Peanut Diseases

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Management Tools

Advisory Programs

A network of weather monitors in southeastern Virginia record data for improving the efficiency of disease management. These data are collected electronically and used to produce daily advisories and reports for growers and industry workers. Included are daily weather summaries (air and soil temperature, rainfall), peanut leaf spot and Sclerotinia blight advisories, heat-unit reports for peanuts, and degree-day reports for cotton. The Peanut Frost Advisory is provided during the fall-harvest period. Each program is designed to guide growers in making decisions that maximize yield, quality, and net profit. The Tidewater Agricultural Research and Extension Center (AREC) in cooperation with Extension agents, growers, and the industry make this information available in the following ways:

Peanut/Cotton InfoNet: Information from 9 weather monitors is available on the Internet at *http://www.ipm.vt.edu/infonet/*. Contact your local Extension agent or call, (757) 657-6450 and ask for Pat Phipps, Steve Byrum, or Barron Keeling if you need assistance in accessing or interpreting the information.

Hotlines: Disease advisories, heat units, and frost advisories are recorded daily at the Tidewater AREC for access by telephone. Regional advisories for Capron, Waverly, and Suffolk are available by calling (800) 795-0700. The information is also available through local county Extension offices. Numbers for obtaining the local reports are announced annually in agent newsletters.

Radio Broadcasts: Recordings of advisories are broadcast daily by WLPM 1450 AM and WLQM 101.7 FM in Franklin, Virginia.

Clinical Services

Diagnostic services for plant diseases are provided by the Tidewater AREC in Suffolk. Plant samples should be submitted with the required forms by unit Extension agents. A period of 5 to 10 days is needed to complete biopsy tests and mail reports. Diagnostic tests for nematodes and soil fertility problems during the season are also performed in cooperation with laboratories at Virginia Tech.

Predictive Nematode Assay

This program provides data on the numbers and kinds of nematodes in the soil and recommendations on needs for control. Nematode population thresholds for damage to peanut, cotton, corn, and soybean are available on the Internet at *http://ipm-www.ento.vt.edu/states/va.html*. Soil samples must be collected in the fall no later than November 20. Local Extension offices have instructions, sample information sheets, and bags for packaging samples. A service charge of $11 per sample is required at the time of sample submission.

Management Inputs

The most effective and economical strategy for disease control combines the benefits of sanitation, crop rotation, resistant varieties, scouting, and judicious use of pesticides. Inputs for disease control should be determined on the basis of field history, scouting, disease advisory programs, and recommendations by Virginia Cooperative Extension. This approach to disease management will enable the judicious use of chemicals while providing for a maximum return on investments.

Sanitation

Moldboard plowing to bury crop residues is an important form of sanitation prior to planting peanuts. Soil and decayed plant debris may contain residual inoculum of disease-causing organisms. Wash equipment frequently to avoid transport of inoculum from field to field. Peanut combines should be cleaned to remove loose soil and plant material after harvesting fields with heavy infestations of soil-borne diseases. The removal and/or destruction of peanut vines after harvest has limited value for disease management because much of the diseased plant parts and inoculum remains intact in the field. Furthermore, this practice negates a significant part of the soil fertility benefits of peanut hay in the following year.

Crop Rotation

A 4-year rotation of peanut with corn, grain sorghum, fescue, and other grass-type crops is beneficial for control of peanut diseases. Cotton is also a good rotational crop for peanuts in Virginia, but growers should not apply potash (K) in excess of recommended rates of the soil test report. Elevated levels of potash can interfere with calcium uptake and result in pod rot by fungi such a *Rhizoctonia* and *Pythium* species. Soybean and other leguminous crops share many of the common destructive diseases with peanuts and should be avoided. Where soybean is grown in a peanut rotation, double-crop soybean with wheat and follow with either cotton, corn, or another grass-type crop.

Resistant Varieties

No peanut varieties are immune to disease, but there is a wide range in susceptibility. Some important differences are noted below with respect to the most common diseases.

Cylindrocladium black rot (CBR): NC 12C and Perry are partially resistant to CBR. Resistance is improved by good nematode control and delayed planting to May 10 or later. Cool, wet conditions at planting favor epidemics of CBR.

Sclerotinia blight: Perry is partially resistant to this disease. Early planting at seed rates of 110 lb/A or lower can reduce the susceptibility of varieties in some years. However, the practices will increase the risk of tomato spotted wilt disease. NC 9 and NC 12C are highly susceptible to Sclerotinia and should be avoided.

Early leaf spot: NC 7, NC-V 11, Wilson, and NC 12C are moderately susceptible. All other Virginia-type varieties are susceptible.

Web blotch: Perry has good resistance, whereas NC-V 11 and VA 98R are highly susceptible.

