

PEANUT DISEASE CONTROL

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PEANUT

PEST	FUNGICIDE	MOA	AMOUNT PER ACRE	REI/PHI (Hours or Days)	REMARKS AND PRECAUTIONS
Seedling Disease	<i>azoxystrobin</i> Abound 2.08F	11	6 fl oz		Abound is active against Rhizoctonia damping off and Aspergillus crown rot.
Southern Stem Rot (White Mold) and Rhizoctonia Limb Rot	<i>azoxystrobin</i> Abound 2.08F	11	18.5–24.6 fl oz 12.3 fl oz (dryland only) These rates are for soilborne diseases to include suppression of CBR and for leaf spot diseases. Note: There is some evidence that the efficacy of <i>strobilurin</i> fungicides for management of leaf spot is not as strong as it once was. Therefore, growers should consider tank-mixing additional fungicides for management of leaf spot when using a <i>strobilurin</i> fungicide.	4 H/ 14 D	For increased disease control, growers should consider tank-mixing Alto (<i>cyproconazole</i> , 5.5 fl oz/A) with Abound (12–24.5 fl oz/A) 60–90 days after planting. Apply Abound, AzoxyStar, Artisan (26–32 fl oz/A), Evito, or Convoy (26 fl oz/A) as a foliar spray at 50–60 days after planting and reapply 28 days later. Note: Convoy and Artisan may also be applied on a 4-spray program. Consult label for more information. Begin treating immediately if active white mold is observed before the first scheduled application. Consult label for application strategies concerning the use of each product. Note: A fungicide to control leafspot must always be mixed with Convoy. Additional leaf spot control may not be needed if Artisan is used twice in a season at 26–32 fl oz/A (but tank-mixing and additional fungicide may be a good idea); however, if Artisan is applied in four applications, additional fungicides such as <i>chlorothalonil</i> or <i>thiophanate methyl</i> (e.g. Topsin M) must be added to supplement control of leaf spot. Maximum rate is 49 fl oz/A/season. Due to regulation from the European Union, current use of any product that contains <i>propiconazole</i> , such as Artisan, may be problematic. Growers should seek additional information before using such products.
	<i>azoxystrobin</i> AzoxyStar others	11	12–24.5 fl oz see note	4 H/ 14 D	Do not apply more than 49 fl oz/A/season. Under heavy disease pressure and/or where there is high rainfall and/or irrigation, use 18.5–24.5 fl oz/A. For light disease pressure or dry environmental conditions, (non-irrigated, low rainfall) use 12–24.5 fl oz/A. Note: There is some evidence that the efficacy of <i>strobilurin</i> fungicides for management of leaf spot is not as strong as it once was. Therefore, growers should consider tank-mixing additional fungicides for management of leaf spot when using a <i>strobilurin</i> fungicide. Note: there are a number of <i>azoxy</i> fungicides available now, e.g., Arius. Please consult label for any specific differences of requirements.
	<i>azoxystrobin</i> + <i>benzobendiflupyr</i> (<i>solatenol</i>) Elatus	11 + 7	0.5–0.65 fl oz/1000 linear feet 7.3–9.5 fl oz/A Elatus is effective against soilborne and leafspot diseases.	12 H/ 30 D	For suppression of stem rot/white mold, CBR and other diseases. Apply in a 7–10" band 14–21 days after planting. For foliar diseases begin 30–40 days after planting. Apply 7.3 fl oz/A on a 14-day schedule, or 9.5 fl oz/A on a 21–28 day interval. For soilborne diseases apply 7.3 fl oz/A 3 times on a 14-day interval, or 9.5 fl oz/A 2 times on a 21–28 day interval beginning 45–60 days after planting. Do not apply more than 21.9 fl oz/A per season
	<i>azoxystrobin</i> + <i>chlorothalonil</i> Arius Advance	11 + M5	30 fl oz	12 H/ 14D	
	<i>azoxystrobin</i> + <i>flutriafol</i> TopGuard EQ	11 + 3	8 fl oz	12 H/ 14 D	Note: TopGuard EQ, 5–7 fl oz/A, can be used for management of foliar diseases of peanut.

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Southern Stem Rot (White Mold) and Rhizoctonia Limb Rot (continued)	<i>azoxystrobin</i> + <i>tebuconazole</i> HELMSTAR Plus SC	11 + 3	13 fl oz (approximately 60 and 90 days after planting)	12 H/ 14 D	Do apply more than 51.6 fl oz/A in one season.
