

A20-312-890FE

Efficacy of ozone applied alone and in mix, against *Peronospora belbahrii* on Basil. Italy 2020-2021

Trial ID: A20-312-890FE Location: Italy Trial Year: 2020
Protocol ID: 890A20FE5 Investigator (Creator): Renzo Bucchi
Project ID: Study Director: Renzo Bucchi - Agri 2000 Net Srl
Official Trial ID: A20-312-890FE Sponsor Contact: Federico Ponti- 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		3PPM PR		ABCDE	500-1000 L/ha	Spray application with water
3	FUNG	Airone Liquido	272g/L		SC		2,7L/ha		ABCDE	500-1000 L/ha	Spray application
4	FUNG	Ozone			SN		3PPM PR		ABCDE	500-1000 L/ha	Spray application with water
	FUNG	Airone Liquido	272g/L		SC		2,7L/ha		ABCDE	500-1000 L/ha	Spray application after Ozone on dry leaves of the plants
5	FUNG	Ozone			SN		3PPM PR		ABCDE	500-1000 L/ha	Spray application of Ozone in
	FUNG	Sunflower oil			EC	Rate 1-5 %V/V	3% V/V		ABCDE	500-1000 L/ha	Emulsified Sunflower oil with water

OBJECTIVES

- Do the Ozone used alone have efficacy comparable to the standard Airone Liquido?
- Does the addition of Ozone to the standard Airone Liquido increase the efficacy of Airone Liquido 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	
Address (Location):	Str. Felino in Vigatto
City:	Parma Country: ITA Italy
State/Prov.:	Parma PR Region: ER
Postal Code:	43124 Climate Zone: EPOMED EPO Mediterranean

Crop Description	
Crop 1:	Ocimum basilicum (sweet basil)
Variety:	Italia
Planting Date:	May-20-2020
Planting Density:	166,7 P/m ²
Rows per Plot:	10
Row Spacing:	30 cm
Spacing within Row:	2 cm
Planting Method:	SEDED seeded
Planting Equipment:	SR drilling machine
Seed Bed:	FINE fine
Soil Moisture:	NORMAL normal, adequate

Pest Description	
Pest 1 Type:	Peronospora belbahrii
Common Name:	Downy mildew of basil

Site and Design	
Treated Plot Width:	3 m
Treated Plot Length:	10 m
Treated Plot Area:	30 m ²
Replications:	4
Study Design:	Randomized Complete Block (RCB)
Untreated Arrangement:	Single control randomized in each block

