

Control of *Botrytis cinerea* with biostimulants Digester

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Key words

Grapes, *Botrytis cinerea*, Digester

Overview

The following inhibition tests were carried out to assess various formulations of Digester's ability to inhibit *Botrytis cinerea*.

Materials and methods

In-Vitro Tests zones of Inhibition

In vitro – centre hole application: ~0.3ml of test solution (Digester) filled into centre agar hole per plate, plate inoculated with 0.3ml of spore suspension per plate, ~500,000 spores per ml.

Results

Date: November 1999. Assessment 2 days after treatment. *Botrytis* strain isolated from grapes

Treatment	Zone of Inhibition (cm)			Mean ZOI (cm)
	Plate 1	Plate 2	Plate 3	
Digester	0.8	1.0	1.0	0.9
Digester (experimental a)	0.7	0.8	0.7	0.7
Untreated	0.0	0.0	0.0	0.0

Date: November 1999. Assessment 2 days after treatment. *Botrytis* strain isolated from grapes

Treatment	Zone of Inhibition (cm)			Mean ZOI (cm)
	Plate 1	Plate 2	Plate 3	
Digester	0.8	1.0	1.0	0.9
Digester (experimental a)	0.7	0.8	0.7	0.7
Untreated	0.0	0.0	0.0	0.0

Date: November 1999. Assessment 3 days after treatment. *Botrytis* strain isolated from grapes

Treatment	Zone of Inhibition (cm)			Mean ZOI (cm)
	Plate 1	Plate 2	Plate 3	
Digester	1.0	1.0	1.0	1.0
Digester (experimental a)	0.8	0.7	0.8	0.8
Untreated	0.0	0.0	0.0	0.0

Date: November 1999. Assessment 2 days after treatment. Botrytis strain isolated from grapes

Treatment	Zone of Inhibition (cm)			Mean ZOI (cm)
	Plate 1	Plate 2	Plate 3	
Digester	1.4	1.4	1.3	1.4
Digester (experimental a)	1.0	1.1	0.9	1.0
Untreated	0.0	0.0	0.0	0.0

Date: November 1999. Assessment 7 days after treatment. Botrytis strain isolated from grapes

Treatment	Zone of Inhibition (cm)			Mean ZOI (cm)
	Plate 1	Plate 2	Plate 3	
Digester	0.5	0.2	0.3	0.3
Digester (experimental a)	3.5	3.0	3.0	3.2
Untreated	0.0	0.0	0.0	0.0

Date: December 1999. Assessment 5 days after treatment. Botrytis strain isolated from Camelia

Treatment	Zone of Inhibition (cm)		Mean ZOI (cm)
	Plate 1	Plate 2	
Digester	3.5	3.5	3.5
Untreated	0.0	0.0	0.0

Date: December 1999. Assessment 5 days after treatment. Botrytis strain isolated from grapes

Treatment	Zone of Inhibition (cm)		Mean ZOI (cm)
	Plate 1	Plate 2	
Digester	1.5	1.5	1.5
Untreated	0.0	0.0	0.0

Date: December 1999. Assessment 5 days after treatment. Botrytis strain isolated from lettuce

Treatment	Zone of Inhibition (cm)		Mean ZOI (cm)
	Plate 1	Plate 2	
Digester	1.5	1.5	1.5
Untreated	0.0	0.0	0.0

Date: December 1999. Assessment 5 days after treatment. Botrytis strain isolated from grapes

Treatment	Zone of Inhibition (cm)		Mean ZOI (cm)
	Plate 1	Plate 2	
Digester	3.5	3.0	3.3
Untreated	0.0	0.0	0.0

Date: January 2000. Assessment 5 days after treatment. Botrytis strain isolated from grapes

Treatment	Zone of Inhibition (cm)	
	Plate with antibiotics	Plate without antibiotics
Digester	1.9	2.4
Untreated	0.0	0.0

Date: April 2000. Assessment 3 days after treatment. Botrytis strain isolated from grapes

Treatment	Zone of Inhibition (cm)			Mean ZOI (cm)
	Plate 1	Plate 2	Plate 3	
Digester (experimental)	0.4	0.3	0.3	0.3
Untreated	0.0	0.0	0.0	0.0

Date: June 2000. Assessment 3 days after treatment. Botrytis strain isolated from grapes

Treatment	Zone of Inhibition (cm)			Mean ZOI (cm)
	Plate 1	Plate 2	Plate 3	
Digester	1.2	1.2	1.2	1.2
Untreated	0.0	0.0	0.0	0.0

Date: June 2000. Assessment 3 days after treatment. Botrytis strain isolated from grapes

Treatment	Zone of Inhibition (cm)			Mean ZOI (cm)
	Plate 1	Plate 2	Plate 3	
Digester (experimental a)	1.2	1.4	1.3	1.3
Digester (experimental b)	1.0	1.2	1.0	1.1
Digester (experimental c)	1.0	1.1	1.2	1.1
Digester (experimental d)	0.6	0.7	0.6	0.6
Digester (experimental e)	1.4	1.5	1.4	1.4
Digester (experimental f)	1.2	1.1	1.1	1.1
Digester (experimental g)	0.7	0.8	1.0	0.8
Digester (experimental h)	1.2	1.2	1.2	1.2
Digester (experimental i)	1.0	1.1	0.9	1.0
Digester (experimental j)	0.7	0.8	0.7	0.7
Digester (experimental k)	1.5	1.4	1.3	1.4
Digester (experimental l)	0.9	1.0	1.0	1.0
Untreated	0.0	0.0	0.0	0.0