	<i>bixafen</i> + <i>flutriafol</i> LUCENTO	7 + 3	5.5 fl oz	12 H/ 14 D	Lucento is a component of an overall white mold management program. For resistance management, do not make more than 2 sequential applications per year before alternating to another fungicide with a mode of action different than Group 7 or Group 3. Do not apply more than 11 fl oz of product per year.
	<i>flutolanil</i> Convoy	7	2 pt (1 application) 1–2 pt (2 applications) 0.5–1 pt (4 applications)	12 H/ 40 D	Convoy has no activity against leaf spot diseases. Therefore, a full-rate of an additional fungicide which is effective against leaf spot diseases should be tank-mixed with Convoy at each application. Maximum rate is 64 fl oz/A/season.
	<i>flutolanil</i> + <i>flutriafol</i> UMBRA	7 + 3	25–38 fl oz (2 applications) 16–19 fl oz (4 applications)	12 H/ 40 D	UGA recommends mixing a leaf spot material, e.g., 1.0 pt/A <i>chlorothalonil</i> or equivalent, with each application of UMBRA to further protect against leaf spot.
	<i>flutolanil</i> + <i>propiconazole</i> Artisan	7 + 3	26 or 32 fl oz (2 applications) 13 or 16 fl oz (4 applications)	12 H/ 40 D	The <i>propiconazole</i> in Artisan is an effective fungicide for the control of leaf spot diseases; however there are concerns for the potential of resistance to occur. When Artisan is applied at the 13–16 fl oz/A rates, the amount of <i>propiconazole</i> is not sufficient to control leaf spot and additional fungicide should be tank-mixed to improve efficacy. At the 26–32 fl oz/A rates of Artisan, the amount of <i>propiconazole</i> may be sufficient; however growers are advised to add additional fungicide to ensure adequate leaf spot protection. Maximum rate is 84 fl oz/A/ season. NOTE: Because of issues with <i>propiconazole</i> and the European Union, growers are not encouraged to use Artisan at this time.
	<i>fluxapyroxad</i> + <i>pyraclostrobin</i> Priaxor	7 + 11	8 fl oz	12 H/ 14 D	Priaxor has proven to be a very good replacement product for Headline in peanut disease management programs. Priaxor at a rate of 4 fl oz/A is appropriate for management of leaf spot; the 8 fl oz rate is appropriate for management of leaf spot and soilborne diseases. Maximum rate is 24 fl oz/A/season.
	<i>fluoxastrobin</i> Evito 480 SC	11	5.7 fl oz	12 H/ 14 D	Evito 480 SC is in the same chemical class as Abound, Headline, and Stratego and should not be used in the same program with these products. Maximum rate is 22.8 fl oz/A/season.
	<i>fluoxastrobin</i> + <i>tebuconazole</i> Evito T	3 + 11	9–11.2 fl oz	12 H/ 14 D	For control of white mold (stem rot), Rhizoctonia limb rot, and foliar diseases of peanut. Maximum rate is 44.8 fl oz/A/season.
	<i>inpyrfluxam</i> (Indiflin) Excalia	7	2–4 fl oz	12 H/ 40 D	Apply up to 4 applications of Excalia fungicide per year so long as the total rate does not exceed 8 fl oz/A. For leaf spot control, Excalia must be tank-mixed with a labeled rate of another active against the target pathogen but with a different mode of action. Excalia is not labeled for aerial application.
<i>metconazole</i> Quash	3	2.5–4 fl oz	12 H/ 14 D		

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Southern Stem Rot (White Mold) and Rhizoctonia Limb Rot (continued)	<i>mefenfluproconazole</i> Provysol	3	5–7 fl oz	12 H/ 14 D	Note that Provysol is labeled for the suppression of Rhizoctonia limb rot and white mold and compliments, but does not replace, a full-season soilborne fungicide program.	
	<i>penthiopyrad</i> Fontelis	7	12–24 fl oz	12 H/ 14 D	Fontelis is a new fungicide in the SDHI class for disease management in peanut and will work well with <i>triazole</i> and <i>strobilurin</i> fungicides for resistance management. Make no more than 3 sequential applications before switching to a fungicide with a different mode of action. Maximum rate is 72 fl oz/A/season.	
	<i>pyraclostrobin</i> Headline	11	12–15 fl oz	12 H/ 14 D	Headline at this rate is an effective component of a soilborne program that also includes use of Provost, <i>tebuconazole</i> , Convoy, Quash, or Artisan. Note: There is recent concern that <i>strobilurin</i> fungicides are now less effective against leaf spot diseases and growers may consider tank-mixing additional fungicides with <i>strobilurin</i> fungicides for added protection from leaf spot. Maximum rate is 45 fl oz/A/season.	
