

 **Orondis[®] RidomilGold[®] SL**

syngenta[®]

A **Gold** standard for management
of black shank on tobacco



Orondis Ridomil Gold SL fungicide packs a powerful double punch

Orondis® Ridomil Gold® SL fungicide combines two products, Orondis Gold 200 and Ridomil Gold SL fungicides, into a powerful one-two punch that knocks out black shank in tobacco to protect the crop when it is most actively growing and maximize marketable yields.

Combining our latest active ingredient, oxathiapiprolin, with the proven, trusted performance of mefenoxam, Orondis Ridomil Gold SL offers control you can rely on, even under heavy disease pressure. As the only active ingredient in FRAC Group U15, oxathiapiprolin is not cross-resistant to any other fungicide and offers built-in resistance management when included in a season-long Oomycete disease control program.



DISEASE DESCRIPTION

Black shank of tobacco is a soilborne fungal disease that can affect all stages of plant development from seedling to mature plant. The pathogen overwinters in the soil as thick-walled chlamydospores that can survive for at least four to six years. Following direct germination of chlamydospores with the formation of hyphae, or indirect germination with the liberation of zoospores, the fungus gains entrance by penetrating root tips or wounds. Subsequent development of the pathogen causes root and crown rots. Above ground symptoms include wilting, chlorosis and necrosis of leaves, and plant death. Disease symptoms are also expressed as necrotic girdling of the lower part of the stem. When this region is cut longitudinally, the pith is black and necrotic. Completion of one cycle of the disease is achieved with the formation of chlamydospores on or in infected tissues. These spores may cause additional cycles of an epidemic within a growing season or be returned to the soil on plant debris to provide a source of inoculum in subsequent years.

SPECTRUM OF OOMYCETE ACTIVITY

- Tobacco – Black shank (*Phytophthora nicotianae*)
- Tobacco – Damping off (*Pythium spp.*)



Black shank-infected tobacco plant showing chlorosis and necrosis of leaves and wilting



Black shank symptoms on lower part of stem



Stem cut longitudinally, exposing blackened necrotic pith

RESISTANCE MANAGEMENT AND BEST USE GUIDELINES

Oxathiapiprolin has a novel mode of action and is the only fungicide active ingredient (a.i.) in FRAC Group U15. It shows no cross-resistance to other fungicides used in management of Oomycete diseases. However, with potent inhibitory activity at the biochemical level and a single site mode of action, there is the potential for development of reduced sensitivity or resistance in fungal populations. That is why inclusion of mefenoxam, which has a different mode of action (FRAC Group 4), as the second a.i. in Orondis Ridomil Gold SL is a key part of the resistance management strategy.

Other resistance management practices included in the use directions for Orondis Ridomil Gold SL include:

- Apply as part of a preventive disease control program
- Do not include Orondis Ridomil Gold SL in more than 33 percent of the total applications in a spray program
- Use products that contain oxathiapiprolin either via foliar application or soil application, but not both



ORONDIS RIDOMIL GOLD SL TECHNICAL PROFILE

Chemistry	Oxathiapiprolin [piperidinyl-thiazole-isoxazolines class (FRAC Code U15)] and mefenoxam [phenylamide class (FRAC Code 4)]
Mode of action	Oxysterol binding protein (OSBP) inhibition (oxathiapiprolin) and inhibition of nucleic acid synthesis (RNA polymerase I) (mefenoxam)
Formulation	Multi-pack of oxathiapiprolin (1.67 lb a.i. per gal SC) provided as Orondis Gold 200 and mefenoxam (4 lb a.i. per gal SL) provided as Ridomil Gold SL
Rainfastness	Rainfast within 30 minutes after application
Systemicity	Translaminar movement and acropetal redistribution in the xylem
Precautions	Signal word Caution. Standard Personal Protective Equipment (PPE)
Re-entry interval (REI)	4 hours for transplant water application 48 hours for application at first cultivation or at lay-by

