

PEANUT DISEASE MANAGEMENT

Jay W. Chapin, Extension Peanut Specialist

Seedling Diseases:

All peanut seed should be treated with a fungicide (**Vitavax PC, Dynasty PD, or Trilex**) to reduce the incidence of seed-transmitted and soilborne seedling diseases such as *Cylindrocladium*, *Aspergillus* crown rot, *Pythium*, and *Rhizoctonia*. **Vitavax PC** (Captan + PCNB + Carboxin), **Dynasty PD** (mefenoxam + fludioxonil + azoxystrobin), **Trilex Star** (Captan + trifloxystrobin + metalaxyl + thiophanate-methyl), and **Trilex Optimum** (Captan + trifloxystrobin + metalaxyl) seed treatments are all effective in reducing seedling disease and protecting stand counts. Higher stand counts also reduce the risk of tomato spotted wilt virus.

Tomato spotted wilt virus (TSWV):

This virus is transmitted to peanuts by thrips, primarily tobacco thrips. TSWV reduces yield and causes shriveled, misshapen pods. All peanut fields in S. C. are vulnerable to significant yield loss from TSWV regardless of whether the farm has any history of peanut production.

A 6-step program is recommended to reduce Tomato Spotted Wilt.

The more of these six steps that are used in combination, the better the chances of minimizing TSWV yield loss.

1. **Varietal Resistance** – Varieties with partial resistance to TSWV are listed in the variety characteristic chart of the peanut production guide. No variety is immune.
2. **Planting Date Window** – Early planting (Late April – 10 May) has greater risk of virus, but with large acreage, we must start planting the first week of May.
3. **Plant Population / Seeding Rate** - The goal is a uniformly emerged stand of at least 4 plants per row ft. Plant 6 seeds per row ft (or at least 5/ft for large seeded virginia types) into good soil moisture. Uniform emergence and vigorous early growth reduce virus risk.
4. **In-furrow Insecticides** – Both Thimet (Phorate) 20 G (4.7 lb/ac on 38 rows) and Temik 15 (5 lb/ac) reduce TSWV levels. Under heavy virus infection conditions (early planting or susceptible variety) Thimet (Phorate) is more effective against TSWV. See insecticide table for phorate rates by row spacing.
5. **Strip-tillage** - surface crop residue reduces the number of thrips landing in the field.
6. **Twin-row planting** - faster ground cover means less virus. For most growers, this is the least practical step because it requires a specialized planter.

Tomato Spotted Wilt Control: “It’s all over when the planter leaves the field”

Leaf Spot, White mold, Limbrot, and Web Blotch:

The key to peanut disease control is preventing diseases from getting started. This is true for soil diseases such as white mold and *Rhizoctonia limbrot*, as well as leaf spot on the foliage. Alternating or tank mixing different fungicide chemistries reduces the potential for developing resistant strains of leaf spot diseases. Alternating or tank mixing fungicides also gives some insurance against the failure of one product alone.

General guidelines for fungicide programs:

- Begin leaf spot control **absolutely no later than 45 DAP**. For highly susceptible varieties (Brantley, Gregory, Phillips, Perry, Champs) particularly under irrigation, increase late leaf spot protection using one of the options listed in footnotes of the following tables (e.g. Headline at 45 DAP).
- **Apply a soil fungicide (Abound, Artisan, Convoy, Provost, or tebuconazole) no later than 60 DAP**. White mold must be prevented, and hot weather accelerates white mold growth.
- Soil fungicides must be washed into the soil to be effective against white mold, but **wait 24 - 48 hr before irrigating** to also help control leaf spot.
- **DO NOT apply more than a combined total of 2 strobilurin applications** (Abound, Headline, Evito, or Stratego) in any growing season to reduce risk of resistance.
- **Never apply Topsin alone and do not make more than two tank-mixed Topsin applications per season**. This product is very susceptible to resistance. We will lose effectiveness quickly if we abuse it.
- **No fungicide program is fool-proof**. Spot check fields for leaf spot and white mold, particularly from 60 DAP to harvest.
- A final leaf spot application at 105 DAP is usually adequate to provide control through harvest at 135 DAP. Check fields at 120 DAP; if leaf spot is present on > 5 % of lower leaves and harvest will be delayed past 135 DAP, apply an additional leaf spot treatment.

