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Thinking about spraying fungicides? Are you certified? Do you need to be?

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Thinking about spraying fungicides? Are you certified? Do you need to be?

Abstract

With the confirmation of soybean rust in the United States and the possibility that it could be present in Iowa in 2005, there are questions regarding the necessary pesticide applicator certifications needed to apply fungicides. The requirements for certification vary depending on whether you are a Private Pesticide Applicator or a Commercial Pesticide Applicator.

Disciplines

Agriculture | Agronomy and Crop Sciences



Plant Diseases

Using fungicides effectively

by Alison Robertson, Department of Plant Pathology

For a fungicide to be effective, three rules must be followed:

1. Select the correct type of fungicide (see “Understanding the fungicides used to treat Asian soybean rust”).

2. Correct timing of the application. There are two common mistakes:

Applying fungicides too early can result in the fungicide wearing off before infection occurs.

Spraying too late can result in disease development beyond the point where the fungicide is effective.

Both mistakes result in poor disease control and are of little economic benefit.

3. Ensure thorough coverage of the entire soybean plant canopy (see “Spray equipment considerations for foliar fungicide application on soybeans,” page 25–26).

Alison Robertson is an assistant professor of plant pathology with extension and research responsibilities in field and forage crops.



Plant Diseases

Thinking about spraying fungicides? Are you certified? Do you need to be?

by Kristine Schaefer, Department of Agronomy

With the confirmation of soybean rust in the United States and the possibility that it could be present in Iowa in 2005, there are questions regarding the necessary pesticide applicator certifications needed to apply fungicides. The requirements for certification vary depending on whether you are a Private Pesticide Applicator or a Commercial Pesticide Applicator.

Private Applicators

Fungicides currently labeled (either supplemental Section 18 or full Section 3 labels) for soybean rust are not Restricted Use products. Private applicators will not need Private Pesticide Applicator certification to buy or apply these General Use fungicides. Private applicators are defined as persons who apply Restricted Use pesticides on property owned or rented by themselves or their employers, or on the property of other agricultural producers with whom they trade services.

Commercial Applicators

Commercial Pesticide Applicators will need to be certified in Category 1C – Agricultural Crop Disease Management to apply fungicides to soybeans. Commercial Pesticide Applicators are defined as persons who apply pesticides for hire on property other than their own.

It is important for everyone to read and follow directions on the fungicide labels. Some fungicide products require specific personal protective equipment (PPE) not typically required. Fungicides that are labeled or have labels pending for soybean rust control and required personal protective equipment, restricted entry intervals (REI), pre-harvest intervals, and additional precautionary statements are listed in Table 1.

Additional information concerning pesticide applicator training and certification can be found on the ISU Pest Management and the Environment Web site at www.extension.iastate.edu/PME.

Kristine Schaefer is an extension program specialist in agronomy with responsibilities in weed science and pest management and the environment.

Table 1. Personal protective equipment, precautions, and restrictions for soybean fungicides

Trade Name	Formulation	Active Ingredient (ai)	Rate/Acre	Signal Word	Personal Protective Equipment*	REI (hr)	Preharvest Interval	Precautions
Bravo® WeatherStik	FL	chlorothalonil	1–2.5 pt	Caution	Long-sleeved shirt and long pants, chemical-resistant gloves, shoes plus socks. Category A on EPA chemical resistance selection chart.	12	6 weeks	Harmful if swallowed, absorbed through skin, or inhaled. Causes moderate eye irritation. Groundwater advisory. Do not apply directly to water or to areas where surface water is present. Toxic to aquatic organisms; do not contaminate water. Do not feed soybean hay or threshings from treated fields to livestock.
Echo 720®	FL	chlorothalonil	1–2 pt (3 applications) 1.5–2.5 pt (2 applications)	Warning	Long-sleeved shirt and pants, chemical-resistant gloves, shoes plus socks, protective eyewear. Category A. NIOSH-approved respirator with an organic vapor cartridge or canister with N, R, P, or HE prefilter.	12	42 days	May be fatal if inhaled. Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Groundwater advisory. Do not apply directly to water or to areas where surface water is present. Toxic to aquatic organisms; do not contaminate water. Do not feed soybean hay or threshings from treated fields to livestock.
Quadris®	FL	azoxystrobin	6.2–15.4 oz	Caution	Long-sleeved shirt and long pants, chemical-resistant gloves, shoes plus socks. Category A.	4	14 days of harvest. May be applied the day of harvest to soybean forage and hay.	Harmful if absorbed through skin. Groundwater advisory. Do not apply directly to water or to areas where surface water is present. Toxic to aquatic organisms; do not contaminate water.
Headline® 2.09EC	EC	pyraclostrobin	6–12 oz	Warning	Coveralls over short-sleeved shirt and short pants, protective eyewear, socks, chemical-resistant footwear, chemical-resistant gloves, chemical-resistant headgear for overhead exposure, chemical-resistant apron when cleaning equipment, mixing, and loading.	12	21 days	May be fatal if swallowed. Causes substantial but temporary eye injury. Causes skin irritation. Harmful if absorbed through skin. Avoid contact with eyes, skin, or clothing. Surface water advisory. Do not apply directly to water or to areas where surface water is present. Toxic to aquatic organisms. Do not contaminate water. Soybean forage may be fed no sooner than 14 days after last application. Soybean hay may be fed no sooner than 21 days after last application.