Tomato spotted-wilt virus: NC 7, VA 98R and Perry are highly susceptible. NC-V 11 and Gregory are somewhat less susceptible. Reduced plant populations and planting before May 1 increases disease incidence in all varieties.

Scouting

Peanut fields should be scouted once a week for disease after pegging. Scouts should use different entry and exit points as well as travel patterns across fields at each visit. After a canopy of foliage covers the soil, scouts should part the vines and look for signs of soilborne diseases on plant stems at the soil surface (e.g. Sclerotinia, Southern stem rot, and CBR).

Chemicals

A wide array of chemicals are registered for disease control in peanuts. Selection of the most effective/economical chemical requires knowledge of the target disease and other diseases in the field. Whenever the cause of disease is uncertain, plant samples should be submitted for diagnostic tests in the plant pathology clinic at the Tidewater AREC. If nematode or soil fertility problems are suspected, a 1-pt sample of soil should be submitted. The Peanut/Cotton InfoNet and Peanut Hotlines are important sources of information on timing of fungicide applications to control leaf spot and Sclerotinia blight. The following tables provide listings of approved chemicals for control of specific disease problems.

READ THE LABEL INSTRUCTIONS ATTACHED TO PESTICIDE CONTAINERS BEFORE APPLICATION.

Table 27. Seed Treatments[1]

Disease	Product and Formulation	Rate of Formulation	Method and Timing of Application	Precautions and Remarks
Seed decay and seedling disease	Allegiance-FL or Apron 50W	0.75 fl oz 0.5-1.0 oz	Apply as water-based slurry with commercial seed treatment equipment.	Control Pythium seed rot and damping-off. Use in combination with a broad-spectrum fungicide.
	Maxium 4FS	0.08-0.16 fl oz	Same as above.	Protects against seed decay, damping-off, and seedling blights.
	Captan 30DD or Captan 400	6.0 fl oz 3.0-6.0 fl oz	Same as above.	Same as above.
	RTU-PCNB	1.75-2.5 fl oz	Same as above.	Same as above.
	42-S Thiram	3.0 fl oz	Same as above.	Protects against seed decay, damping-off, and seedling blights.
	Vitavax-30C	3.0 fl oz	Same as above.	Controls Sclerotium rot and damping-off. Use in combination with a broad-spectrum fungicide.
	Thiram 50WP	4.5 oz	Apply with dust treater.	Controls seed decay, damping-off, and seedling blights.
	Vitavax PC (captan + PCNB + Vitavax	4.0-5.0 oz	Same as above.	Same as above.
	Dynasty PD	4.0 oz	Same as above.	Same as above, and reduces seed transmission of CBR.

[1] *All rates of seed treatments are formulated product/100 lb seed. Do not use treated seed for food, feed, or oil purposes. Bags with treated seed should bear a tag or label cautioning their use for these purposes as well as against the reuse of bags for packing feed or foodstuffs. Read use restrictions on labels and follow all labeling requirements for packaging treated seed.*

Table 28. Foliar Fungicides[1]

Disease	Product and Formulation	Rate of Formulation	Method and Timing of Application	Precautions and Remarks
Cercospora leaf spot	Bravo 720 Bravo Ultrex 82.5 WDG Bravo S Echo 720 Echo 90DF Equus 720	1.5 pt 1.4 lb 4.25 pt 1.5 pt 1.2 lb 1.5 pt	Apply according to leaf-spot advisory program.	**Caution**. Sclerotinia blight will be more difficult to control when these products are applied at intervals of less than 21 days.
	Bravo 720 + SoyOil 937	1.0-1.5 pt 0.5-1.0% V/V	Same as above.	Same as above.
	Echo PropiMax Co-Pack	Use contents to treat 10 acres	Same as above.	Co-Pack is a mixture of Propimax and Echo.
	Tilt-Bravo Twin Pack (equal to Tilt 3.6EC 2 fl oz + Bravo 720 1.0 pt/A)	Same as above.	Same as above.	Twin Pack is a mixture of Tilt and Bravo. Do not add Latron AG-98 or Latron B-1956 as phytotoxicity may result.

Table 28. Foliar Fungicides[1] (cont.)

