

## Plant Pathology Fact Sheet

# 2014 FUNGICIDE GUIDE FOR BURLEY AND DARK TOBACCO

by Kenny Seebold  
*Extension Plant Pathologist*





## CHEMICALS LABELED FOR DISEASE MANAGEMENT IN KENTUCKY, 2014

The number of fungicides that are registered for use in Kentucky is relatively small in comparison to the large array of products available to producers of other crops. Although growers have a limited number of fungicides from which to choose, those that are available are effective against most of the major diseases of roots, stems, and foliage. Fungicide options for the 2014 growing season are similar to last year's list of products; however, a few changes have occurred for 2014. The following is a summary of changes to this guide for the 2014 season:

- **Manzate Pro-Stick** is now the only mancozeb fungicide labeled for use on tobacco (transplant or field production) in Kentucky. ***The 24(c) labels that permitted this use for Dithane DF and Penncozeb have expired and were not renewed by their manufacturers and these products can no longer be used on tobacco in the state.*** Growers using Manzate Pro-Stick must have a copy of the 24(c) label in their possession; this may be obtained from chemical dealers, local Cooperative Extension offices, or at the CDMS web site located at [www.cdms.net](http://www.cdms.net).
- **Satori** fungicide, which contains the active ingredient azoxystrobin, is a new product from Loveland for the tobacco market and is a generic product that can be used as a substitute for Quadris. Target diseases, application rates, and directions for use for Satori are identical to those for Quadris with one major exception. ***Satori can be used on field-grown tobacco but cannot be used during seedling production.*** Only Quadris can be used on seedlings; the 24(c) label that permits this use is valid only for Quadris. Satori has not been tested at the University of Kentucky but should perform similarly to Quadris and will more-than-likely be less expensive. ***Please note that the only azoxystrobin-containing fungicides that can be used legally on tobacco are Quadris and Satori.***

The following tables list labeled chemicals that are available to growers in Kentucky for use in the production of burley and dark tobacco in 2014. As always, read all product labels carefully and follow all directions provided by the manufacturers. Each product has specific use directions that should be followed to minimize the risk of injury to the crop and applicator, and to maximize the effectiveness of the product. These tables are provided as a general set of guidelines to aid in product selection, but are not intended to replace product labels.

For additional information on diseases and recommendations for their control, refer to the 2013-2014 Kentucky-Tennessee Tobacco Production Guide (ID-160). This publication can be obtained from Cooperative Extension offices around Kentucky or online at <http://www.ca.uky.edu/agc/pubs/id/id160/id160.pdf>.

**Table 1. Guide to Chemicals Available for Control of Tobacco Diseases, 2014 – Transplant Production**

Product(s)	Product rate		Diseases controlled	Label notes
	Per application <sup>a</sup>	Per season		
Agricultural Streptomycin Agri-Mycin 17 Harbour	0.5-1 lb/100 gal H <sub>2</sub> O (½-1 tbsp./gal)	no limit	Wildfire blue mold	Apply in 3-5 gal/ 1000 sq. ft. Will also help suppress blackleg (bacterial soft rot) when applied in enough water to wet stems.
Aliette WDG	1 lb/100 gal H <sub>2</sub> O (1 tbsp./gal)	1.2 lb per 1000 sq. ft.	blue mold	Apply 3 gal of solution per 1000 sq. ft. on small plants; increase to a maximum of 12 gal as plants grow.
Manzate Pro-Stick	0.5 lb/100 gal H <sub>2</sub> O (1 tsp./gal)	no limit	blue mold anthracnose damping-off target spot	Apply 3-12 gallons/ 1000 sq. ft. as a fine spray. Begin when plants are dime-sized or larger, and continue on a 5-7 day schedule until transplanting.

<sup>a</sup>Rate range of product. In general, use higher rates when disease pressure is high. Refer to product label for application information, restrictions, and warnings.

**Table 1 (cont'd). Guide to Chemicals Available for Control of Tobacco Diseases, 2014 – Transplant Production**

Product(s)	Product rate		Target diseases	Label notes
	Per application <sup>a</sup>	Per season		
Milk				
<i>Whole/Skim</i>	5 gal/100 gal H <sub>2</sub> O (¾ cup/gal)	no limit	tobacco mosaic virus (plant-to-plant spread).	Apply to plants at least 24 h prior to handling. Mix will treat 100 sq. yd.
<i>Dry</i>	5 lb/100 gal H <sub>2</sub> O (5 tbsp./gal)	no limit		For washing hands, add 1 pt of milk to 1 gal of water, dip hands every 20 minutes while handling plants.
Quadris 2.08SC	0.14 fl oz/5 gal H <sub>2</sub> O (4 cc/5 gal)	1 application	target spot	Apply <b>once</b> to plants before disease onset or when symptoms first appear. Use 0.14 fl oz per 1000 sq. ft. of bed. Application counts toward seasonal limit in field.
Terramaster 4EC	1-1.4 fl oz/ 100 gal H <sub>2</sub> O	3.8 fl oz	damping-off ( <i>Pythium</i> spp.) root rot ( <i>Pythium</i> spp.)	Apply to float-bed water no earlier than 2 weeks after seeding. Additional applications can be made at 3-week intervals. Use high rate for curative treatments; begin no sooner than 3 weeks after seeding. Do not apply later than 5 days before transplanting.

