

# Tobacco Disease Control

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## Disease Control Products for Plant Beds (Greenhouse and Outdoor)

Disease	Product	Rate	Remarks*
Angular leaf spot, wildfire, blue mold (suppression)	streptomycin sulfate (Agri-Mycin, Firewall)	8-16 oz/100 gals. spray (100-200 ppm)	Begin applications when plants are dime-sized or larger and repeat at 5-7 day intervals until disease is under control. Also aids in control of black leg and bacterial soft rot if applied in sufficient spray volume to run down stem.
Anthracnose, blue mold, Rhizoctonia damping off, target spot (suppression)	mancozeb (Dithane DF, Manzate ProStick, Penncozeb)	0.5 lb./100 gals. spray	Apply 3-12 gals./1000 sq. ft. beginning when plants are dime-sized and continuing on a 5-7 day schedule. For damping off/stem rot, use enough volume to run down the stem.
Blue mold	Aliette WDG	0.5 lb./50 gals. spray	Apply 3-12 gals./1000 sq. ft. May cause leaf burn if washed into the root zone or float water when other products such as Admire or other Group 4A insecticides are used. Do not exceed 0.6 lb. product/1000 sq. ft./application or 1.2 lb. product/1000 sq. ft./season.
Mosaic (tobacco mosaic virus)	whole or skim milk	Hand dip: 1 pt. in 1 gal. dip water	Dip hands every 20 minutes while handling plants.
		Plant spray: 5 gals./100 gals. spray	Spray plants with milk solution 24 hrs. before handling.
Pythium root rot	Terramaster 4EC	Preventive: 1 fl. oz./100 gals. float water. Curative: 1.4 fl. oz./100 gals. float water when symptoms first appear. A 2 <sup>nd</sup> application of 1-1.4 fl. oz./100 gals. float water can be made if symptoms recur.	Apply no sooner than 2 wks. (preventive rate) or 3 wks. (curative rate) after seeding. Additional applications can be made at 3-wk. intervals, but do not apply later than 8 wks. after seeding. No more than 2.8 fl. oz./100 gals. float water may be applied per crop. Even distribution in floatbed water is essential. Mix with water in a bucket to form a dilute emulsion, and distribute emulsion evenly into floatbed water.

\*Refer to product label for details on methods of application and restrictions.

## Disease Control Products for the Field

Disease	Product Choices	Rate	Season Limit (per A)	PHI (days)	Remarks*
Angular leaf spot, wildfire	streptomycin sulfate (Agri-Mycin, Firewall)	8-16 oz/100 gals. (100-200 ppm)	no limit	0	The low rate is for preventive action, the high rate for curative.
Blue mold	Actigard 50WG	0.5 oz./A	1.5 oz	21	Begin applications after plants reach a height of 12 inches for dark tobacco, 18 inches for burley. Apply on a preventative schedule when blue mold threatens. Other labeled fungicides may be applied for early season control. Make up to three applications at 10-day intervals. Apply in at least 20 gals./A. Do not apply to plants that are stressed from drought, cold weather, excessive moisture, or herbicide damage. Do not mix with foliar fertilizers or crop oils.
	Aliette WDG	2.5-4.0 lbs./A	20 lbs	3	Begin with a minimum spray volume of 20 gals./A, increasing with each application to a maximum of 100 gals./A. Do not tank mix with copper compounds, surfactants, or foliar fertilizers.
	dimethomorph Acrobat 50WP Forum	2-7 oz./A 2-8 fl. oz./A	32 oz. 30 fl. oz.	0 0	Apply on 5-7 day schedule, beginning when blue mold threatens and continuing until weather becomes less favorable for disease. Increase rate and spray volume (20-100 gals./A) as crop size increases. See label for instructions on methods of application other than tractor-driven sprayer. Acrobat or Forum <b>must be tank mixed</b> with another effective blue mold fungicide with a different mode of action. Mancozeb is recommended for this purpose. Do not mix with surfactants, foliar fertilizers, or sucker control materials.
	mancozeb (Dithane DF, Manzate ProStick, Penncozeb)	1.5-2 lbs./100 gals.	no limit	30	Some buyers have expressed concern over residues of mancozeb on tobacco. Consequently, use this product only as needed – as a tank mix with Acrobat or Forum or in alternation with Quadris.
	Quadris	6-12 fl. oz./A	31.2 fl. oz.	0	Begin applications before blue mold symptoms appear. Continue sprays on a 7-14 day schedule. If blue mold is present in the field, initiate applications with Acrobat or Forum tank mixed with mancozeb. Quadris must be alternated with a fungicide with a different mode of action. If blue mold is present, the alternation partner must have blue mold activity.
Black shank	Ridomil Gold	A: 1-2 pts.	3 pts.		The preplant application is incorporated 2-4 inches deep. Apply the postplant treatments as a soil spray (not foliar), deposited under the plants and covered with soil by the cultivator. The Ridomil Gold SL label does not require a preplant application in order to make postplant applications. However, the first postplant treatment should be applied before symptoms appear.
		B: 1 pt. + 1 pt.			
		C: 1 pt. + 1 pt. + 1 pt.			
Ultra Flourish	A: 2-3 qts.	3 qts.			
	B: 1 qt. + 1 qt.				
	C: 1 qt. + 1 qt. + 1 qt.				
MetaStar	A: 4 -6 qts.	6 qts.			
	B: 2 qts. + 2 qts.				
	C: 2 qts. + 2 qts. + 2 qts				
Frogeye, Target spot	Quadris	6-12 fl. oz./A	31.2 fl. oz.	0	Must alternate with mancozeb or other non-related fungicides. Can be used up to the day of harvest; however, the lack of effective rotation products that can be used after topping restricts the use of Quadris after topping to one application. Do not tank mix with EC-type insecticides or sucker control materials. Quadris enhances weather flecking on leaves, but this has not been a major problem.

