

### Peanut leaf spot control calendar and objectives

Date	1-Jul	15-Jul	30-Jul	15-Aug	30-Aug	15-Sep
DAP	45	60	75	90	105	120 (see advisory)
Objective	Leaf spot control, curative activity, and resistance management	Leaf spot and stem rot control	Leaf spot and stem rot control	Leaf spot and stem rot control; possible Sclerotinia blight suppression	Leaf spot control; resistance management if last planed spray	Leaf spot control; resistance management
<b>Critical periods for control</b>						
Leaf spot	<b>5 or 6 sprays total needed for control</b>					
Stem rot		<b>1 to 3 sprays total needed for control</b>				
Sclerotinia blight			<b>1 to 3 sprays needed for control Follow advisories to determine critical times</b>			

Comparison of commonly used peanut fungicides 2019

Fungicide oz/A	Group	Leaf spots	Stem rot/ Limb rot	Timing (DAP)	Strengths	Limitations
Abound (azoxystrobin) 12 to 24 oz	11	?		60; 90	<ul style="list-style-type: none"> <li>•Good stem rot control</li> <li>•Excellent Rhizoctonia limb and pod rot control at 18 to 24 oz</li> <li>•Very good leaf spot and web blotch control where still effective</li> </ul>	<ul style="list-style-type: none"> <li>•Some populations are resistant. Higher rates will NOT help.</li> <li>•Must be mixed with an effective leaf spot fungicide such as Bravo (chlorothalonil)</li> <li>•Less effective against established stem rot infections than some other products</li> <li>•Rain or irrigation is needed to optimize stem rot control</li> </ul>
Alto (cyproconazole) 5.5 oz	3	✓		45; 75 30 day PHI	<ul style="list-style-type: none"> <li>•Has limited curative action</li> <li>•Good choice for first spray</li> <li>•Very good leaf spot control</li> </ul>	<ul style="list-style-type: none"> <li>•Mix with chlorothalonil</li> <li>•Limited control of soil borne pathogens</li> </ul>
Bravo (chlorothalonil) 1 to 1.5 pt (or generic)	M	✓		Any; always use for last spray	<ul style="list-style-type: none"> <li>•Low cost</li> <li>•Resistance management</li> <li>•Very good leaf spot control</li> <li>•Use for last spray</li> </ul>	<ul style="list-style-type: none"> <li>•No control of soil borne pathogens</li> <li>•Full season use can flare spider mites and make Sclerotinia blight worse</li> <li>•Non-systemic with no curative action</li> </ul>
Convoy (flutolonil) 16 to 32 oz	7		✓	60 – 90 40 day PHI	<ul style="list-style-type: none"> <li>•Very good – excellent stem rot control</li> <li>•Long residual at high rates (see label)</li> </ul>	<ul style="list-style-type: none"> <li>•NO leaf spot control</li> <li>•MUST be mixed with a leaf spot fungicide</li> </ul>
Elatus (benzovindiflupyr + azoxystrobin) 7.3 to 9.5 oz	7 + 11	?	✓	60 – 90	<ul style="list-style-type: none"> <li>•Very good – excellent stem rot, limb rot and pod rot control</li> <li>•Good - excellent leaf spot control where still effective</li> <li>•Longer residual at high rates</li> </ul>	<ul style="list-style-type: none"> <li>•Strong likelihood that some populations are resistant</li> <li>•Mix with an effective leaf spot fungicide such as Bravo (chlorothalonil)</li> </ul>