Field Prep./Maintenance:
No maintenance products were applied during the trial

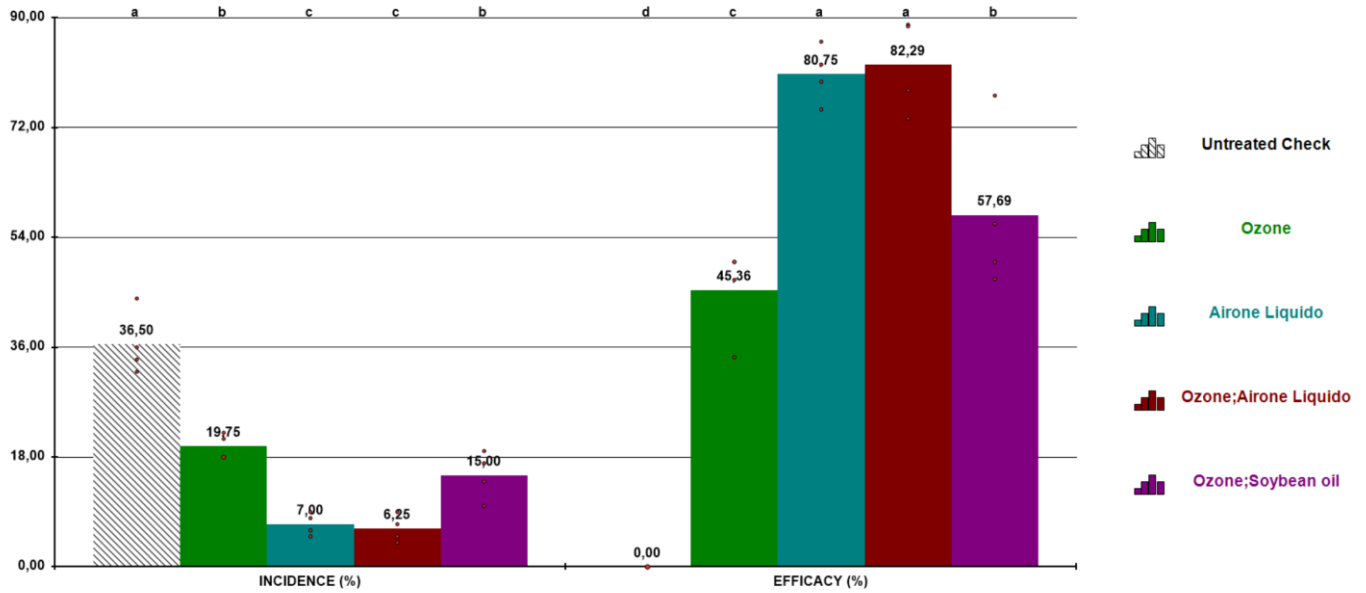
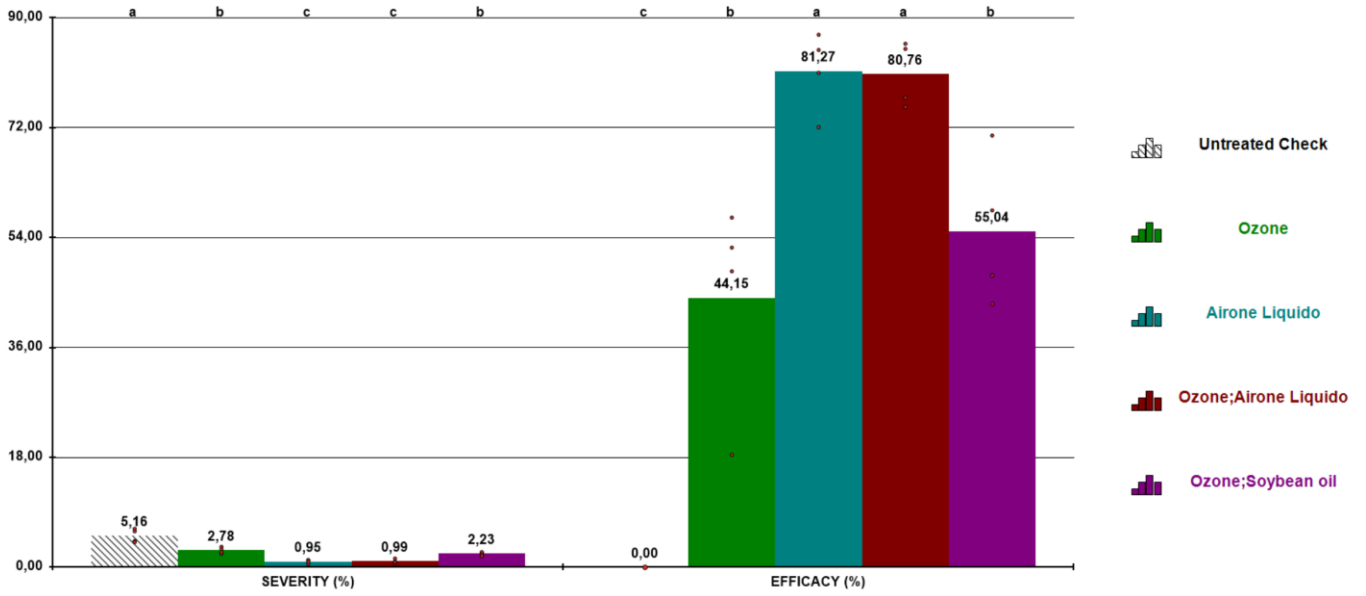
Soil Description
Texture: SL sandy loam

Application Description					
	A	B	C	D	E
Application Date	Jun-16-2020	Jun-23-2020	Jun-30-2020	Jul-7-2020	Jul-14-2020

Application Directions	
Time and frequency of application	Application A: pre-infection Spray interval 7 days.
Doses and volumes	Use water volume variable following crop growth: 500-1000 L/ha

RESULTS

On leaves - 7 Days after last application



COMMENTS

English version: At the end of the experimental program for the control of *Peronospora belbahrii* on basil, during which 5 applications were carried out based on susceptibility moments of the crop, the untreated check showed an incidence on leaves equal to 36.50%. 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 Airone Liquido, which reduced the *Peronospora belbahrii* damage to 6,25%. Also, the Ozone applied alone, Airone Liquido applied alone and the ozonated sunflower oil allowed a control of the disease, albeit lower, showing an incidence of 19.75%, 7.00% and 15.00% respectively.

Versione italiana: Al termine della strategia sperimentale per il controllo di peronospora su basilico, durante la quale sono state realizzate 5 applicazioni, basate su i momenti di suscettibilità della coltura, il testimone non trattato ha mostrato un'incidenza su foglia pari al 36.50%. 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 Airone Liquido, che ha ridotto l'attacco da botrite al 6.25% delle foglie. Anche l'ozono applicato da solo, l'Airone Liquido applicato da solo e l'olio di girasole ozonato hanno permesso un controllo della malattia, seppur inferiore, mostrando un'incidenza rispettivamente del 19.75%, 7.00% e 15.00%.

CONCLUSION

Conclusions:

English version: Within the test aimed at controlling *Peronospora belbahrii* on basil with the use of organic products, Ozone alone showed efficacy on leaves. Ozone in strategy with Airone Liquido contributes to an improvement of the efficacy of the latter, Airone Liquido applied alone showed an efficacy slightly lower than the latter (Airone Liquido + Ozone) 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 peronospora su basilico con utilizzo di prodotti biologici, l'Ozono da solo ha mostrato efficacia su foglia. L'ozono in strategia con l'Airone Liquido contribuisce ad un miglioramento dell'efficacia di quest'ultimo, Airone Liquido applicato da solo ha mostrato un'efficacia leggermente inferiore rispetto a quest'ultimo (Airone Liquido + Ozono) 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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