

DuPont™ Tanos®

fungicide

University test results in processing and fresh-market tomatoes confirm that Tanos® fungicide programs deliver the broadest spectrum of disease control



DuPont™ Tanos® fungicide, composed of two complementary ingredients, famoxadone and cymoxanil, was introduced in 2003. Tomato growers in Florida were among the first to use the product to manage a large number of important foliar and fruit fungal and bacterial diseases. Now, you too can protect your tomatoes with Tanos® fungicide from DuPont.

- *Septoria* and
- anthracnose

Along with excellent suppression of:

- bacterial spot
- bacterial speck and
- bacterial canker

The results are in ...

2004 university test results from processing and fresh-market tomatoes confirm the broad-spectrum disease control that a program featuring Tanos® fungicide can deliver. In tables that follow, university researchers report excellent control of:

- early blight
- late blight

Early blight protection you can count on

A Tanos® fungicide program enhances disease control reliability by combining novel fungicide chemistry with proven partners.

See table 1 below for university results for Tanos® controlling early blight.

Table 1 – 2004 university early blight results from processing tomatoes

| % early blight foliar disease severity* | | | | | | |
|---|----------------|---------------|---------------|--------------|------------|----------|
| Fungicide programs compared | Cornell | Penn State | Purdue | Ohio State | VPI | |
| 8 oz Tanos® program** | 40.8 c* | 10.2 b | 16.1 b | 0.9 b | 4.3 | b |
| Competitive program*** | 47.0 bc | 26.0 b | 16.1 b | 0.4 b | 5.5 | b |
| Untreated | 72.5 a | 88.3 a | 92.1 a | 11.3 a | 23.8 | a |
| F significant @ | 0.01 | 0.01 | 0.01 | 0.01 | 0.05 | |

* Tests conducted by Zitter, Cornell Univ.; McNab, Penn State Univ.; Egel, Purdue Univ.; Riedel, Ohio State Univ.; Waldenmaier, Virginia Polytechnic Inst.; the latest foliar evaluation was reported where days after the "last" application did not exceed the length of the program spray interval of ca 7 days.

** Tanos® program = 8 oz Tanos® + 2 lb Manzate® + 2 lb Kocide® 2000 alt 2 lb Manzate® + 2 lb Kocide® 2000 (applications 1-4) followed by 8 oz Tanos® + 1.5 pt Bravo Weatherstik alt 1.5 pt Bravo Weatherstik (application 5 to end).

*** Competitive program = 2 lb Manzate® + 2 lb Kocide® 2000 (applications 1-4) followed by 2 oz Amistar alt 1.5 pt Bravo Weatherstik (application 5 to end). The competitive program applied at Cornell and Penn State was 2 oz Amistar + 1 pt Bravo Weatherstik alt 2 pt Bravo Weatherstik.

† Numbers followed by the same letters are not significantly different based on a Duncan's Multiple Range Test.

Broad-spectrum protection

DuPont™ Tanos® helps reduce the anxiety of uncertain performance on a wide range of tough fungal and bacterial diseases that threaten processing and fresh-market tomato production. See tables 2 and 3 for university results for Tanos® on these diseases.

Table 2 – 2004 university results on foliar and fruit diseases of processing tomatoes*

| Fungicide programs compared | % Foliar severity or incidence | | | | | | % Fruit incidence | | | | | |
|------------------------------|--------------------------------|-----------|----------------|----------------|------------------|-----------------|-------------------|-------------|-------------|----------|------------|----------|
| | Septoria leaf spot | | Late blight | | Bacterial canker | Bacterial speck | Bacterial spot | Anthracnose | | | | |
| | Ohio State | VPI | Michigan State | Michigan State | VPI | Penn State | | | | | | |
| 8 oz Tanos® program** | 0.2 | b* | 11.5 | bc | 12 | d | 5.0 | b | 11.3 | b | 0.1 | b |
| Competitive program*** | 0.0 | b | 20.0 | bc | 19 | cd | 15.0 | b | 18.8 | ab | 0.0 | b |
| 2 lb Kocide® 2000 | - | - | - | - | 39 | ab | 7.5 | b | - | - | - | - |
| Untreated | 23.8 | a | 40.0 | a | 55 | a | 27.5 | a | 30.0 | a | 88.4 | a |
| F significant @ | 0.01 | | 0.05 | | 0.01 | | 0.01 | | 0.01 | | 0.01 | |

* Tests conducted by Riedel, Ohio State Univ.; Waldenmaier, Virginia Polytechnic Inst.; Hausbeck, Michigan State Univ.; McNab, Penn State; the latest foliar evaluation was reported where days after the 'last' application did not exceed the length of the program spray interval of ca 7 days.