**Comparison of commonly used peanut fungicides 2019 (cont)**

Fungicide oz/A	Group	Leaf spots	Stem rot/ Limb rot	Timing (DAP)	Strengths	Limitations
Fontelis (penthiopyrad) 16 to 24 oz	7	✓	✓	75 - 90	<ul style="list-style-type: none"> <li>•Very good stem rot control</li> <li>•Good leaf spot control</li> <li>•Some suppression of Sclerotinia blight at high rate (24 oz)</li> </ul>	<ul style="list-style-type: none"> <li>•No more than 2 of 5 (or 1 of 4) applications of unmixed group 7 fungicides due to resistance risk.</li> <li>•Should not be used in a program with Miravis due to resistance risk.</li> </ul>
Headline (pyraclostrobin) 6 to 15 oz	11	?	✓	60; 90	<ul style="list-style-type: none"> <li>•Good residual and wash-off resistance</li> <li>•Excellent leaf spot and web blotch control in areas where still effective</li> <li>•Has some curative action</li> </ul>	<ul style="list-style-type: none"> <li>•<b>Some populations are resistant. Higher rates will NOT help.</b></li> <li>•<b>Must be mixed with an effective leaf spot fungicide such as Bravo (chlorothalonil)</b></li> <li>•High rates are needed for stem rot control and stem rot control can be erratic</li> </ul>
Miravis 3.4 oz (Pydiflumetofen)	7	✓		60	<ul style="list-style-type: none"> <li>•Very long residual (21 to 28 days)</li> <li>•Excellent leaf spot control</li> </ul>	<ul style="list-style-type: none"> <li>•Not effective against stem rot. Mix with a stem rot fungicide.</li> <li>•Protectant only</li> <li>•Best fit is at 60 DAP</li> <li>•<b>Resistance risk is high if overused or used as a rescue treatment</b></li> </ul>
Priaxor (pyraclostrobin + fluxapyroxad) 6 to 8 oz	11 + 7	?	✓	60 - 90	<ul style="list-style-type: none"> <li>•Good residual and wash-off resistance</li> <li>•Excellent leaf spot and web blotch control in areas where still effective</li> <li>•Some curative action</li> </ul>	<ul style="list-style-type: none"> <li>•<b>Strong likelihood that some populations are resistant.</b></li> <li>•<b>Mix with an effective leaf spot fungicide such as Bravo (chlorothalonil)</b></li> <li>•Higher rate needed for stem rot control</li> </ul>
Propulse 13.7 oz (prothioconazole + fluopyram)	3 + 7	✓	✓	60 - 90	<ul style="list-style-type: none"> <li>•Excellent leaf spot and stem rot control</li> <li>•Suppresses nematodes when applied in early season (see label for details)</li> <li>•Long residual</li> </ul>	<ul style="list-style-type: none"> <li>•Very expensive</li> </ul>

Comparison of commonly used peanut fungicides 2019 (cont)

Fungicide oz/A	Group	Leaf spots	Stem rot/ Limb rot	Timing	Strengths	Limitations
Provost Opti (tebuconazole + prothioconazole) 8 – 10.7 oz	3	✓	✓	60 - 90	<ul style="list-style-type: none"> <li>•Very good – excellent stem rot, limb rot and pod rot control</li> <li>•CBR suppression</li> <li>•Very good leaf spot control</li> <li>•Provost Silver is more effective against leaf spot than Provost Opti</li> </ul>	<ul style="list-style-type: none"> <li>•Erratic leaf spot control has been reported with Provost Opti in some areas. Higher rates of Provost Opti are more effective than lower rates.</li> <li>•Resistance risk; Alternate with other chemistry to prevent loss of effectiveness</li> </ul>
Provost Silver 13 oz						
Tebuconazole 7.2 oz (generic)	3	?	✓	60 - 90	<ul style="list-style-type: none"> <li>•Very good – excellent stem rot, limb rot and pod rot control</li> <li>•Poor - good leaf spot control</li> </ul>	<ul style="list-style-type: none"> <li>•Poor leaf spot control due to fungicide resistance in most locations; not effective against late leaf spot due to resistance</li> <li>•<b>Always mix with Bravo or other product for leaf spot control</b></li> </ul>
Topsin M 70 WP 8 oz dry wt (Thiophanate-methyl; many brands and formulations)	1	✓		45 - 90	<ul style="list-style-type: none"> <li>•Very good leaf spot control</li> <li>•Use in tank mixes an alternative to Bravo</li> </ul>	<ul style="list-style-type: none"> <li>•Very high risk of resistance development; use no more than once per season</li> </ul>
Topguard (flutriafol) 7-14 oz	3	✓	✓	45 - 90	<ul style="list-style-type: none"> <li>•Good leaf spot control, some stem rot control</li> <li>•Substitute for Tilt for first spray</li> </ul>	<ul style="list-style-type: none"> <li>•Most useful mixed with another a.i.</li> <li>•Resistance risk</li> </ul>

