

OSU Bean Mold Risk Assessment Program

Farm _____ Planting # _____ Field ID _____

Step One: Determine Mold Risk at Planting

Scores

<u>CROP HISTORY:</u> Beans in the past 6yrs: one time = 2; two times = 4; three = 6 2004 _____ 2003 _____ 2002 _____ 2001 _____ 2000 _____ 1999 _____		
<u>MOLD HISTORY</u>	Mold problem one or more times in the past: Yes = 10	
<u>VARIETY:</u>	Romanos or other Italian = 2, OSU 91-G, Others = 0	
<u>BASE SCORE</u>	Crop History + Mold History + Variety Scores equals total base score	<u>Total:</u>

Step Two: Determine Mold Risk at First Bloom

MOISTURE CONDITIONS: wet weather prior to and during first bloom - score 3; wet weather prior to first bloom, dry during and after bloom - score 2; late afternoon/evening irrigation during and following 1 st bloom - score 1		
Bud Stage Date: _____	Popcorn Date: _____	50% bloom Date: _____
Score:	Score:	Score:
CANOPY: 18 inches "open" between rows = 0; 13 to 18 inches "open" between rows = 3; 8 to 12 inches "open" between rows = 4 ; less than 8 inches "open" between rows = 5.		
Inches: _____ Score: _____	Inches: _____ Score: _____	Inches: _____ Score: _____
Add to Base Score	Add to Base Score	Add to Base Score
Cummulative score:	Cummulative score:	Cummulative score:

Step Three: Field Scouting ~ Mold Present in Field

<u>Bud Stage</u>	<u>Popcorn Stage</u>	<u>50% Bloom</u>
Gray Mold Found Date: _____ White Mold Mushroom Found Date: _____ ~ Add 10 points ~	Gray Mold Found Date: _____ White Mold Mushroom Found Date: _____ ~ Add 10 points ~	Gray Mold Found Date: _____ White Mold Mushroom Found Date: _____ ~ Add 10 points ~
Total score:	Total score:	Total score:

Score 0 to 9 = Normal Risk; Score 10 to 14 = Moderate Risk; 15 and above = High Risk

For more information contact: Dan McGrath, OSU Extension, daniel.mcgrath@oregonstate.edu, 503-931-8307

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Farm _____ Contact _____ Planting # _____

Planting Date _____ Field Name _____ Processor _____

<u>Date</u>	<u>Mold Control Recommendations</u>		
	<p>_____ High Risk of Mold (Risk Score 15 or more) ~ A two-application fungicide program is justified. Stop scouting. Apply first spray at early bloom (one out of ten plants has a single fully open blossom). Apply a second fungicide spray 5 to 7 days later. Pay attention to the PHI and follow labeled recommendations.</p>		
	<p>_____ Normal or Moderate Risk of Mold (Risk Score below 15) ~ A one or two application fungicide program should be used depending on weather forecast, field history, other risk factors, and grower tolerance for risk. If the grower is uncomfortable with an ambiguous risk score, use two applications of fungicide.</p>		
	<p>_____ Tank Mix Recommended ~ Due to regional and local weather conditions, this planting is at risk of both gray and white mold. Use a fungicide that controls both gray mold and white mold or use a tank mix of two fungicides that control the two fungi.</p>		
	<p>_____ Planting Sensitive to Irrigation Cut-off Timing ~ Due to wet soil conditions prior to bloom followed by clear, warm weather conditions during and following bloom, this planting will be highly responsive to the effects of irrigation. Cut-off irrigation in the afternoon, so that foliage dries out prior to nightfall.</p>		
	<p><u>12-Spot Beetle Recommendation</u> ~ The action threshold for 12-spot beetle insecticide applications is 2 beetles per 10 arcs or a standard sweep net. If on average, counts exceed two per ten arcs, apply insecticide at 50% bloom.</p>		
	<p><u>12-Spot Beetle</u></p> <p><u>Green Bud Date:</u> _____</p> <p>Regional Trend _____</p> <p>Local Trend _____</p> <p>Sweep Net (X/10) _____</p>	<p><u>12-Spot Beetle</u></p> <p><u>Popcorn Date:</u> _____</p> <p>Regional Trend _____</p> <p>Local Trend _____</p> <p>Sweep Net (X/10) _____</p>	<p><u>12-Spot Beetle</u></p> <p><u>50% Bloom Date:</u> _____</p> <p>Regional Trend _____</p> <p>Local Trend _____</p> <p>Sweep Net (X/10) _____</p>

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Background

Topsin, Rovral, and Endura fungicides have little or no curative effect. If environmental conditions are conducive to mold development at first bloom, the first application of these fungicides must occur at first bloom. Blooms continue to unfold after the first fungicide application. They are unprotected. Therefore, when conditions conducive to mold continue, a second application of fungicide is needed 5 to 7 days after first bloom.

Ronilan fungicide was effective on both gray (*Botrytis cineraria*) and white mold (*Sclerotinia sclerotiorum*). Alternatives to Ronilan are not effective on both white and gray mold. Topsin is effective on white mold but does not control gray mold. Endura and Rovral are more effective than Topsin at controlling gray mold. Therefore, when gray and white mold spores are present, a tank mix of two fungicides is needed.

Wet soil during the weeks prior to first bloom stimulate the formation of white mold mushrooms at the base of bean plants and gray mold on bean seedlings and physically damaged bean plants. If the weather turns dry and warm during the blossoming period, the planting will be highly sensitive to the effects of irrigation cut off timing. Under these specific circumstances, discontinue irrigation in the afternoon so that bean foliage dries before nightfall.

Instructions

At planting ~ determine the risk of mold based on field history (bean crops in the past six years), mold history (occurrence of mold once or more in the past) and bean variety. If you are planting a vine-like bean variety (Italian, Romano, Tapia, others) into a field that has a history of moldy bean crops, it is a high risk planting. Plan to use a tank mix of two fungicides. Plan to apply the fungicide tank mix twice.

At first bloom ~ consider current and past weather conditions. Determine how much the bean canopy has closed over the wheel tracks. If the weather has been wet and cold leading up to first bloom and the canopy is closed at first bloom, it is a high risk planting. Plan to use a tank mix of two fungicides. Plan to apply the fungicide tank mix twice.

Field scouting ~ If a planting is at the first bloom stage, has a low risk score, and the weather forecast is favorable, you should consider a one-spray program. Scout the field for gray mold infected bean plants and white mold mushrooms at the base of the bean plants. Scout the areas of the field that are most likely to have mold, low spots that collect water, shady spots, areas where air flow is restricted, and areas of the field that have had moldy beans in the past. Scout along wheel tracks and other areas where gray mold infects damaged plants. If you find active sources of gray and white mold in the field, add 10 points to your risk score. If it is now a high risk planting, plan to use a tank mix of two fungicides. Plan to apply the fungicides twice.