Date: June 2000. Assessment 3 days after treatment. Botrytis strain isolated from grapes

Treatment	Zone of Inhibition (cm)			Mean ZOI (cm)
	Plate 1	Plate 2	Plate 3	
Digester	10.	1.0	1.0	1.0
Untreated	0.0	0.0	0.0	0.0

Date: July 2000. Assessment 3 & 4 days after treatment. Botrytis strain isolated from grapes

Treatment	ZOI 3 DAT mean	ZOI 4DAT mean
Digester	1.0	0.7
Untreated	0.0	0.0

Date: July 2000. Assessment 3 days after treatment. Botrytis strain isolated from grapes

Treatment	Zone of Inhibition (cm)			Mean ZOI (cm)
	Plate 1	Plate 2	Plate 3	
Digester	10.	1.0	1.0	1.0
Untreated	0.0	0.0	0.0	0.0

Date: August 2000 Assessment 4 days after treatment. Botrytis strain isolated from grapes

Treatment	Zone of Inhibition (cm)			Mean ZOI (cm)
	Plate 1	Plate 2	Plate 3	
Digester	0.7	0.7	0.8	0.7
Digester (experimental a)	0.7	0.7	0.7	0.7
Digester (experimental b)	0.7	0.7	0.7	0.7
Digester (experimental c)	0.7	0.7	0.7	0.7
Digester (experimental d)	0.6	0.6	0.6	0.6
Digester (experimental e)	0.5	0.5	0.5	0.5
Digester (experimental f)	0.4	0.4	0.4	0.4
Digester (experimental g)	0.6	0.6	0.6	0.6
Digester (experimental h)	0.5	0.5	0.5	0.5
Digester (experimental i)	0.3	0.3	0.3	0.3
Untreated	0.0	0.0	0.0	0.0

Date: August 2000. Assessment 4 days after treatment. Botrytis strain isolated from grapes

Treatment	Zone of Inhibition (cm)			Mean ZOI (cm)
	Plate 1	Plate 2	Plate 3	
Digester	0.7	0.8	0.7	0.7
Untreated	0.0	0.0	0.0	0.0

Date: August 2000. Assessment 3 days after treatment. Botrytis strain isolated from grapes

Treatment	Zone of Inhibition (cm)			Mean ZOI (cm)
	Plate 1	Plate 2	Plate 3	
Digester	0.8	0.7	0.7	0.7
Digester (experimental a)	0.8	0.8	0.7	0.8
Digester (experimental b)	0.5	0.5	0.6	0.5
Untreated	0.0	0.0	0.0	0.0

Date: August 2000. Assessment 4 days after treatment. Botrytis strain isolated from grapes

Treatment	Zone of Inhibition (cm)			Mean ZOI (cm)
	Plate 1	Plate 2	Plate 3	
Digester (experimental a)	0.5	0.3	0.3	0.4
Digester (experimental b)	0.0	0.0	0.0	0.0
Digester (experimental c)	0.0	0.0	0.0	0.0
Digester (experimental d)	0.4	0.3	0.5	0.4
Digester (experimental e)	0.0	0.0	0.0	0.0
Digester (experimental f)	0.3	0.5	0.4	0.4
Digester (experimental g)	0.2	0.2	0.2	0.2
Digester	0.9	1.0	0.9	0.9
Untreated	0.0	0.0	0.0	0.0

Date: September 2000. Assessment 3 days after treatment. Botrytis strain isolated from grapes

Treatment	Zone of Inhibition (cm)			Mean ZOI (cm)
	Plate 1	Plate 2	Plate 3	
Digester	0.8	0.9	0.9	0.9
Untreated	0.0	0.0	0.0	0.0

Date: September 2000. Assessment 3 days after treatment. Botrytis strain isolated from grapes

Treatment	Zone of Inhibition (cm)			Mean ZOI (cm)
	Plate 1	Plate 2	Plate 3	
Digester	0.7	0.7	0.7	0.7
Untreated	0.0	0.0	0.0	0.0

Date: September 2000. Assessment 3 days after treatment. Botrytis strain isolated from grapes

Treatment	Prepared and applied immediately ZOI (cm)	Prepared 48hrs before application ZOI (cm)
Digester	1.0	1.0
Untreated	0.0	0.0

Date: October 2000. Assessment 3 days after treatment. Botrytis strain isolated from grapes

Treatment	Zone of Inhibition (cm)			Mean ZOI (cm)
	Plate 1	Plate 2	Plate 3	
Digester	0.9	0.9	0.9	0.9
Untreated	0.0	0.0	0.0	0.0

Date: March 2001. Assessment 3 days after treatment. Botrytis strain isolated from grapes

Treatment	Zone of Inhibition (cm)			Mean ZOI (cm)
	Plate 1	Plate 2	Plate 3	
Digester	1.0	1.0	0.8	0.9
Untreated	0.0	0.0	0.0	0.0

Conclusion

Digester has consistently shown a high degree of inhibition of *Botrytis cinerea*.