

DuPont™ Tanos®

fungicide

Onion disease control with Tanos® programs

Now you can use DuPont™ Tanos® fungicide¹ to control downy mildew and purple blotch in your onions and to suppress *Xanthomonas* leaf blight and bacterial soft rot in the bulbs. Used preventively, Tanos®, which is composed of two complementary ingredients, famoxadone and cymoxanil, can be applied on a 5-7 day schedule.

How to use

- Tank mix 8 ounces **Tanos®** with a contact fungicide such as **DuPont™ Manzate® Pro-Stick™** or **DuPont™ ManKocide®** for downy mildew or purple blotch control, or 8-10 ounces Tanos® with **ManKocide®** or **DuPont™ Kocide® 3000** for *Xanthomonas* leaf blight or bacterial soft rot suppression.
- For ground application, apply a minimum of 20 gallons of spray, increasing as needed for thorough coverage.
- For aerial application, apply a minimum of 5 gallons per acre.
- The restricted-entry interval is 12 hours (unless a more restrictive interval is specified on the tank-mix partner label).
- The minimum pre-harvest interval is 3 days (unless a more restrictive interval is specified on the tank-mix partner label).

¹ Tanos® is not registered for use on onions in California, Hawaii and New York.



Tanos® control of onion downy mildew and *Alternaria* purple blotch — Michigan State University

8 oz Tanos®
+ 3 lbs Manzate®
alternate
1.5 pts Bravo Weather
Stik (3 rows)



Untreated (3 rows)

Downy mildew control results from Michigan and Oregon

Results from Michigan State University show that a Tanos® and Manzate® program gave better control of onion downy mildew and better quantity and quality of onion yield than other programs tested.

Control of onion downy mildew in Michigan* and resulting yield improvement with Tanos® programs			
Treatment Rate product/A	% severity	Yield lb/plot	
	Downy mildew	Total bulbs	Large bulbs
8 oz Tanos® + 3 lbs Manzate® alt 3 lb Manzate®	18 de**	67 ab	49 a
8 oz Tanos® + 3 lbs Manzate® alt 1.5 pt Bravo Weather Stik	33 cd	58 c	29 b
std. 3 lbs Manzate®	23 cde	71 a	45 a
Untreated	75 a	49 d	15 c
f sig @ p=	.01	.01	.01

* 2003 results from M. Hausbeck, Michigan St. Univ.
 ** Numbers in the same column followed by the same letter are not significantly different based on a Duncan's Multiple Range test.

In Oregon, Tanos® programs gave consistently excellent onion downy mildew control, under heavy disease pressure, similar to the standard products.

Control of onion downy mildew in 3 different years with Tanos® programs in Oregon*			
Treatment Rate product/A	% incidence		% severity
	2002	2005	2004
8 oz Tanos® + 1 pt Bravo Weather Stik alt Manzate®	5 b**	—	—
std. 3 lbs Manzate®	13 b	—	—
8 oz Tanos® + 2-3 lbs Manzate® alt 3 lbs Manzate®	—	9 b	5 b
std. 3 lbs Manzate® alt 3 lbs Manzate® + 1 lb Rovral	—	28 b	—
std. 2 lbs Manzate® + 1 pt Omega	—	—	3 b
std. 2 lbs Ridomil Gold Bravo	—	—	0 b
Untreated	80 a	61 a	46 a
f sig @ p=	.01	.01	.01

* Results are from C. Collins, Hillsboro, Oregon.
 ** Numbers in the same column followed by the same letter are not significantly different based on a Duncan's Multiple Range test.

Downy mildew and bacterial leaf blight results from Colorado

Both Tanos[®]/Manzate[®] and Tanos[®]/Kocide[®] programs gave excellent control of onion downy mildew under good pressure in this test at Olathe, Colo. However, the Tanos[®]/Kocide[®] program gave the best yield response.

In the Colorado State University test at Larimer County, Colo., both Tanos[®]/Manzate[®] and Tanos[®]/Kocide[®] programs gave suppression of Xanthomonas leaf blight, similar to the Kocide[®] standard. The straight Manzate[®] standard gave the least bacterial suppression.