Disease	Product and Formulation	Rate of Formulation	Method and Timing of Application	Precautions and Remarks
Cercospora leaf spot, Web blotch	Folicur 3.6F + surfactant	7.2 fl oz Use lowest rate recommended on label of surfactant	Same as above.	Also controls stem rot and suppresses pod rot diseases. Not recommended after August 15.
	Stratego	7 fl oz	Same as above.	Label also allows up to 2 sprays at 14 fl oz/A for control of Rhizoctonia limb rot in addition to foliar diseases. Not recommended after August 15.
	Abound 2.08F	12 fl oz	Same as above.	Do not apply within 50 days of harvest.
	Headline 2.09EC	6-9 fl oz	Same as above.	Not recommended after August 15. Read and follow label directions.
Southern stem rot (*Sclerotium rolfsii*), Rhizoctonia pod and limb rot	Folicur 3.6F + surfactant	7.2 fl oz Use lowest rate recommended on label of surfactant	Apply with leaf-spot nozzles at spray volume of 15 gal/A starting at pegging.	Also controls leaf spot and suppresses pod rot by CBR, but not recommended after August 15. The total seasonal dose must not exceed 28.8 fl oz/A.
	Artisan (equal to Tilt 4.0 fl oz + Moncut 1.2 lb/A)	18.5-24.6 fl oz	Apply 2 or 3 times starting 45 to 60 days after planting.	Also controls leaf spot, but not recommended after August 15.

Table 28. Foliar Fungicides[1] (cont.)

Disease	Product and Formulation	Rate of Formulation	Method and Timing of Application	Precautions and Remarks
Southern stem rot (*Sclerotium rolfsii*), Rhizoctonia pod and limb rot (cont.)	Moncut 50WP	1.5-2.0 lb	Tank mix with a leaf-spot fungicide spray or band over row in spray volume of 40 gal/A.	Does not control leaf spot or other foliar diseases. Two or 3 applications may be necessary, depending on disease pressure.
	Abound 2.08F	18.5-24.6 fl oz	Make 2 applications in spray volume of 15 gal/A between 60 and 90 days after planting.	Abound also controls early leaf spot. Do not apply within 50 days of harvest. Do not use more than 49.2 fl oz/ season.
	Headline 2.09EC	9.0-15.0 fl oz	Make no more than 2 sequential applications, then follow with non-strobilurin fungicide for resistance management.	Also controls leaf spot and web blotch.

[1] *All rates are listed as formulated product/A. Read labels and observe all precautions and restrictions on application, pre-harvest interval, and restrictions on feeding treated hay, vines, or hulls to livestock. For best results, apply sprays according to leaf-spot advisory program in a volume of 12.0 to 15.0 gal/A by ground sprayers or 5.0 gal/A with aircraft.*

Table 28. Foliar Fungicides[1] (cont.)

Disease	Product and Formulation	Rate of Formulation	Method and Timing of Application	Precautions and Remarks
Sclerotinia blight (*Sclerotinia minor, S. sclerotiorum*)	Omega 500	1.0-1.5 pt	Make first application according to the Sclerotinia advisory program in problem fields or when disease first appears. Up to 2 additional sprays may be required.	Provides good control of Sclerotinia blight and suppression of southern stem rot and Rhizoctonia pod rot.
	Endura 70WG	8.0-10.0 oz	Same as above, except do not apply more than 2 times consecutively.	Also controls web blotch and suppresses leaf spot.
Nematodes, Cylindro-cladium black rot (CBR) (*Cylindro-cladium parasiticum*)	Metam 42% Sectagon 42% Vapam HL 42%	7.5-15.0 gal 7.5-15.0 gal 7.5-15.0 gal	Use with NC 12C or Perry in cases or severe disease pressure; plant other varieties only on cases of light CBR pressure. Apply 8 inches deep at least **14 days preplant** with1 injector shank in front of a bed shaper to mark rows. Do not mix treated soil with untreated soil by tillage or other cultural practices after application.	Apply after soil temperatures exceed 60°F at 4-in depth, and temperatures are likely to be at this level for 5 days. Delay application if >1 in. of rainfall is forecast in next 72 to 96 hr period.

[1] *All rates are listed as formulated product/A. Read labels and observe all precautions and restrictions on application, pre-harvest interval, and restrictions on feeding treated hay, vines, or hulls to livestock. For best results, apply sprays according to leaf-spot advisory program in a volume of 12.0 to 15.0 gal/A by ground sprayers or 5.0 gal/A with aircraft.*

Table 29. Nematicides

Disease	Product and Formulation	Rate of Formulation	Method and Timing of Application	Precautions and Remarks
Nematodes	Temik 15G	7.0 lb (Note: 5 lb may be sufficient if used in combination with Telone, Vapam, Metam, or Sectagon)	Apply Temik 15G in-furrow for suppression of nematodes and thrips.	Label prohibits the use of hay, vines, or hulls from treated soil as a livestock feed.
	Temik 15G	12.0-20.0 lb	Apply to the seed furrow or apply 12-inch band and incorporate in soil.	Same as above.
	Telone II	3.0-6.0 gal	Apply 8 to 12 inches deep in row and bed soil. Wait 7 to 14 days before planting.	See label for precautions and restrictions.
	Metam 42% Sectagon 42% Vapam HL 42%	7.5 gal 7.5 gal 7.5 gal	Same as above, but wait 14 days before planting.	Same as above.