<sup>a</sup>Rate range of product. In general, use higher rates when disease pressure is high. Refer to product label for application information, restrictions, and warnings.

**Table 2. Guide to Chemicals Available for Control of Tobacco Diseases, 2014 – Soilborne Diseases (Field)**

Product(s)	Product rate		Target diseases	Label notes
	Per application <sup>a</sup>	Per season		
Ridomil Gold SL <sup>b</sup>		3 pt	black shank	
<i>transplant (setter) water</i>	4-8 fl oz			Apply in a minimum volume of 200 gal/A. Follow up application at layby and/or 1 <sup>st</sup> cultivation may be needed. Setter-water application approved only for Ridomil Gold.
<i>pre-plant only</i>	1-3 pt	3 pt		Incorporate after application.
<i>pre-plant + layby</i>	1 pt + 1 pt			
<i>pre-plant + 1<sup>st</sup> cultivation + layby</i>	1 pt + 1 pt + 1 pt			
Ultra Flourish <sup>b</sup>		6 pt	black shank	Incorporate after application.
<i>pre-plant only</i>	2-6 pt			
<i>pre-plant + layby</i>	2 pt + 2 pt			
<i>pre-plant + 1<sup>st</sup> cultivation + layby</i>	2 pt + 2 pt + 2 pt			
Meta Star 2EC		6 qt	black shank	Incorporate after application.
<i>pre-plant only</i>	4-6 qt			
<i>pre-plant + layby</i>	2 qt + 1-2 qt			
<i>pre-plant + 1<sup>st</sup> cultivation + Layby</i>	2 qt + 2 qt + 2 qt			

<sup>a</sup>Rate range of product **PER ACRE**. In general, use higher rates when disease pressure is high. Refer to product label for application information, restrictions, and warnings.

<sup>b</sup>First application of Ridomil Gold can be made as late as 1<sup>st</sup> cultivation; for Ultra Flourish, the first application can be made up to a week after transplanting. Use of a variety with good resistance to black shank is recommended when using this application schedule. If needed, a follow-up application of fungicide can be made at layby.

**Table 3. Guide to Chemicals Available for Control of Tobacco Diseases, 2014 – Foliar Diseases (Field)**

Chemical	Product rate		PHI <sup>b</sup> (days)	Target diseases	Label notes
	Per application <sup>a</sup>	Per season			
Agricultural streptomycin	100-200 ppm	no limit	0	wildfire	
Agri-Mycin 17	(4-8 oz/50 gal H <sub>2</sub> O)			blue mold	
Harbour					
Actigard 50WG	0.5 oz	1.5 oz (3 apps.)	21	blue mold	Begin applications when plants are >18 inches in height <sup>c</sup> . Make up to 3 applications on a 10-day schedule. Apply in a minimum of 20 gal/A.
Manzate Pro-Stick	1.5-2 lb	no limit	30	blue mold target spot	Apply on weekly schedule; discontinue sprays when blue mold threat no longer exists.
Aliette WDG	2.5-4 lb	20 lb	3	blue mold	Make first application immediately after transplanting; continue on a 7-10 day schedule. Use a minimum spray volume of 20 gal/A; increase by 20 gal/A weekly to a maximum of 100 gal/A.
Forum SC	2-8 fl oz	30 fl oz	0	blue mold	Increase rate and app. volume as crop size increases. Forum must be tank-mixed with another fungicide.

<sup>a</sup>Rate range of product **PER ACRE**. In general, use higher rates when disease pressure is high. Refer to product label for application information, restrictions, and warnings.

<sup>b</sup>Pre-harvest interval

<sup>c</sup>Actigard can be applied to dark tobacco varieties at the 12-inch stage.

**Table 3 (cont'd). Guide to Chemicals Available for Control of Tobacco Diseases, 2014 – Foliar Diseases (Field)**

Chemical	Product rate		PHI <sup>b</sup> (days)	Target diseases	Label notes
	Per application <sup>a</sup>	Per season			
Quadris 2.08SC Satori 2.08SC (generic Quadris, new for 2014)	6-12 fl oz	32 fl oz	0	target spot frog-eye blue mold	Begin sprays at 1 <sup>st</sup> signs of disease. Continue on (use a shorter interval if weather favors disease). Do not make back to back sprays. <b>Do not use Quadris and Satori together or in alternation.</b> Alternate with fungicides that have a different mode of action. Can be applied up to the day of harvest; make only one application after topping.
Revus 2.08SC	8 fl oz	32 fl oz	7	blue mold	Begin applications before blue mold symptoms appear. Continue on a 7- 10 day schedule. Do not make more than two consecutive sprays before switching to a fungicide with a different mode of action (do not alternate with Forum). Addition of a surfactant (spreader, penetrator, or non-ionic) may enhance activity.

<sup>a</sup>Rate range of product **PER ACRE**. In general, use higher rates when disease pressure is high. Refer to product label for application information, restrictions, and warnings.

<sup>b</sup>Pre-harvest interval

<sup>c</sup>Actigard can be applied to dark tobacco varieties at the 12-inch stage.

Revised January 16, 2014