Alternative to “Calendar” Spray Programs: An alternative to calendar-scheduled leaf spot sprays is to spray based on the weather. The rules for weather-based leaf spot application are:

1st spray: treat when 5 daily rain events (0.1” or more) have occurred since ground cracking.
Each subsequent spray: wait 10 days since the last application, then treat whenever 2 rains occur after the 10 day interval.

Arresting a Leaf Spot Epidemic:

Effective fungicide programs are designed to prevent leaf spot not try to “cure” it after the fact. But if something goes wrong and you find late leaf spot lesions in the bottom of the peanut canopy, with over 30 days to go until harvest, treat immediately with Headline 9-12 oz + 1.5 pt Bravo, 10.7 oz Provost + 1.5 pt Bravo, or 10 fl oz of Topsin 4.5FL + 1.5 pt Bravo.

Follow up in 10 days with a repeat application.

If white mold control is also due, use the Provost + Bravo treatment, or add 9-12 oz Headline + 1.5 pt Bravo to a Convoy or tebuconazole treatment.

Night Spraying for Severe White Mold Pressure: Peanut plants fold their leaves at night making it potentially easier for soil fungicide treatments to reach the base of the plant and soil surface. Applying white mold treatments at night has been shown to increase control effectiveness, at least under severe white mold pressure. If Bravo (a non-systemic) is being relied on for leaf spot control, control of this foliar disease may be reduced with night spraying because leaf coverage is reduced.

For growers interested in trying night applications, we recommend the 75 DAP treatment as the first priority and 90 DAP as the second priority because these timings are usually the most critical for white mold control.

Cylindrocladium Black Rot (CBR) Control:

CBR is caused by a soil fungus which occurs in the same fields from year to year, often in low spots. CBR is transmitted from field to field by contaminated seed and equipment. **Rotation** (at least 2 years out of peanuts and elimination of soybean from the rotation) is the best defense against severe CBR although rotation alone will not eliminate significant injury. Once established, CBR must be minimized with **varietal resistance** (Perry, Bailey, Georgia Greener) and in severe cases, fumigation (Vapam 10 gal/ac). **Vapam** must be shanked into a bed at an 8" depth 2 weeks prior to planting. Avoid fumigating when there is a high risk of heavy rain (> 1.0") within 2 days. **Proline (5.7 oz in-furrow)** should be used in fields with a known history of CBR loss. **Provost (10.7 oz foliar)** may also provide some suppression of CBR. **See Level 2 CBR fungicide program below.**

Preventative Calendar Spray Programs:

The disease control programs on the following pages are gameplans or guidelines. Timing (DAP = days after planting) should be modified to account for opportunities to wash soil fungicides into the pegging zone if no irrigation is available. Under drought conditions, the grower has to rely on his own judgment of the 5-day weather forecast to decide when to apply a soil fungicide before a rain.

EXAMPLE PEANUT DISEASE CONTROL PROGRAMS

Level 1 Programs: Foliar disease control and standard soil disease control.

Grower assumes there is an average risk of white mold or Rhizoctonia limbrot.

Treatment options at specified days after planting:					
30*	45	60**	75	90	105
*	Bravo 1.5 pt Tilt/Bravo 1.5 pt or Headline 6 oz	tebuconazole 7.2 + Bravo 1.5 pt**	tebuconazole 7.2 + Bravo 1.5 pt or Headline 6 oz	tebuconazole 7.2 + Bravo 1.5 pt	tebuconazole 7.2 + Bravo 1.5 pt
*	Bravo 1.5 pt Tilt/Bravo 1.5 pt or Headline 6 oz	Provost 10.7 oz	Convoy 13 oz + Bravo 1.5 pt or Headline 6 oz Artisan 16 oz + Bravo 1 pt or Headline 6 oz	Provost 10.7 oz	tebuconazole 7.2 + Bravo 1.5 pt
*	Bravo 1.5 pt Tilt/Bravo 1.5 pt or Headline 6 oz	Provost 10.7 oz	Convoy 13 oz + Bravo 1.5 pt or Headline 6 oz Artisan 16 oz + Bravo 1 pt or Headline 6 oz	Convoy 13 oz + Bravo 1.5 pt or Artisan 16 oz + Bravo 1 pt	tebuconazole 7.2 + Bravo 1.5 pt
*	Bravo 1.5 pt Tilt/Bravo 1.5 pt or Headline 6 oz	tebuconazole 7.2 + Bravo 1.5 pt**	Convoy 13 oz + Bravo 1.5 pt or Headline 6 oz Artisan 16 oz + Bravo 1 pt or Headline 6 oz	Convoy 13 oz + Bravo 1.5 pt or Artisan 16 oz + Bravo 1 pt	tebuconazole 7.2 + Bravo 1.5 pt
*	Bravo 1.5 pt Tilt/Bravo 1.5 pt or Headline 6 oz	Convoy 13 oz + Bravo 1.5 pt**	Convoy 13 oz + Bravo 1.5 pt or Headline 6 oz	Convoy 13 oz + Bravo 1.5 pt	***Convoy 13 oz + Bravo 1.5 pt
*	Bravo 1.5 pt Tilt/Bravo 1.5 pt	Abound 12 - 18 oz	tebuconazole 7.2 + Bravo 1.5 pt Convoy 13 oz + Bravo 1.5 pt	Abound 12 - 18 oz	tebuconazole 7.2 + Bravo 1.5 pt