	LABELED FORMULATIONS OF <i>TEBUCONAZOLE</i> INCLUDE, AMONG OTHERS:					Apply <i>tebuconazole</i> products, or Quash (<i>metconazole</i>) 4 times per season starting at the second or third leaf spot spray. Growers are typically advised to tank-mix an additional leaf spot fungicide with <i>tebuconazole</i> products. Growers may also wish to tank-mix a fungicide with Quash for additional leaf spot control where leaf spot resistance to <i>triazole</i> fungicides has occurred. Maximum rate is 16.02 fl oz/A/season.
	<i>tebuconazole</i> Orius 3.6F, TriSum 3.6F, Integral 3.6F, T ebustar 3.6F, Muscle 3.6F, Tebuzol 3.6F, many others	3	7.2 fl oz Maximum rate is 28.8 fl oz/A/ season, except for Muscle 3.6 F (16 fl oz)	12 H/ 14 D	The lower rate is generally considered effective for low-to-moderate pressure from white mold (stem rot) and Rhizoctonia limb rot. The higher rate is appropriate for more severe pressure from these diseases. Note: Research has shown that <i>tebuconazole</i> is often less effective in control of leaf spot than in the past. Where leaf spot is likely to be a problem, growers may consider tank-mixing <i>tebuconazole</i> with 0.75–1 pt/A <i>chorothalonil</i> or 5 fl oz Topsin (1st and 3rd applications only) to ensure adequate leaf spot control.	
	<i>tebuconazole</i> + <i>chlorothalonil</i> Muscle ADV	3 + M05	2 pt	12 H/ 14 D	Muscle ADV is a pre-mix of <i>tebuconazole</i> and <i>chlorothalonil</i> . Growers should note that the rate of Muscle ADV is 2 pt/A.	
<i>tebuconazole</i> + <i>prothioconazole</i> Provost Silver	3	11–13 fl oz	12 H/ 14 D	Provost is a new fungicide labeled for the control of leaf spot diseases, peanut rust, white mold, and Rhizoctonia limb rot. It is also labeled for suppression of CBR. Provost is applied in a 4-block program. Higher rates can be used in fields where disease is a particular problem. Maximum rate is 52 fl oz/A/season.		
Early emergence applications for management of White Mold and other Soilborne Diseases	<i>azoxystrobin</i> Abound 2.08F	11	0.4–0.8 fl oz/1000-row feet	4 H/ 14 D	Banded at 100% emergence for suppression of white mold. For greatest efficacy, concentrate the entire broadcast rate into a band wide enough to cover the peanuts. Check with your local Cooperative Extension office for recommendations on optimum timing of an early emergent application of Proline. Apply in a 4–6" band at 100% emergence.	
	<i>prothioconazole</i> Proline 480SC	3	5.7 fl oz	24 H/ 14 D	Abound: maximum rate is 49 fl oz/A/season. Proline: maximum rate is 22.8 fl oz/A/season.	

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FOLIAR DISEASES					
Late leafspot (<i>Cercosporidium personatum</i>), Early leafspot (<i>Cercospora arachidicola</i>) and Rust (<i>Puccinia arachidis</i>)	<i>bixafen</i> + <i>flutriafol</i> LUCENTO	7 + 3	5.5 fl oz	12 H/ 14 D	For management of fungal pathogen resistance, do not make more than two sequential applications per year.
	<i>cyproconazole</i> Alto 100SL	3	5.5 fl oz	12 H/ 30 D	See note for tetraconazole Domark 230ME.
	<i>flutriafol</i> Rhyme	3	3.5–7 fl oz	12 H/ 7 D	
	TopGuard	3	7–14 fl oz		
	<i>fluoxastrobin</i> + <i>tebuconazole</i> Evito T	3	6–9 fl oz	24 H/ 14 D	Fungicide resistance management should be considered when this product is used with other <i>tebuconazole</i> products, Evito, Evito T, Stratego, Abound, Headline, Absolute, and Evito. Maximum rate is 44.8 fl oz/A/season.
	<i>fluxapyroxad</i> + <i>pyraclostrobin</i> Priaxor	7 + 11	4–8 fl oz	12 H/ 14 D	Priaxor has proven to be a very good replacement product for Headline in peanut disease management programs. Priaxor at a rate of 4 fl oz/A is appropriate for management of leaf spot; the 6–8 fl oz rate is appropriate for management of leaf spot where the first fungicide application is made approximately 45 days after planting. Maximum rate is 24 fl oz/A/season.
	<i>mefentrifluconazole</i> Provysol	3	2.5–7.0 fl oz	12 H/ 14 D	Lower rates are for tank mix options only. 5–7 fl oz/A are recommended as solo applications but can also be tank mixed with other leaf spot/whitemold products to increase efficacy in high risk fields.
