

# Seed Treatments, In-Furrow Sprays and Granular Fungicide Options Field Crops

## Seed Treatments, In-Furrow Sprays and Granular Fungicide Options for Field Crops

Seed treatments offer potential benefits to ensure desirable crop stands. Although seed treatment will not make poor seed germinate, when the correct treatment is used on certified seed, it may prevent or reduce seed decays, seedling blights, and other diseases. Seed treatments may act in two ways: 1) they may reduce pathogens on seed and 2) they may help protect the seed and seedlings from pathogenic organisms in the soil. In the past, in-furrow sprays or granules were used; however, because of convenience these options have mostly been replaced with seed treatments. Nevertheless, in-furrow and granular fungicides remain effective for many diseases and may be more effective than seed treatments in problem areas.

## Corn, Grain Sorghum, Rice, and Wheat

Fungicide seed treatments are commonly applied to large and small grain seed. Depending on the package, fungicides from groups 3, 4, 7, 11, and/or 12 are most commonly applied to seed. Data from LSU AgCenter field trials indicate slight increases in stand or emergence; however, seed-applied fungicides very rarely provide economic benefit in these crops. Producers can save input costs by not treating or over-treating these crops prior to planting. If a field has a history of soilborne seedling disease, fungicide seed treatments may be useful in these situations.

## Soybean

Fungicide seed treatments from the same groups listed above are commonly applied to soybean and will provide economic benefit in the event of seedling disease development. Seedling disease issues are more common in soybean than in the crops above. Generally, generic fungicides from groups 3, 4, and/or 11 are sufficient to protect seed and seedlings from pathogens in soybean.

## Cotton

Do not plant cotton without a fungicide seed treatment! Do your homework by figuring out what is already on the seed. If there are a minimum of three different modes-of-action present, over-treating likely is not necessary. If the decision is made to over-treat, use a different mode of action. Significant cost savings can be realized depending on the seed company and seed treatment options.

The following table lists labeled available active ingredients commonly used in field crop production, their mode of action, and the targeted organisms listed by companies. This list may not be all-inclusive as many new products are continually developed and multiple online sources were used to compile this information.

**Always refer to product labels for rate and use information.**

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Active Ingredients	FRAC Code	Targeted Pathogens
copper hydroxide copper oxychloride	M1	<i>Pseudomonas syringae</i> , <i>Xanthomonas translucens</i> , <i>Tilletia caries</i> ; damping-off/seedling diseases
thiram mancozeb	M3	Seed decay, damping-off, and seedling blights caused by many seedborne and soilborne organisms
thiabendazole	I	Seed decay, damping-off, and seedling blights caused by many seedborne and soilborne organisms
iprodione	2	<i>Rhizoctonia solani</i>
difenoconazole imazalil ipconazole myclobutanil prothioconazole tebuconazole triticonazole	3	<i>Alternaria</i> , <i>Aspergillus</i> , <i>Botrytis</i> , <i>Cochliobolus</i> , <i>Fusarium</i> , <i>Penicillium</i> , <i>Sclerotinia</i> , and <i>Sphacelotheca</i> spp.; <i>Thielaviopsis basicola</i> , <i>Tilletia caries</i> , <i>Tilletia foetida</i> , <i>Urocystis agropyri</i> , <i>Ustilago nuda</i> var. <i>tritici</i> , <i>Rhizoctonia solani</i> , <i>Cochliobolus sativus</i>
mefenoxam metalaxyl	4	<i>Pythium</i> and <i>Phytophthora</i> spp.
boscalid carboxin fluxapyroxad penflufen penthiopyrad sedaxane	7	<i>Cochliobolus</i> , <i>Fusarium</i> , and <i>Pythium</i> spp.; <i>Rhizoctonia solani</i> , <i>Blumeria graminis</i> , <i>Puccinia recondita</i> , <i>Septoria tritici</i> , <i>Cephalosporium gramineum</i> , <i>Ustilago tritici</i> , <i>Sphacelotheca reiliana</i>
azoxystrobin fenamidone fluoxastrobin pyraclostrobin trifloxystrobin	11	<i>Aspergillus</i> , <i>Cladosporium</i> , <i>Colletotrichum</i> , <i>Fusarium</i> , <i>Penicillium</i> , <i>Pythium</i> , and <i>Phomopsis</i> spp.; <i>Rhizoctonia solani</i> , <i>Sclerotinia rolfsii</i> , <i>Sclerotium rolfsii</i> , and <i>Sphacelotheca reiliana</i>
fludioxinil	12	Seedborne and soilborne fungi which cause seed decay, damping-off and seedling blights
etridiazole PCNB tolclofos-methyl	14	<i>Pythium</i> , <i>Fusarium</i> , and other Deuteromycete species causing seed decay and seedling blights; <i>Rhizoctonia solani</i>
ethaboxam	22	Multiple fungal species; <i>Phytophthora</i> spp.

This section was updated/revised September 2022 by Trey Price.