* An optional 30 DAP Bravo (1 pt) appl. (usually tank-mixed with Cadre at 30 -35 DAP) can be used for high leaf spot risk (highly susceptible variety, frequent rain (6 times) since emergence, rotation less than 2 yrs. out of peanut, or for frequent low rate irrigation programs). This 30 DAP does not improve leaf spot control unless the 45 DAP treatment gets delayed by weather. If Headline is going to be applied at 45 or 60 DAP, no 30 DAP treatment is recommended.

**** Under high leaf spot risk (e.g. very susceptible variety, irrigated, or with frequent rain-off and leaf wetting) if Headline is not used at 45 OR 75 DAP, Headline can replace Bravo at 60 DAP or both 60 and 90 DAP in a tank-mix with Artisan, Convoy, or tebuconazole to improve leaf spot control. Do not spray Headline-back to-back, make only two total strobilurin (Abound, Headline) appl. per season. Topsin (5 fl oz) can also be added to Bravo for increased leaf spot protection. Never rely on Topsin alone and no more than 2 appl. per year. Spray intervals can also be reduced to 10 days for improved leaf spot control under frequent rain-off conditions.**

The Headline tank-mix rate can be raised to 9 oz for the highest risk situation such as when a spray interval gets over-extended by frequent rain on a highly susceptible variety.

*** Note that Artisan and Convoy have a 40 day preharvest interval.

Generic alternatives can be substituted for Bravo, or Tilt/Bravo (2 oz + 1 pt).

Level 2 Programs (White Mold): Increased white mold protection for fields with a history of severe white mold loss under standard disease control.

First consider using a white mold resistant variety (Georgia-07W, Bailey) along with a Level 1 standard soil disease control program.

Pre-dawn spraying: Under high pressure, white mold control can be improved by spraying before daylight while peanut leaves are still folded and dew is present. If only one predawn application is made, the 75 DAP timing is probably the most critical.

Treatment options at specified days after planting:					
30*	45	60**	75***	90***	105
*	Bravo 1.5 pt Tilt/Bravo 1.5 pt or Headline 6 oz	Convoy 16 oz + Bravo 1.5** or Artisan 20 oz + Bravo 1 pt**	Convoy 16 oz + Bravo 1.5 pt or Headline 6 oz Artisan 20 oz + Bravo 1.5 pt or Headline 6 oz	Convoy 16 oz + Bravo 1.5 or Artisan 20 oz + Bravo 1 pt	***Convoy 16 oz + Bravo 1.5 pt or Artisan 20 oz + Bravo 1 pt or tebuconazole 7.2 oz + Bravo 1.5 pt
*	Bravo 1.5 pt Tilt/Bravo 1.5 pt or Headline 6 oz	Provost 10.7 oz	Convoy 16 oz + Bravo 1.5 pt or Headline 6 oz Artisan 20 oz + Bravo 1.5 pt or Headline 6 oz	Convoy 16 oz + Bravo 1.5 or Artisan 20 oz + Bravo 1 pt	***Convoy 16 oz + Bravo 1.5 pt or Artisan 20 oz + Bravo 1 pt or tebuconazole 7.2 oz + Bravo 1.5 pt

* An optional 30 DAP Bravo (1 pt) appl. (usually tank-mixed with Cadre at 30 -35 DAP) can be used for high leaf spot risk (highly susceptible variety, frequent rain (6 times) since emergence, rotation less than 2 yrs. out of peanut, or for frequent low rate irrigation programs). This 30 DAP does not improve leaf spot control unless the 45 DAP treatment gets delayed by weather. If Headline is to be applied at 45 or 60 DAP, no 30 DAP treatment is recommended.