\*Refer to product label for details on methods of application and restrictions.

A=Per-acre rate for preplant application only

B=Per-acre rate for preplant + layby

C=Per-acre rate for preplant + 1<sup>st</sup> cultivation + layby

## Recommended Burley Tobacco Varieties – 2009

<b>Disease Resistance Ratings</b>										
Variety	Yield <sup>1</sup>	<u>Black Shank<sup>2</sup></u>		Black Root Rot	Fusarium wilt <sup>2</sup>	TMV <sup>3</sup>	TVMV	TEV	Blue Mold	Relative Maturity
		Race 0	Race 1							
<b>Moderately High Black Shank Resistance</b>										
KT 206 LC	9	10	7	High	1	High	High	Med.	4	Med - Late
KT 204 LC	9	7	7	High	1	High	High	Med.	0	Med - Late
<b>Moderate Black Shank Resistance</b>										
NC 7	9	10	4	High	5	High	High	Med.	0	Med.–Late
TN 90 LC	5	4	4	High	0	High	High	Med.	3	Med.- Late
R 610 LC	5	4	4	Med.	3	-	None	None	0	Med.
Hybrid 501LC	5	5	5	High	4	High	None	None	0	Med.- Early
<b>Black Shank Susceptible (black shank free land only)</b>										
ms KY14 x L8	7	10	0	Med.	6	High	None	None	0	Early
HB04P LC	8	0	0	High	0	High	None	None	0	Med.
NC 6	8	10	3	High	0	High	High	Med.	0	Med.–Late
N 126 LC	8	0	0	Med.	3	High	None	None	0	Med.
R 7-12 LC	8	0	0	High	4	High	None	None	0	Late
NC 2002*	3	0	0	Low	0	High	None	None	7	Late
<sup>1</sup> Rating of 1 – 10, with 10 being highest yield potential. <sup>2</sup> Scale of 0 – 10, with 10 being greatest resistance <sup>3</sup> TMV = Tobacco Mosaic Virus; TVMV = Tobacco Vein Mottling Virus; TEV = Tobacco Etch Virus; all varieties susceptible to PVY * NC 2002 is blue mold resistant, but susceptible to black root rot and many viruses. Recommended only in situations of severe blue mold where adequate chemical control is not feasible, black shank is not present and black root rot is not a problem.										

## Disease Resistance Ratings - Dark Varieties

Variety	Maturity	Black shank			Yield Score	Quality Score	Black			
		Race 0	Race 1	Use*			Root Rot	Fusarium	TMV	Wildfire
NL Madole LC	Med- Late	None	None	F/A	7	9	None	None	None	None
TR Madole Little	Medium Med-	None	None	F A/F	6	9	None	None	None	None
Crittenden	Late	None	None		5	9	None	None	None	None
DF 911	Medium	None	None	F	8	6	High	None	High	High
KY 160	Medium	None	None	A	3	9	None	None	High	None
KY 171	Medium	None	None	A/F	7	7	High	Medium	High	None
VA 309	Early- Med	Med	Low	A/F	6	8	Low	-	None	-
VA 359	Medium	Low	Low	A/F	6	8	Low	-	None	-
TN D950	Early	Med	Med	F	8	5	High	None	High	High
KT D4 LC	Medium	Med	Med	F/A	9	5	None	-	None	None
DT 538 LC	Medium	Med	Med	F/A	8	8	-	-	-	-
KT D6 LC	Medium	Med	Med	F	9	7	High	None	High	High
PD 7312 LC	Medium	None	None	F/A	7	8	High	Medium	High	None
PD 7302 LC	Medium	High	None	F/A	7	8	High	-	High	-
PD 7309 LC	Medium	High	None	F/A	7	8	None	-	None	-
KT D8 LC	Medium	Med	Med	F/A	9	6	None	-	None	None

\* "F" or "A" refers to use as fire-cured or air-cured variety. F/A indicates either use, with predominate use given first. Relative yield and quality scores given on a 0-10 scale, with 10 being the best for the predominate use. Dash (-) means that resistance level is unknown or data not available. For more information concerning dark tobacco varieties, please visit: <http://ces.ca.uky.edu/darktobacco>