	<i>picoxystrobin</i> + <i>cyproconazole</i> Approach Prima	11 + 3	5–6.8 fl oz	12 H/ 30 D	See note for <i>pyraclostrobin</i> Headline.
	<i>propiconazole</i> + <i>trifloxystrobin</i> Stratego	3	7 fl oz.	24 H/ 14 D	Fungicide resistance management should be considered when this product is used with <i>tebuconazole</i> products, Absolute, Evito, Evito T, Headline, or Abound. Maximum of 6 applications/season.
	<i>pydiflumetofen</i> Miravis	7	3.4 fl oz	4 H/ 14 D	Apply on a 21-to-28 day interval. Note: Miravis is NOT effective against peanut rust disease.
<i>pyraclostrobin</i> Headline	11	6–9 fl oz	24 H/ 12 D	NOTE: all soilborne fungicides described in the section "Control of Southern stem rot/white mold" area also active against leaf spot diseases EXCEPT for Convoy. Efficacy of these fungicides ranges from fair/good for <i>tebuconazole</i> to excellent for Provost and Headline. Most of the fungicides listed above fall into the "good" category. Headline (<i>pyraclostrobin</i>) is a <i>strobilurin</i> fungicide and is in the same chemical class as Abound, Evito, the <i>fluoxastrobin</i> component of Evito T, and the <i>trifloxystrobin</i> component of Stratego and Absolute. To best adhere to fungicide resistance management guidelines, Headline should not be used in the same program with these fungicides. Maximum rate is 45 fl oz/A/season.	

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FOLIAR DISEASES (continued)					
Late leafspot (<i>Cercosporidium personatum</i>), Early leafspot (<i>Cercospora arachidicola</i>) and Rust (<i>Puccinia arachidis</i>) (continued)	<i>tetraconazole</i> Domark 230ME Andiamo	3	5.25–6.9 fl oz 4.0–7.0 fl oz	12 H/ 14 D	NOTE: For foliar disease control, apply Alto 100SL up to two times as a part of a season-long disease management program; especially as a tank-mix partner for Abound. Alto maximum rate is 11 fl oz/A/season. Domark 230ME (2.5 fl oz/A) can be applied, but only if tank mixed with <i>chlorothalonil</i> (16.0 fl oz/A) or other leaf spot material. Do not apply more than 13.8 fl oz/A/ of Domark per season. Rates may vary slightly between products; refer to product label before use.
	<i>tetraconazole</i> + <i>chlorothalonil</i> Andiamo Advance	3 + M5	2 pt	12 H/ 14 D	Note: Rate of Mazinga ADV is 2 pt/A
	<i>tetraconazole</i> + <i>thiophanate methyl</i> Acropolis	3 + 1	23 fl oz	24 H/ 14 D	Do not make more than four applications of this product per year.
	<i>tebuconazole</i> + <i>trifloxystrobin</i> Absolute	3 + 11	3.5 fl oz	12 H/ 14 D	Absolute is a combination of <i>tebuconazole</i> and <i>trifloxystrobin</i> . Fungicide resistance management should be considered when this product is used with <i>tebuconazole</i> products, Stratego, or Abound. Maximum of 4 applications/season.
Foliar Diseases	<i>chlorothalonil</i> + <i>sulfur</i> Bravo S is a pre-mix combination		68 fl oz		
	<i>chlorothalonil</i> Bravo Ultrex Bravo Weather Stik Chemnut 720 Chlorothalonil 720 Terranil 6L Echo 90DF Echo 720 Equus 720 Equus DF GK-Aragold 720	M5	1.36 lb 1.5 pt 1.5 pt 1.5 pt 1.5 pt 1.25 lb 1.5 pt 1.5 pt 1.36 lb 1.5 pt	12 H/ 14 D Except for Bravo S (24 H)	Apply <i>chlorothalonil</i> or <i>chlorothalonil</i> + <i>copper</i> on a 10–14 day interval. The exact interval between applications depends on rotation, weather, etc. Do not feed peanut hay treated with <i>chlorothalonil</i> to livestock. If rust is found in a field, and the peanuts are more than 3 weeks from expected harvest, apply <i>chlorothalonil</i> every 10 days until 2 weeks from harvest. If peanuts are 2 weeks or less from harvest, no control is necessary.
	Tank-mix combinations of <i>chlorothalonil</i> and <i>copper hydroxide chlorothalonil</i> + Kocide 4.5LF	M5	(0.75 lb ai/A) 1 pt		Do not mix any <i>copper</i> fungicide with Folicur.