**** Under high leaf spot risk (e.g. very susceptible variety, irrigated, or with frequent rain-off and leaf wetting) if Headline is not used at 45 OR 75 DAP, Headline can replace Bravo at 60 DAP or both 60 and 90 DAP in a tank-mix with Artisan, Convoy, or tebuconazole to improve leaf spot control. Do not spray Headline-back to-back, make only two total strobilurin (Abound, Headline) appl. per season. Topsin (5 fl oz) can also be added to Bravo for increased leaf spot protection. Never rely on Topsin alone and no more than 2 appl. per year. Spray intervals can also be reduced to 10 days for improved leaf spot control under frequent rain-off conditions.**

The Headline tank-mix rate can be raised to 9 oz for the highest risk situation such as when a spray interval gets over-extended by frequent rain on a highly susceptible variety.

*****Labeled Artisan and Convoy rates go up to 26 and 21 oz/ac respectively for 3 appl. programs. Note that Artisan and Convoy have a 40 day preharvest interval.**

Generic alternatives can be substituted for Bravo, or Tilt/Bravo (2 oz + 1 pt).

Level 2 Program (CBR): CBR suppression for fields with a history of severe CBR loss under standard disease control.

Variety resistance (Perry, Bailey, Georgia Greener) where possible is most effective for CBR suppression and can be used in combination with chemical treatment.

Vapam shanked in 14 days preplant is the most effective chemical treatment for CBR, see comments under CBR control on previous pages.

Proline (NOT Provost!) at 5.7 oz per acre applied in-furrow with inoculant can also suppress CBR. Apply Proline in-furrow only to fields with a documented history of significant CBR loss.

Foliar Provost treatments sometimes also suppress CBR, but will not control it in severely infected fields.

Treatment options at specified days after planting:						
14 days preplant	At Plant	45	60	75	90	105
	Proline 5.7 oz In-furrow	Bravo 1.5 pt Tilt/Bravo 1.5 pt or Headline 6 oz	Provost 10.7 oz	tebuconazole 7.2 + Bravo 1.5 pt or Headline 6 oz	Provost 10.7 oz	tebuconazole 7.2 + Bravo 1.5 pt
				Provost 10.7 oz + Bravo 1.5 pt*		Provost 10.7 oz + Bravo 1.5 pt*
Vapam 10 gal/ac	Proline 5.7 oz In-furrow	Bravo 1.5 pt Tilt/Bravo 1.5 pt or Headline 6 oz	Provost 10.7 oz	tebuconazole 7.2 + Bravo 1.5 pt or Headline 6 oz	Provost 10.7 oz	tebuconazole 7.2 + Bravo 1.5 pt
				or Provost 10.7 oz + Bravo 1.5 pt*		or Provost 10.7 oz + Bravo 1.5 pt*
*Adding Bravo to two of four straight Provost applications should reduce the risk of selecting for leaf spot resistance. Generic alternatives can be substituted for Bravo.						