Control of onion downy mildew and suppression of Xanthomonas leaf blight with Tanos [®] programs in Colorado			
Treatment Rate product/A	Olathe, Colo.*		Larimer County, Colo.**
	% severity	Yield	% severity
	Downy mildew	Bulbs lb/plot	Xanthomonas leaf blight
8 oz Tanos [®] + 2 lbs Manzate [®] alt 3 lbs Manzate [®]	0 b***	25 bc	29 c
8 oz Tanos [®] + 1.5 lbs Kocide [®] 2000 alt 2 lbs Manzate [®] + 1.5 lbs Kocide [®] 2000	0 b	32 a	24 c
std. 3 lbs Manzate [®] alt 3 lbs Manzate [®] + 1 lb Rovral	0 b	26 bc	39 b
std. 1.5 lbs Kocide [®] 2000	—	—	25 c
Untreated	35 a	23 c	58 a
f sig @ p=	.01	.01	.05

* 2005 results from Hinesite Research.
 ** 2005 results from H. Schwartz, Col. St. Univ.
 *** Numbers in the same column followed by the same letter are not significantly different based on a Duncan's Multiple Range test.

Purple blotch control in Michigan and Texas

In a Michigan State University test, a Tanos[®]/Manzate[®] program performed similarly on onion purple blotch to a Pristine/Bravo program under good pressure. In a test in Wharton, Texas, with very heavy purple blotch pressure, the Tanos[®]/Manzate[®] program performed well, while both Tanos[®] programs gave yields similar to the standard.

Control of onion purple blotch in Michigan and Texas* with Tanos [®] programs			
Treatment Rate product/A	East Lansing, Mich.	Wharton, Texas	
	Purple blotch	Purple blotch	Yield
	% severity	% severity	bulbs, lb/plot
8 oz Tanos [®] + 3 lbs Manzate [®] alt 3 lbs Manzate [®]	25 bc**	13 c	9183 ab
8 oz Tanos [®] + 1.5 lbs Kocide [®] 2000 alt 2 lbs Manzate [®] + 1.5 lbs Kocide [®] 2000	—	25 bc	8240 ab
std. 3 lbs Manzate [®] alt 3 lbs Manzate [®] + 1 lb Rovral	31 abc	1 d	9545 a
std. 1.15 lbs Pristine alt 1.5 pt Bravo Weather Stik	18 c	—	—
Untreated	48 a	73 a	5959 c
f sig @ p=	.01	.01	.01

* Michigan results are from M. Hausbeck, Michigan St. Univ., 2004; Texas results are from P. Bruno, Agricumbia, 2005.
 ** Numbers in the same column followed by the same letter are not significantly different based on a Duncan's Multiple Range test.

Suppression of bacterial soft rot in Oregon

When used in a program, Tanos® or Tanos®/Manzate® programs gave significant reduction in the incidence of onion bacterial soft rot over the standard Actigard treatment.

Suppression of onion bacterial soft rot in Oregon* with Tanos® programs	
Treatment Rate product/A	% incidence bacterial soft rot
8 oz Tanos® + 1.5 lbs Kocide® 2000 alt 2 lbs Manzate® + 1.5 lbs Kocide® 2000	1 b**
8 oz Tanos® + 1.5 lbs Kocide® 2000 alt 1.5 lbs Kocide® 2000	2 b
8 oz Tanos® + 2 lbs Manzate® alt 3 lbs Manzate®	3 ab
std. 1 oz Actigard 50WG	5 a
Untreated	5 a
f sig @ p=	.01
* Results from C. Collins, Hermiston, Oregon, 2005.	
** Numbers in the same column followed by the same letter are not significantly different based on a Duncan's Multiple Range test.	

Resistance management

Do not make more than one application of Tanos® before alternating with a fungicide that has a different mode of action (copper, such as Kocide® or ManKocide®; or mancozeb, such as Manzate®). Do not alternate or tank mix with other Group 11 fungicides or with fungicides to which resistance has developed. Tanos® is a Group 11 fungicide.

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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