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FOLIAR DISEASES (continued)					
Foliar Diseases (continued)	Tank-mix combinations of <i>chlorothalonil</i> Bravo + Tilt <i>propiconazole chlorothalonil</i> + Tilt	M5, 3	(0.75 lb ai/A) 2 oz	12 H/ 14 D	The rate of <i>chlorothalonil</i> when tank mixed with Tilt will vary depending on formulation (ie. 6 lb/gal would require 16 oz and 4.2 3 lb/gal would require 22.6 oz) If RUST is detected and peanuts are more than 3 weeks from expected harvest, use a full rate of <i>chlorothalonil</i> every 10 days until 2 weeks from harvest. Using DMIs (ie. Folicur and Tilt) full season increases the possibility for fungal resistance. If DMIs are used full season make the last leaf spot application with <i>chlorothalonil</i>. Tilt does not control rust. NOTE: Due to current considerations with the European Union, use of any product containing <i>propiconazole</i> is not recommended on peanuts. Maximum rate is 12 pints/A/season.
	<i>chlorothalonil</i> + <i>propiconazole</i> Echo-PropiMax	M5, 3	(0.75 lb ai/A) 2 oz	12 H/ 14 D	
	<i>chlorothalonil</i> + <i>propiconazole</i> Tilt/Bravo	M5, 3	1.5 pt	12 H/ 14 D	
	<i>thiophanate methyl</i> Topsin M 70WP T-Methyl 70W Topsin 4.5FL Miramar Topsin 4.5 FL + <i>tebuconazole</i>	1	½ lb ½ lb 10 fl oz 10.9 fl oz 5 fl oz + 7.2 fl oz	24 H/ 14 D	Neither Topsin, <i>thiophanate methyl</i> 85WDG nor any other formulation of <i>thiophanate methyl</i> should be used alone for control of foliar diseases of peanut, but should be tank mixed and/or rotated with other non- <i>benzimidazole</i> fungicides such as <i>chlorothalonil</i> . Use of <i>thiophanate methyl</i> should be restricted to a single solo application or 2 tank-mix applications per season. The maximum rate of <i>thiophanate methyl</i> 85WDG is 1.65 lb/A/season.
	Thiophanate Methyl 85WDG	1	0.4 lb	24 H/ 14 D	The rate for ELAST 400F is 12.8 fl oz if it is tank-mixed with another fungicide, e.g. <i>tebuconazole</i> for added control of peanut leaf spot. The rate is 15 fl oz if it is used alone or tank-mixed with a fungicide that is not effective against leaf spot.
	<i>dodine</i> ELAST 400F	U12	12.8–15 fl oz	48 H/ 14 D	
	<i>mancozeb</i> Koverall	M3	1–2 lbs	24 H/ 14D	
Cylindrocladium Black Rot (CBR)	<i>metam sodium</i> 42%	M3	10 gal/A		To be effective, the fumigant <i>metam sodium</i> must be applied very carefully. To avoid injury to the seed and the seedlings, the fumigant must be applied at least 14 days before planting to a depth of 8–10". <i>Metam sodium</i> should be applied only when the soil temperature is greater than 60°F and when the soil moisture is like it would be for suitable seed germination. It is critical to get a good seal on the chisel trace left after fumigation so that the <i>metam sodium</i> does not escape directly into the atmosphere. The rows must be marked so that seed can be planted directly above where the fumigant was applied. Growers who are using this treatment for the first time may want to consult with their local county Cooperative Extension agent.
	<i>prothioconazole</i> Proline 480SC	3	0.4 fl oz/1000 row ft 5.7 fl oz/A	48 H/ 14 D	Proline 480SC is applied in-furrow for the management of CBR. See label for rate information and additional application strategies for management of CBR and perhaps white mold (stem rot). Maximum rate is 22.8 fl oz/A/season.
	<i>tebuconazole</i> Abound 2.08F <i>tebuconazole</i> 3.6F Priaxor Headline Provost Fontelis Elatus	11 3 11 + 7 11 3 7 11 + 3	18.5–24.6 fl oz 7.2 fl oz 12–15 fl oz 8–10.7 fl oz 8 fl oz/A 16–24 fl oz 7.3–9.5 fl oz	12 H/ 14 D Except Headline— 4 H	Provost <i>tebuconazole</i> , Abound, Elatus, Fontelis, Priaxor, and Headline are labeled for the "suppression" of CBR. This means that they may have some limited benefit to the grower in the management of this disease. However neither is likely to result in significant reduction in CBR when compared to the benefits of <i>metam sodium</i> .