A GUIDE TO PEANUT FUNGICIDES

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Product	Chemistry	Leaf Spot Resistance potential	Feed Hay	PHI	Strengths	Limitations
Abound	a strobilurin (azoxystrobin)	high	Y	14	1. Has white mold activity and possibly the best limprot material. 2. Systemic activity against both leafspot and web blotch.	1. Erratic against established white mold infections 75 – 90 DAP.
Artisan	Moncut + Tilt (flutolanil + propiconazole)	low	N	40	1. Excellent against white mold and limprot). Active against early leaf spot.	1. Will not control late leaf spot. 2. No CBR suppression.
Bravo (and generics)	-a substituted benzene (chlorothalonil)	low	N	14	1. Relatively low cost control of leaf spot. 2. Multiple modes of action reduce resistance risk.	1. No activity against soil disease. 2. Preventative, non-systemic activity only against leaf spot, not curative. 3. Less effective than systemics against web blotch.
Convoy	a benzamide (flutolanil)	low	N	40	1. Highly effective alternative chemistry to triazoles and strobilurins for white mold and limprot control.	1. No control of foliar diseases; can be tank-mixed with chlorothalonil. 2. No activity against <i>Cylindrocladium</i> black rot (CBR).
Elast	dodine	low?	Y	14	An alternative to Bravo.	No soil disease activity. Has not been equal to Bravo for leaf spot on highly susceptible virginia type varieties.
Evito	a strobilurin	high	Y	14	Performance of 5.7 oz similar to 18 oz Abound.	Performance of 5.7 oz similar to 18 oz Abound.
Folicur generics	a triazole (tebuconazole)	already resistant	N	14	1. Effective against white mold and limprot.	1. Not effective against web blotch. 2. No longer effective against late leaf spot.
Headline	a strobilurin (pyraclostrobin)	high	N	14	1. The longest residual and best wash-off resistance for systemic leaf spot & web blotch control. 2. Some white mold activity at 12-15 oz rates.	1. White mold activity erratic. 2. Like Abound, this product is prone to development of resistance (use no more than 2 total strobilurin appls. per yr).
Lorsban 15G	chlorpyrifos	low	N	21	1. White mold control. 2. Preventative control of soil insects.	1. Causes worm and spider mite outbreaks. 2. Requires granular band appl. 3. Increases <i>Rhizoctonia</i> limprot.
Proline	a triazole (prothioconazole)	high	N	14	Suppression of CBR used in-furrow.	1. No benefit in absence of CBR
Provost	two triazoles (prothioconazole + tebuconazole)	high	N	14	1. Highly effective against both foliar (leaf spot) and soil (white mold, <i>Rhizoctonia</i>) diseases. 2. can suppress CBR.	1. Triazoles vulnerable to leaf spot resistance. Must be rotated or tank-mixed with other chemistry.
Quash	a triazole (metconazole)	high?	N	14	1. Effective against white mold.	1. Needs Bravo tank-mix for leaf spot control.
Stratego	a triazole (Tilt) + a strobilurin (trifloxystrobin)	med.	Y	14	1. Combination of Tilt and Flint (a strobilurin) has good systemic activity against leaf spot.	1. No soil disease activity.
Tilt/ Bravo	a triazole (propiconazole) + chlorothalonil	low	N	14	1. Addition of Tilt to Bravo improves leaf spot control because Tilt is systemic.	1. Tilt has very weak activity against soil diseases and Bravo has none. 2. Tilt alone will not control late leaf.
Topsin 4.5FL	a benzimidazole (thiophanate-methyl)	very high	Y	14	1. Highly effective systemic against late leaf spot when tank-mixed with Bravo.	1. VERY susceptible to resistance so must be tank-mixed and limited to two applications per year.

There is no perfect all-around fungicide. The best programs use a combination of products that complement each other to minimize disease and resistance risk at reasonable cost. See program examples on previous pages.

PEANUT DISEASE CONTROL

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Disease	Product	Rate /acre	Comments
Early Leaf Spot Late Leaf Spot Pepper Spot Web Blotch	chlorothalonil Bravo Weather Stik (and many generics)	1.5 pt	Chlorothalonil products are preventative only against leafspot and require excellent coverage. Other products listed for leafspot control are locally systemic within the leaf and have some “curative” activity. Topsin should never be used alone because it is highly susceptible to resistance. Elast not recommended on virginia type varieties. Folicur is no longer available, replaced by generic tebuconazoles. Tebuconazole alone will not control web blotch or late leaf spot. Headline is highly effective against leaf spots and rapidly “rainfast”. Provost also highly effective against white mold at 10.7 oz.
	Tilt / Bravo 4.3 Tilt + Bravo PropiMax + Echo (and generics)	1.5 pt 2 oz + 1 pt 2 oz + 1 pt	
	Bravo + Topsin 4.5 FL or Topsin M 70W	1 pt + 5-10 oz 0.25 – 0.5 lb	
	Abound 2.08 F	12-18.5 oz	
	Elast 400F Elast + Folicur	15 oz 12.8+7.2 oz	
	Evito	5.7 oz	
	Folicur 3.6F (tebuconazole - Muscle, Integral, Orius, Tebuzol, etc.) + Bravo	7.2 oz + 1 pt	
	Headline 2.1 lb/gal	6-9 oz	
	Provost	8-10.7 oz	
	Stratego	10-14 oz	
White Mold and Rhizoctonia Limb Rot	Abound 2.08 F Evito	12-18.5 oz 5.7 oz	Strobilurins (Abound, Evito, Headline) are more erratic against white mold.
	Folicur 3.6F (tebuconazole - Muscle, Integral, Orius, Tebuzol, etc.)	7.2 oz	Do not use surfactants or crop oil with soil fungicides. The goal is to wash white mold fungicides into the soil. Spray before irrigation or rain when possible. Wait 24 hours to irrigate in order to also get maximum leafspot benefits.
	Convoy	13 - 26 oz	Under high risk, make sure a fungicide application for white mold occurs NO LATER THAN 60 DAP. White mold must be <u>prevented</u> ; hot weather and a closed canopy in July and August accelerates white mold growth.
	Artisan	16 - 32 oz	
	Provost	10.7 oz	
Quash	3-4 oz		
Cylindrocladium Black Rot (CBR)	Vapam (metam sodium 42%)	10 gal	Vapam must be shanked into the soil (8” depth) and bedded at least 14 days prior to planting. Soil temperature at 4” depth should be 60°F. Do not fumigate when rain (1.0” or more) is expected within 48 hrs. Proline is applied with in-furrow inoculant. Provost may suppress CBR when foliar applied for other diseases. Crop rotation is extremely important in reducing CBR risk. Resistant varieties (e.g. Perry, Bailey, Ga. Greener) can also reduce economic injury in CBR infected fields. Delaying planting until mid May can suppress CBR by increasing soil temp.
	Provost (suppression)	10.7 oz	
	Proline (in-furrow, suppression)	5.7 oz	
Spotted Wilt Virus	--	--	See previous 6-step control program.

