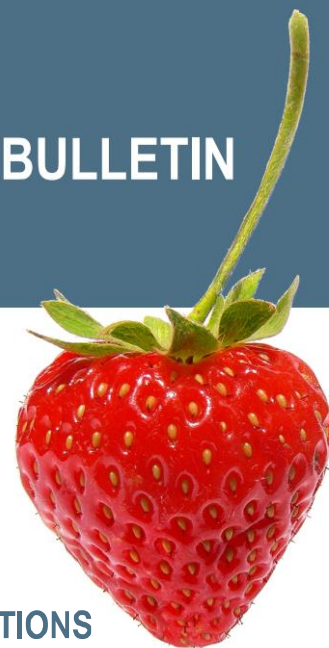


# Tivano

Fungicide & Bactericide

## RESEARCH BULLETIN

Strawberry



## For Angular Leaf Spot and Powdery Mildew



### TECHNICAL SPECIFICATIONS

- **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 day
- **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.

Updated : 10/02/2016

## OPTIMAL USED PATTERN

- Reduce water pH used to 6,0 or less before addition of Tivano, with an acidifier
- Use conejet nozzle and high pressure (minimum of 120 PSI)
- Use the amount of water and pressure needed to obtain full 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

# Tivano

## RESEARCH BULLETIN

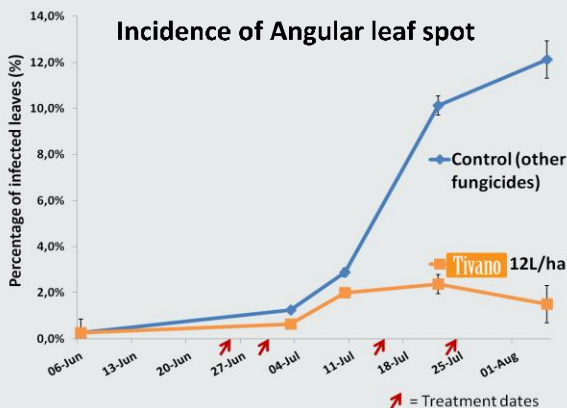
## COMPATIBILITY

Tivano was tested with:

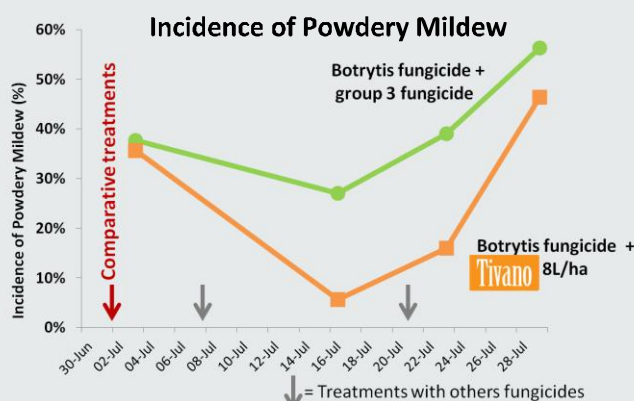
- Cantus™ WDG (Boscalid)<sup>2</sup>
- Elevate® 50 WDG (Fenhexamide)<sup>2</sup>
- Nova™ 40W (Myclobutanil)
- Supra Captan 80 WDG (Captan)

Physical and chemical compatibilities were tested.<sup>2</sup> Phytotoxicity was tested on Seascape strawberries.

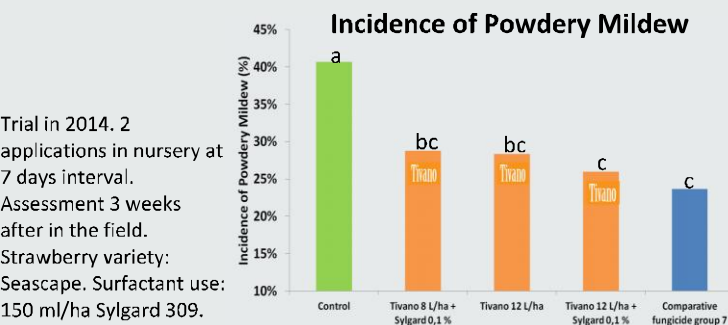
## RÉSULTS



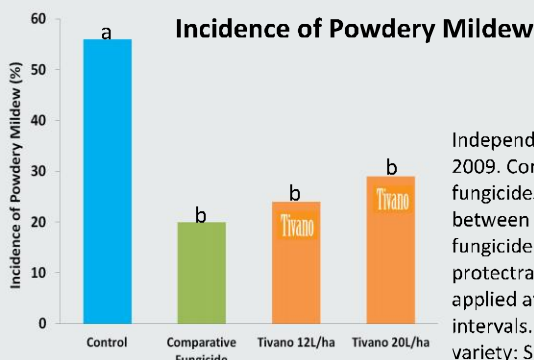
Trial with large commercial operation in 2014. Treatment applied by grower with a boom sprayer (200 psi). Sprayed volume: 700 L/ha. Strawberry variety: Seascape.



Trial with large commercial operation in 2013. Treatments applied by growers with boom sprayer (200 psi). Volume sprayed: 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.



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

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

Contact your local ag-retailer for more information

Tivano is registered in Canada by AEF Global. Cantus is a registered trademark of BASF Canada Inc. Elevate is a registered trademark of Arysta LifeScience North America. Nova is a trademark of Dow AgroSciences Canada Inc. Supra Captan 80 WDG is a registered trademark of Loveland Products Inc.

Please refer to product label for complete application details. Always read and follow label directions. Log on to [www.aefglobal.com](http://www.aefglobal.com) for full label information.

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