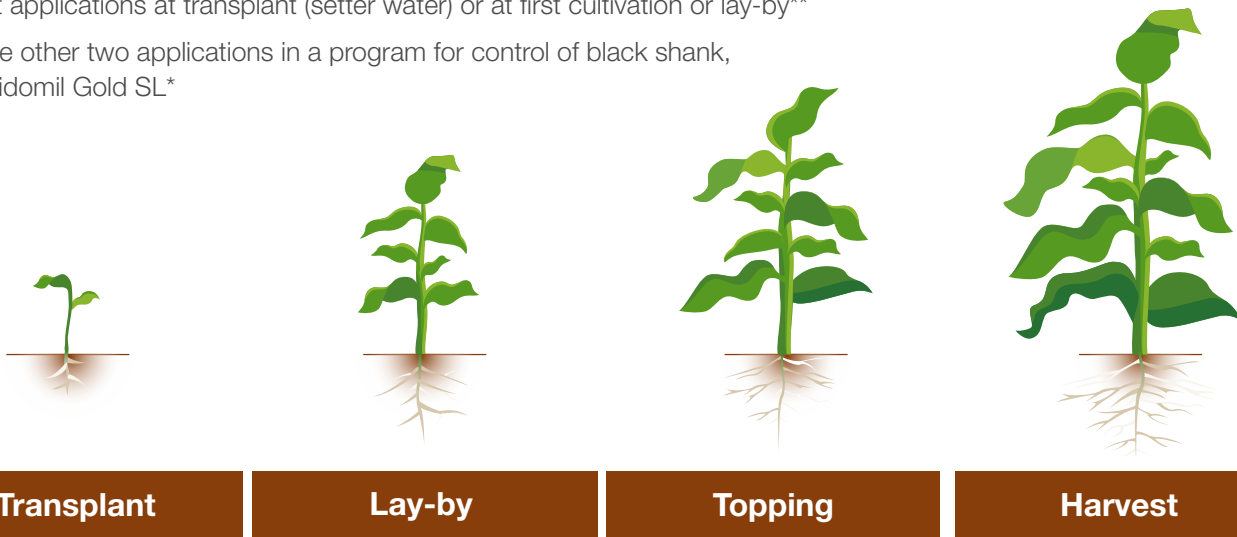
ORONDIS RIDOMIL GOLD SL LABEL AT A GLANCE*

Tobacco	
Rate (Orondis Gold 200) + (Ridomil Gold SL)	Use rate per 2(ee) Recommendation
Maximum amount per season (Orondis Gold 200) + (Ridomil Gold SL)	Do not exceed 38.6 fl.oz. of Orondis Gold 200 soil use per acre perseason. Do not exceed the equivalent of 1.5 lbs a.i. per acre of mefenoxam-containing products.
Minimum gallons per acre (GPA)	Transplant (setter) water drench: 200 GPA 1st Cultivation: 20 GPA Lay-by: 40 GPA
Preharvest Interval (PHI)	7 days
Adjuvants	Do not combine with adjuvants, surfactants or fertilizers, unless prior use has shown the combination physically compatible, effective and non-injurious under your conditions of use.
Crop Rotation Intervals	0 days to crops on label 30 days to cereals, and grass animal feeds 180 days to all other crops

*Always consult the individual product label for complete use directions and application information

SUGGESTED TIMINGS FOR ORONDIS RIDOMIL GOLD SL ON TOBACCO*

- One third of the total number of applications in a program
- Target applications at transplant (setter water) or at first cultivation or lay-by**
- For the other two applications in a program for control of black shank, use Ridomil Gold SL*



 **Orondis[®] RidomilGold[®] SL**

*Always consult the product labels for complete use directions and application information. Include other products for complete disease control programs on individual crops.

**For applications at first cultivation or lay-by, direct nozzles to cover soil at the base of the plants and incorporate immediately with a cultivator. Make applications in a spray volume sufficient to adequately saturate the root/crown zone.