** Tanos® program = 8 oz Tanos® + 2 lb Manzate® + 2 lb Kocide® 2000 alt 2 lb Manzate® + 2 lb Kocide® 2000 (applications 1-4) followed by 8 oz Tanos® + 1.5 pt Bravo Weatherstik alt 1.5 pt Bravo Weatherstik (application 5 to end); at Michigan State 2 lb Kocide® 2000 was added to application 5 to end.

*** Competitive program = 2 lb Manzate® + 2 lb Kocide® 2000 (applications 1-4) followed by 2 oz Amistar alt 1.5 pt Bravo Weatherstik (application 5 to end). The competitive program applied at Penn State was 2 oz Amistar + 1 pt Bravo Weatherstik alt 2 pt Bravo Weatherstik. The competitive program applied at Michigan State was 2 lb Manzate® + 2 lb Kocide® 2000 (applications 1-4) followed by 8 oz Cabrio + 2 lb Kocide® 2000 alt 1.5 pt Bravo Weatherstik + 2 lb Kocide® 2000.

† Numbers followed by the same letters are not significantly different based on a Duncan's Multiple Range Test.



Untreated check. Photo taken January 7, 2005, Bradenton, Fla. The predominant disease is bacterial spot.



Tanos® at 8 oz product per acre plus Kocide® 2000 at 2 lb product per acre plus Manzate® at 2 lb product per acre alternated with Kocide® 2000 at 2 lb product per acre plus Manzate® at 2 lb product per acre. Photo taken January 7, 2005, Bradenton, Fla. The predominant disease controlled is bacterial spot.

Table 3 - 2004 university results on foliar and fruit diseases of fresh-market tomatoes*

| Fungicide programs compared | % Foliar disease severity* | | | | | | % Fruit incidence | | | |
|--|----------------------------|-----------|------------------|----------|------------------|------------|-------------------|----------|------------|----------|
| | Bacterial spot | | | | Early blight | | Anthracnose | | | |
| | Ohio State | | Univ. of Florida | | Glades Crop Care | Ohio State | Ohio State | | | |
| 8 oz Tanos® + 2 lb Manzate® + 2 lb Kocide® 2000 alt 2 lb Manzate® + 2 lb Kocide® 2000 | 6.1 | c* | 4.3 | b | 14.4 | b | 13.1 | b | 4.3 | c |
| 2 lb Manzate® + 2 lb Kocide® 2000 | 14.3 | bc | - | - | 19.4 | b | 16.6 | b | 12.0 | b |
| 2 oz Amistar alt 2 lb Manzate® + 2 lb Kocide® 2000 | 17.9 | bc | - | - | - | - | 21.4 | b | 3.9 | c |
| Actigard + 1.5 pt Bravo WS (4x) fb 2 oz Amistar alt 1.5 pt Bravo WS | - | - | 15.8 | ab | - | - | - | - | - | - |
| Untreated | 63.0 | a | 31.3 | a | 29.5 | a | 54.3 | a | 24.0 | a |
| F significant @ | | 0.01 | | 0.01 | | 0.01 | | 0.01 | | 0.01 |

* Tests conducted by Miller, Ohio State Univ.; Roberts, Univ. of Florida; Glades Crop Care Inc. (private contractor), Florida.

* Numbers followed by the same letters are not significantly different based on a Duncan's Multiple Range Test.

Diseases controlled

Below is a complete list of the fungal and bacterial diseases that Tanos® controls or suppresses.*

- Early blight
(*Alternaria solani*)
- Late blight
(*Phytophthora infestans*)
- Anthracnose
(*Colletotrichum spp.*)
- Target spot
(*Corynespora cassiicola*)
- Septoria leaf spot
(*Septoria lycopersici*)
- Buckeye rot*
(*Phytophthora spp.*)
- Leaf mold
(*Cladosporium fulvum*)
- Bacterial speck*
(*Pseudomonas syringae*)
- Bacterial spot*
(*Xanthomonas campestris*)
- Bacterial canker*
(*Clavibacter michiganensis*)

* Suppression only

The industry standard for resistance management

For best disease control results, and to optimize protection against the risk of resistance development, Tanos™ labeling requires:

- Tank mixing with a preventive contact fungicide with a different mode of action, such as Manzate® and/or Kocide® 3000 — thereby delivering two to three modes of action against each disease.
- Alternation with a fungicide with a different mode of action, such as Manzate® ProStick™ or Kocide® 3000.
- Applying not more than 72 ounces of Tanos® per acre in a 12-month period.

For more information

For more information about Tanos® programs in tomato production, please contact your local DuPont crop protection retailer or DuPont representative. And visit us on the Web at tanos.dupont.com.

This reference guide is not intended as a substitute for the product label for the product(s) referenced herein. Product labels for the above product(s) contain important precautions, directions for use and product warranty and liability limitations that must be read before using the product. Applicators must be in possession of the product label(s) at the time of application. Always read and follow all label directions and precautions for use when using any pesticide alone or in tank-mix combinations.

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