

Fungicide Options for Management of Soybean Rust in Delaware - 2008

Labeled for soybean rust nationwide (Section 3E Label)							
Fungicide			Type of Action, Mobility & Resistance Risk	Application Notes	Rate/Acre	PHI day	REI hr
Chemical Class	Active Ingredient	Trade Name(s)					
Chloronitrile	chlorothalonil	Bravo Echo Equus	Protectant (inhibits spore germination). Non-mobile. Resistance Risk: Low	Surface Protectant Only. Suppression. Must be used before infection. Restricted REI 12 hr. Product washes away with rain.	16-36 fl oz 16-40 fl oz 0.875–2 lb	42	156
Strobilurin	azoxystrobin	Quadris	Protectant, translaminar & “locally” systemic (redistributes on sprayed leaf surfaces) Resistance Risk: High	Protectant & mildly curative. Best used before infection. Non-silicone crop oil improves coverage.	6.2 - 15.4 fl oz	14	4
Strobilurin	pyraclostrobin	Headline	Protectant, translaminar & “locally” systemic. Resistance Risk: High	Protectant & mildly curative. Best used before infection Non-ionic surfactant or crop oil improves coverage.	6-12 fl oz	21	12
Triazole	propiconazole	Tilt Bumper	Curative and Protectant Post-infection activity	Moderately Curative Best used before infection but can also kill or inhibit fungus soon after infection.	4-6 fl oz	R6	24
Triazole	myclobutanil	Laredo	Xylem mobile systemic		4-8 fl oz	28	24
Triazole	tetraconazole	Domark	Resistance Risk: Medium		4-5 fl oz	R5	12
Mixture	propiconazole + trifloxystrobin	Stratego	Protectant with some post-infection activity	Best used before infection or soon after infection.	7–10 fl oz	21	24
Mixture	azoxystrobin + propiconazole	Quilt	Xylem mobile component Translaminar component Resistance Risk: Low	At moderate infection levels residual should be longer than strobilurin alone	14 - 20.5 fl oz	R6	12

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Section 18 labeled fungicides – Emergency/Quarantine Exemption			Type of Action, Mobility & Resistance Risk	Application Notes	Rate/acre	PHI day	REI hr
Chemical Class	Active Ingredient	Trade Name(s)					
Triazole	tebuconazole	Folicur Orius Uppercut	Curative and Protectant Post-infection activity Xylem mobile systemic Resistance Risk: Medium	Moderately Curative. Best used before infection but can also kill or inhibit fungus soon after infection.	3-4 fl oz	30	12
Triazole	metconazole	Caramba			8.2-9.6 fl oz	30	12
Triazole	flusilazole	Punch			3-4 fl oz	30	168
Triazole	cyproconazole	Alto			4 fl oz	R6	12
Triazole	flutriafol	Topguard			7 fl oz	21	12
Mixture	azoxystrobin + any triazole	Quadris + Alto	Curative and Protectant Post-infection activity Xylem mobile and Translaminar components Resistance Risk: Low	Use any 3E or Section 18 approved triazole at full rate with the reduced rates of Quadris or Headline as shown here. Examples are of planned or previously available premixes or co-packs with Section 18 triazoles so section 18 rules apply. Protectant and Moderately Curative. Best used before infection or soon after infection.	Quadris 5.5 fl oz + Alto 4 fl oz	30	12
Mixture	pyraclostrobin + any triazole	Headline + Folicur			Headline 4.5 fl oz + Folicur 4 fl oz	30	12

Curative means there is some product toxicity to the fungus in plant tissue at early stages of infection. It will not make lesions disappear!

Fungicide applications: Early Flowering (R1) to Full Seed Formation (R6). See 2007 SBR Fungicide Use Guidelines for details. Soybean rust may develop resistance to fungicides if the same class of products are used repeatedly. Resistance management (alternating products of different chemical class and using mixtures (triazoles + strobilurins) is very important to reduce resistance development. Section 18 Quarantine Exemption approved products *combined* may be applied up to 3 times per season. Most products may be applied twice per season. Pre-harvest interval (PHI) is listed in days to harvest or growth stage (R5, R6). Unrestricted re-entry interval (REI) is listed in hours.

It is best to base a fungicide decision on the risk of rust development. Be prepared to spray. Know where rust is and where it might spread through Soybean Rust Watch/Warning announcements at www.sbrusa.net or other sources.

Revised: February 22, 2008. Used with permission from Dr. Arv Grybauskas, University of Maryland.