***Do not exceed the equivalent of 1.5 lbs a.i./A per crop of mefenoxam-containing products.

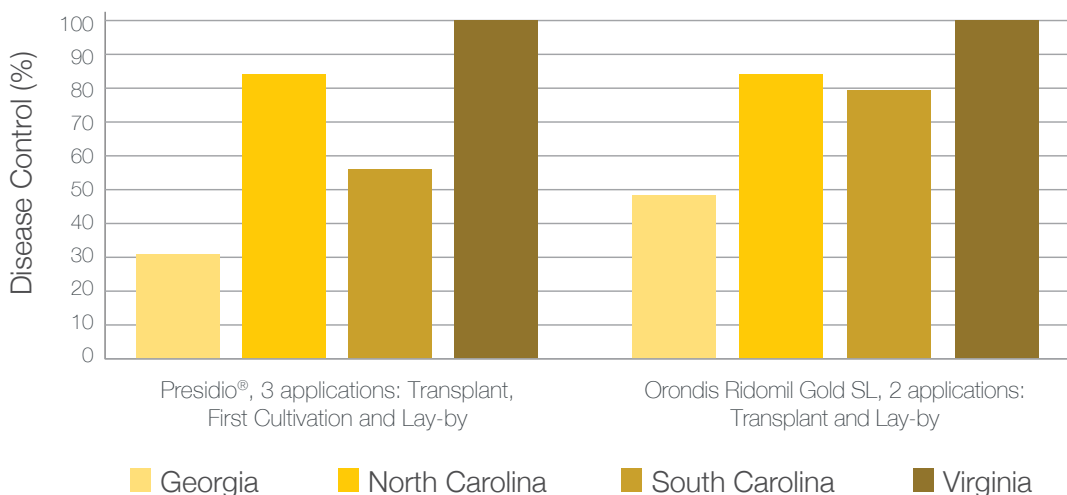


Performance results

Orondis Gold 200 has been tested for several years in university trials and provides equal or better control compared to current products, resulting in higher yields. For resistance management, a single application of Orondis Gold 200 is recommended in a program with Ridomil Gold SL or other effective fungicides.

CONSISTENT CONTROL ACROSS GROWING REGIONS

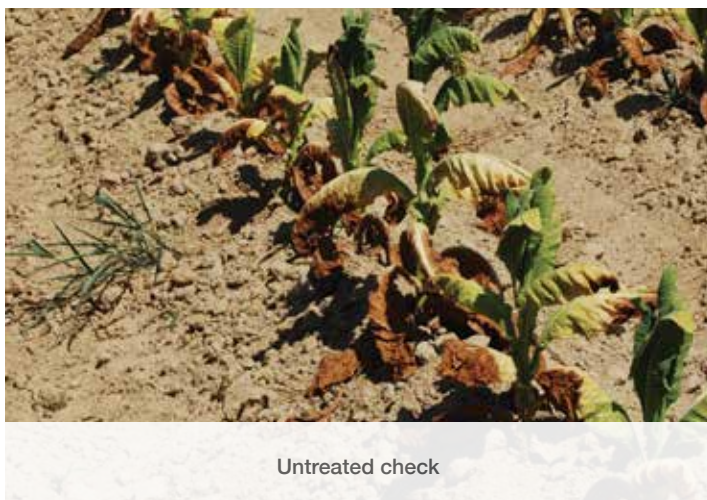
The graph below indicates the activity of Orondis Ridomil Gold SL in trials conducted in 2014 across four states.



Sources:
 Georgia – Alex Csinos, University of Georgia, USSIOF2032014 March 2014
 North Carolina – Asimina Mila, NC State University, USSJ0F1072014 July 2014
 South Carolina – Bruce Fortnum, Clemson University, USSJ0F1062014 June 2014
 Virginia – Charles Johnson, Virginia Tech, USSJ0F1082014 August 2014

EXCEPTIONAL RESIDUAL ACTIVITY

In a trial at a disease nursery in North Carolina, programs of Orondis Gold 200 and Ridomil Gold SL provide residual control of black shank for 28 days after lay-by application.



Source: NC State Field Day, August 2015



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