**New and misc. products for 2019**

Fungicide oz/A	Group	Leaf spots	Stem rot/ Limb rot	Timing (DAP)	Comments
Approach Prima (picoxystrobin + cyproconazole) 5 to 6.8 oz	3 + 11	✓	?	45	<ul style="list-style-type: none"> <li>•Leaf spot control</li> <li>•Cyproconazole in 6.8 oz Approach Prima is equivalent to 5.5 oz of Alto</li> <li>•First spray is best niche, similar to Alto + Bravo</li> <li>•Assume resistance to picoxystrobin; mix with chlorothalonil</li> <li>•Data for NC is limited</li> </ul>
Domark (tetraconazole) 5.25 to 6.9 oz	3	✓	?	?	<ul style="list-style-type: none"> <li>•Data for NC is limited</li> </ul>
Generic premixes of azoxystrobin + tebuconazole Variable rates	3 + 11	?	✓	60; 90	<ul style="list-style-type: none"> <li>•Probably ineffective against leaf spot</li> <li>•Usually have less a.i. than rate recommended for brand-name product</li> <li>•<b>Mix with 1 to 1.5 pt chlorothalonil</b></li> </ul>
Lucento (Bixafen + flutriafol) 3 to 5.5 oz	3 + 11	✓	✓	60 - 90	<ul style="list-style-type: none"> <li>•Data for NC is limited</li> <li>•Good performance against leaf spot and stem rot when tested at 5.5 oz/A</li> <li>•Assume resistance to bixafen; activity probably comes from flutriafol</li> <li>•Mix or alternate with another a.i.</li> </ul>
Microthiol Diperss (sulfur) 5 lb.	M	✓		60 - 90	<ul style="list-style-type: none"> <li>•May enhance performance of group 3 fungicides when mixed with them</li> <li>•May suppress mites</li> <li>•Data for NC is limited</li> </ul>
Omega (fluazinam) 1 to 1.5 pt	C5	NA	?	60 – 105 30 day PHI	<ul style="list-style-type: none"> <li>•Controls Sclerotinia blight. Level of control depends on rate and frequency used.</li> <li>•Long residual (21 to 28 days)</li> <li>•May control stem rot</li> <li>•Use in addition to a leaf spot control program</li> </ul>

## Peanut Leaf spot advisories

The North Carolina peanut leaf spot advisory is a cooperative effort by the State Climate Office of North Carolina and the Department of Entomology and Plant Pathology at NC State University. The advisory is a safe way to minimize fungicide applications by spraying only when weather conditions favor disease.

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June 26, 2019 PEANUT LEAF SPOT ADVISORY FOR ROCK
Upper Coastal Plain Res Stn (Rocky Mount, NC)
setDate = 2019-06-16 07:00:00
lethal conditions = false
favorable hours = 44
LESD = 0000-00-00
ROCK Advisory: do not spray today
Growing degree days (base 56) since LESD = 0
Growing degree days (base 56) since May 1 = 1072.3
Records count: 239 out of 241
Most recent db ob to 8am EDT: 2019-06-26 06:00:00

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In well-rotated fields, **the first fungicide spray should be applied by the very early pod stage (R3)**, which usually occurs in the first week of July. After the first spray, apply fungicides according to the leaf spot advisory.

**Each day's advisory: "spray today" or "do not spray today" can be found on the 7<sup>th</sup> line** for each location. This is all you really need to know for your location. The other lines give additional information that you may find useful.

### Advisory information:

**lines 1 & 2 – Date, name location of station.** ECONET stations are indicated by an abbreviated name; airport stations are indicated by call letters. It is a good idea to check advisories the two stations nearest you.

**line 3 – Set date.** This is used to calculate the advisory.

**line 4 – Lethal conditions.** A temperature of 99°F or higher for 5 straight hours OR humidity less than 40% for 8 straight hours will kill the pathogen. If lethal conditions = true, favorable hours (below) are reset to 0.

**line 5 - Favorable hours.** An hour is favorable for leaf spot development when the humidity is at least 95% and temperature is between 61°F and 90°F during that hour. A spray is advised when there have been at least 48 favorable hours since the set date.

**line 6 – LESD (Last Effective Spray Date).** A fungicide spray is assumed to protect for 14 days. **You do not need to spray if you have sprayed since the LESD even when the advisory says "spray today."**

Example: LESD = 2019-06-09 means you do not have to spray today if you have sprayed on or after June 9.

**line 7 – Today's advisory.** If the advisory is "**spray today**" conditions are favorable for leaf spot and you should spray if no fungicide has been applied in the past 14 days. If the advisory is "do not spray today" a spray is not required.

**lines 8 & 9 - Growing degree days** for peanuts (base 56) since the LESD and since May 1.

**line 10 – Records count.** The number of hourly weather observations out of the total possible observations. **The advisory may not be reliable if there are several missing records.**

**line 11 – Most recent hourly observation.** This should be 7:00:00 (7 a.m.) on the date of the advisory.