Table 1. Personal protective equipment, precautions, and restrictions for soybean fungicides, continued.

Trade Name	Formulation	Active Ingredient (ai)	Rate/Acre	Signal Word	Personal Protective Equipment*	REI (hr)	Preharvest Interval	Precautions
Tilt® 3.6EC	EC	propiconazole	4–8 fl oz	Warning	Long-sleeved shirt and pants, chemical-resistant gloves, shoes plus socks, protective eyewear. Category G.	24	No later than soybean growth stage R5. Timing should be R1 to R5. Do not graze or feed soybean hay or forage.	Substantial but temporary eye damage, harmful if swallowed, inhaled, or absorbed through skin. Do not graze or feed soybean hay or forage.
PropiMax™ 3.6EC	EC	propiconazole	4–8 fl oz	Warning	Long-sleeved shirt and pants, chemical-resistant gloves, shoes plus socks, protective eyewear. Category G.	24	Do not apply later than soybean growth stage R5. Do not use hay, forage, or fodder from the soybean crop as any component of animal feed or bedding.	Substantial but temporary eye damage, harmful if swallowed, inhaled, or absorbed through skin. Do not use hay, forage, or fodder from the soybean crop as any component of animal feed or bedding.
Bumper® 41.8EC	EC	propiconazole	4–8 fl oz	Warning	Long-sleeved shirt and pants, chemical-resistant gloves, shoes plus socks, protective eyewear. Category G.	24	Do not apply later than soybean growth stage R5. Do not graze or feed soybean hay or forage.	Substantial but temporary eye damage, harmful if swallowed, inhaled, or absorbed through skin. Do not graze or feed soybean hay or forage.
Folicur® 3.6F	FL	tebuconazole	3–4 fl oz	Caution	Long-sleeved shirt and long pants, chemical-resistant gloves, shoes plus socks. Category C.	12	21 days	Do not apply directly to water or to areas where surface water is present. Toxic to aquatic organisms; do not contaminate water. Do not feed soybean forage and hay to livestock.
Laredo™ 25EC	EC	myclobutanil	4–8 fl oz	Danger	Coveralls over long-sleeved shirt and long pants, chemical resistant gloves, chemical-resistant footwear plus socks, protective eyewear, chemical-resistant headgear for overhead exposure, chemical-resistant apron when cleaning, mixing or loading. Category G.	24	28 days	Corrosive, irreversible eye damage. Groundwater and surface water advisory. Do not feed soybean forage and hay to livestock.
Laredo™ 25EW	Oil in water emulsion	myclobutanil	4.8–9.6 fl oz	Caution	Long-sleeved shirt and pants, chemical-resistant gloves, shoes plus socks.	24	28 days	Do not apply directly to water or to areas where surface water is present. Do not contaminate water. Groundwater and surface water advisory. Do not feed soybean forage and hay to livestock.

Table 1. Personal protective equipment, precautions, and restrictions for soybean fungicides, continued.

Trade Name	Formulation	Active Ingredient (ai)	Rate/Acre	Signal Word	Personal Protective Equipment*	REI (hr)	Preharvest Interval	Precautions
Stratego® 2.08F	FL	propiconazole + trifloxystrobin	5.5–10 fl oz	Warning	Long-sleeved shirt and pants, shoes plus socks, goggles or face shield. Mixer/loaders must wear chemical-resistant gloves.	24	21 days	Causes substantial but temporary eye injury. Harmful if swallowed. Do not get in eyes or on clothing. Prolonged or repeated skin contact may cause allergic reactions in some individuals. Toxic to aquatic organisms. Surface and ground water advisory. Do not apply directly to water or to areas where surface water is present. Do not contaminate water. Do not use, pour, spill, or store near heat or open flame.
Domark™ 230ME	ME	tetraconazole						Important note: This fungicide is pending Section 18 labeling and therefore is not yet registered for use on rust in soybeans. It is possible that it will receive Section 18 labeling before or during the 2005 growing season, but this is not guaranteed. Please check www.soybeanrust.info or contact your local county office for up-to-date information.

PRODUCTS APPROVED · SECTION 18

PRODUCT PENDING
SECTION 18

*Different categories of PPE listed (Category A, C, or G) refer to the various categories on the EPA Chemical Resistance Category Chart. This chart and more information may be found at www.epa.gov/pesticides/safety/workers/equip.htm and in the Iowa State University Extension publication PM1878, *Guard Your Hands with Gloves*. The categories are based on the solvents used in the pesticides, NOT the pesticides themselves.

Notes:

This fungicide guide was based on the latest information available as of February 8, 2005. Please refer to www.soybeanrust.info for the current information on soybean rust management. No more than two cumulative applications of Section 18 compounds can be sprayed in a single season.

Section 18 labels supersede Section 3 ("regular") labels.

Fungicide applications should be made between R1 and R5.

Always follow the label directions, making certain to check instructions on how to apply, when to apply, waiting periods prior to harvest, whether treated crops can be fed to livestock, and important safety precautions. **LABEL PRECAUTIONS AND RESTRICTIONS MUST BE FOLLOWED.**

- Registered products · Section 3
- Products approved · Section 18
- Product pending · Section 18