Disease Response Chart For Peanut Fungicides*

Jay W. Chapin, Extension Specialist

Fungicide(s)	Rate	Late Leaf Spot	White Mold	Rhizoctonia Limbrot	CBR (Cylindrocladium)	Web Blotch
Abound	12 – 18 oz	Good - V. Good	Good	Excellent	Poor	Good
¹ Artisan	16 oz	Poor	Excellent	Very Good	None	Poor
Artisan + Bravo	16 oz + 1 pt	Very Good	Excellent	Very Good	None	Fair-Good
Artisan + Headline	16 oz + 6 oz	Excellent	Excellent	Very Good	None	Good
Bravo (or generics)	1.5 pt	Very Good	None	None	None	Fair
¹ Convoy	13 oz	None	Excellent	Very Good	None	None
² Evito	5.7 oz	Good-VG	Good	?	Poor	Good?
³ Elast	15 oz	F - Good	None	None	None	None
“Folicur” - tebuconazole	7.2 oz	Poor - Fair	Very Good	Very Good	Poor - Fair	Fair
Folicur + Bravo	7.2 oz + 1 pt	Very Good	Very Good	Very Good	Poor - Fair	Good?
Folicur + Topsin	7.2 oz + 5 oz	Very Good	Very Good	Very Good	Poor - Fair	Good?
⁴ Headline	6-12 oz	Excellent	Poor -Fair	Good – VG ?	Poor	Excellent
Moncut + Bravo	0.5 lb +1.5 pt	Very Good	Excellent	Very Good	None	Fair
⁵ Provost	8 – 10.7 oz	Excellent	VG (8 oz) Ex.(10.7 oz)	Very Good – Excellent ?	Fair	Good?
Quash+ Bravo	3-4 oz + 1 pt	Very Good	Very Good	?	Poor?	Good?
Stratego	10 – 14 oz	Very Good	Poor	?	None	?
Tilt-Bravo (or generics)	1.5 pt	Very Good	Poor	None	None	Fair
⁶ Topsin 4.5FL	5 - 10 oz	See footnote	None	Fair ?	None	Fair?

***Ratings are based on the relative performance of the listed application rates. Effective disease control and resistance prevention requires multiple application programs with a combination of materials as outlined in the Production Guide examples. None = no control; Poor = measurable but low level of control; Fair = erratic control or suppression only; Good = controls moderate disease pressure; Excellent = consistent high level of control.**

¹**Artisan or Convoy** can be applied up to 32 oz/ac for maximum white mold control, but either must be mixed with Bravo or Headline for leaf spot control.

²**Evito** labeled for two applications of 5.7 oz at 60 and 90 DAP. Performance similar to 18 oz Abound.

³**Elast** is not currently recommended for highly susceptible virginia-type varieties.

⁴**Headline** at a 6 – 9 oz also rated very good to excellent on leaf spot. Never exceed 2 total strobilurin (Abound, Evito, Headline) applications per season.

⁵**Provost** also excellent against leaf spot at 8 oz rate; maximum 10.7 oz rate needed for CBR suppression.

⁶**Topsin** is highly effective against leaf spot as a tank-mix with Bravo or Folicur. Never use Topsin alone, and never exceed 2 total Topsin applications per season.