

Tivano

Fungicide & Bactericide

RESEARCH BULLETIN

For Angular Leaf Spot and Powdery Mildew



TECHNICAL SPECIFICATIONS

- **Canadian registration number:** 30459
- **Active ingredients:** Citric acid and lactic acid (present as fermentation products of *Lactobacillus casei* strain LPT-111)
- **Packaging:** One (1) case = 2 x 10L
- **Formulation Type:** Liquid concentrate
- **Chemical Group:** N/A Biopesticide
- **PHI:** 0 days
- **REI:** When spray is dry
- **Rainfastness:** Do not apply if rainfall is expected within 24 hrs of application
- **Approved for organic agriculture**

USE PATTERN EVALUATED

CROP	DISEASE	RATE	FOLIAR SPRAY VOLUME	APPLICATION TIMING
Strawberries	Powdery mildew (<i>Sphaerotheca macularis</i> <i>f.sp.fragariae</i>)	8 - 12 L/ha	Use minimum spray volume to obtain a complete coverage of foliage	7 - 10 days
	Angular leaf spot (<i>Xanthomonas fragariae</i>)			5 - 10 days

MODE OF ACTION

Tivano forms a protective barrier on the surface of the leaves that inhibit pathogen development. It also has antifungal effects on conidia germination, germ tube formation and elongation, appressorium formation, hyphae branching and haustorium formation. In addition, it has a direct bactericide activity and also reduces bacterial growth and the appearance of various disease symptoms.

OPTIMAL USED PATTERN

- Reduce water pH used to 6,0 or less before addition of Tivano, with an acidifier
- Use combination of spray volume and pressure to obtain an excellent coverage of both sides of leaves.
- Use of a non ionic surfactant can improve the foliage coverage under certain conditions
- Combine with a fungicide against Botrytis cinerea, gray mould agent (e.g. Boscalid or Fenhexamide) without the addition of surfactant.

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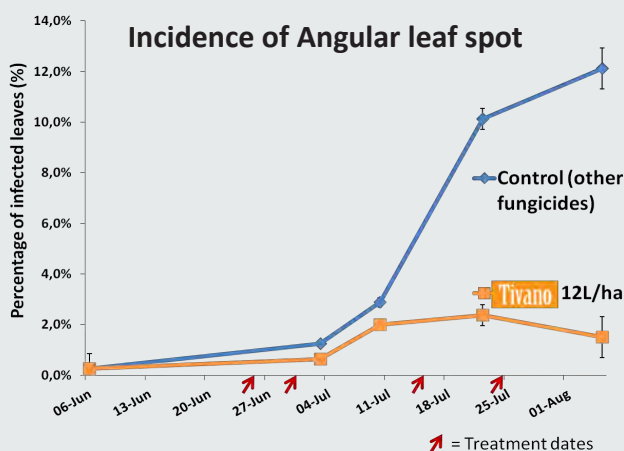
COMPATIBILITY

Tivano was tested with:

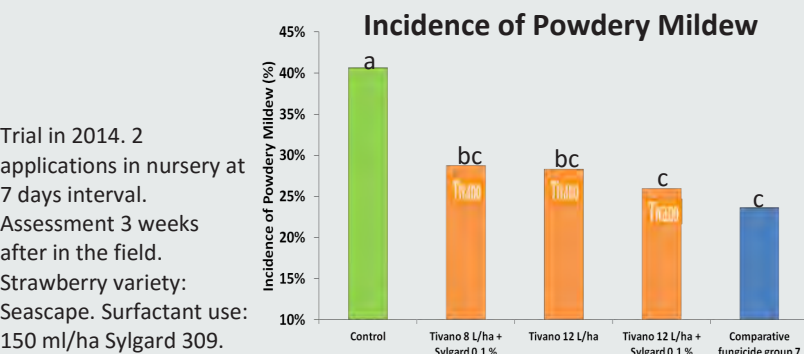
- Cantus™ WDG (Boscalid) ²
- Elevate® 50 WDG (Fenhexamide) ²
- Nova™ 40W (Myclobutanil)
- Supra Captan 80 WDG (Captan)

Physical and chemical compatibilities were tested. ² Phytotoxicity was tested on Seascape strawberries.

RESULTS

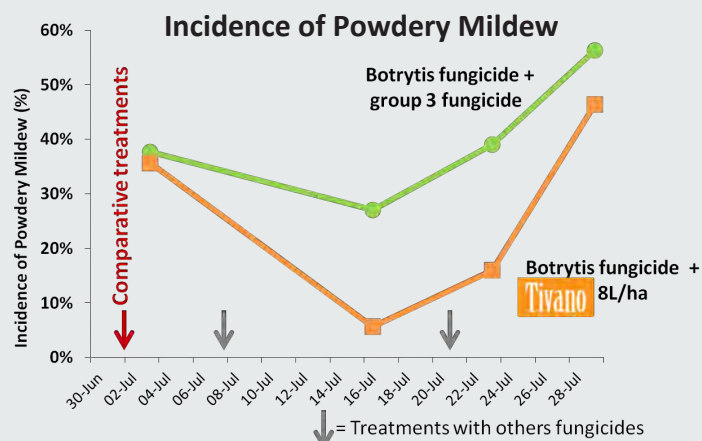


Trial with large commercial operation in 2014. Treatment applied by grower with a boom sprayer (200 psi). Sprayed volume: 700 L/ha. Strawberry variety: Seascape.

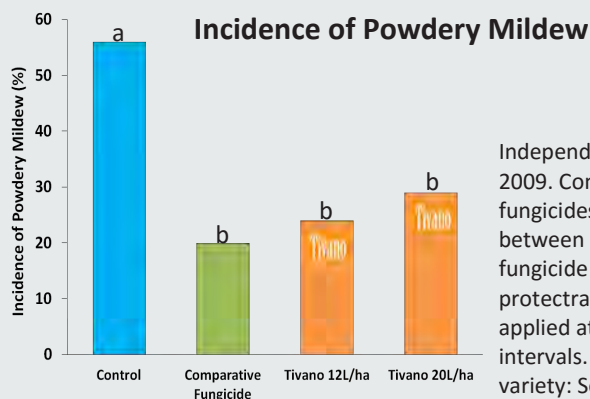


Trial in 2014. 2 applications in nursery at 7 days interval. Assessment 3 weeks after in the field. Strawberry variety: Seascape. Surfactant use: 150 ml/ha Sylgard 309.

Means not followed by a common letter are significantly different (P=0.05) as determined by LSD protected test.



Trial with large commercial operation in 2013. Treatments applied by growers with boom sprayer (200 psi). Volume sprayed: 700 L/ha. Strawberry variety : Seascape.



Independent trial in 2009. Comparative fungicides: Alternance between a systemic local fungicide and a protectant. Treatments applied at 7-days intervals. Strawberry variety: Seascape.

Contact your local ag-retailer for more information

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Please refer to product label for complete application details. Always read and follow label directions. Log on to www.aefglobal.com for full label information.

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