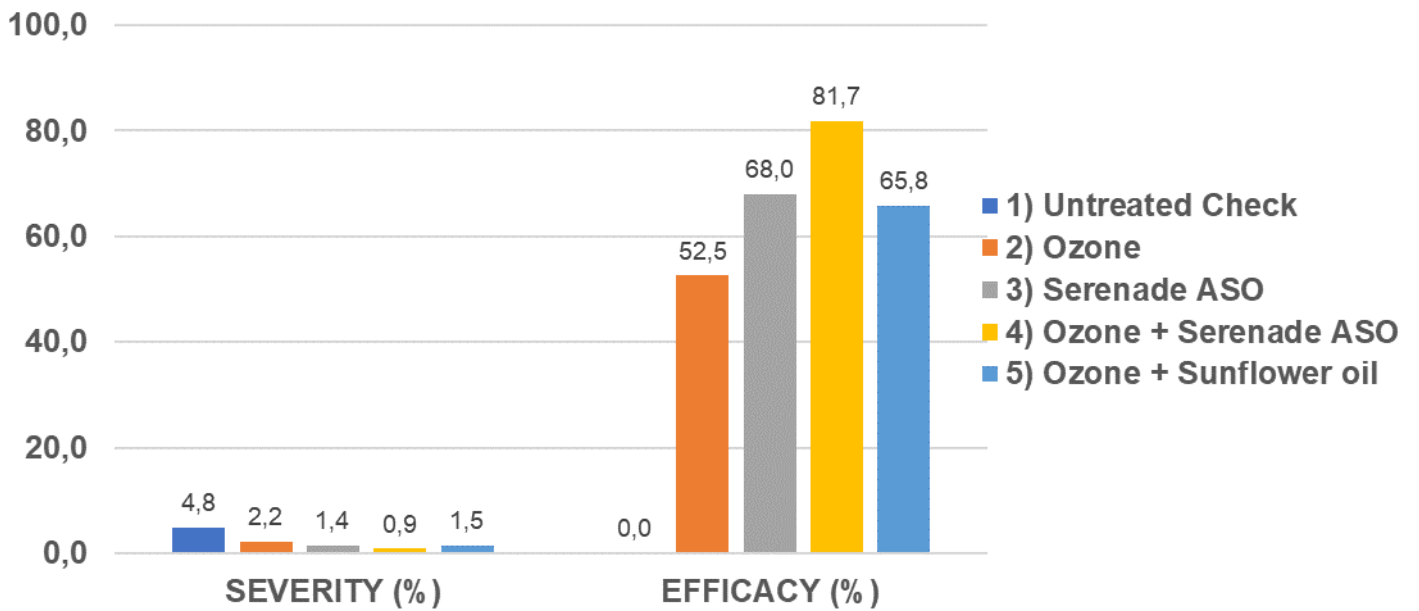
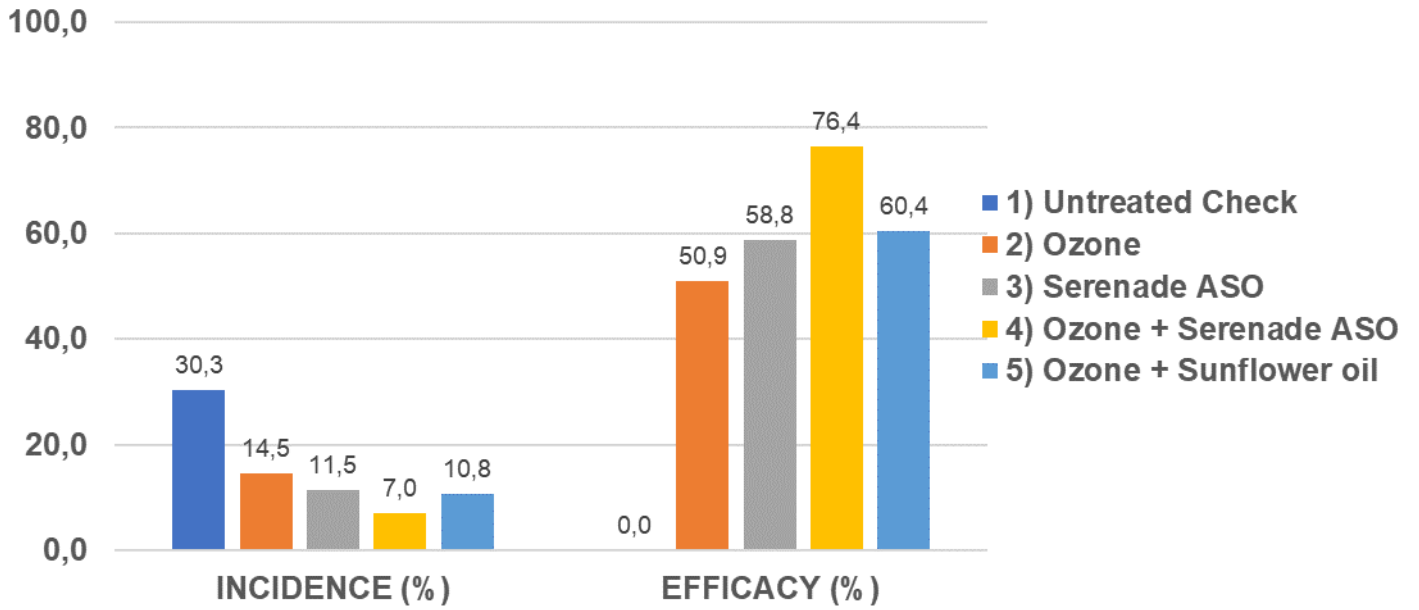
Application Directions

Time and frequency of application
Application A: pre-infection or at 2-3 leaves
Spray interval 5 days.

Doses and volumes
Use water volume variable following crop growth: 500-1500 L/ha

RESULTS

10 Days after the last application



COMMENTS

English version: At the end of the experimental program for the control of *Botrytis* on lettuce baby leaf, during which 4 applications were carried out based on susceptibility moments of the crop, the untreated check showed an incidence equal to 30.3%, 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, which reduced the *Botrytis* damage to 7.0%, 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 14,5% and 10.8% respectively.

Versione italiana: Al termine della strategia sperimentale per il controllo di botrite su lattughino, durante la quale sono state realizzate 4 applicazioni, basate su i momenti di suscettibilità della coltura, il testimone non trattato ha mostrato un'incidenza sui frutti pari al 30.3%, 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, che ha ridotto l'attacco da botrite al 7.0%, 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 14,5% e 10.8%.

CONCLUSION

Conclusions:

English version: Within the test aimed at controlling *Botrytis* sp. on lettuce baby leaf with the use of organic products, Ozone alone showed efficacy on leaves. 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. No symptoms of phytotoxicity were observed.

Versione italiana: All'interno della prova volta al controllo della botrite su lattughino con utilizzo di prodotti biologici, l'Ozono da solo ha mostrato efficacia su frutto. 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. Non si sono osservati sintomi di fitotossicità.

CONTACT

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