

Using the North Carolina leaf spot advisory

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

In well-rotated fields, **the first fungicide spray should be applied at 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 contains several lines of information for each location. **Each day's advisory: "spray today" or "do not spray today" can be found on the 7th line.** 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."**

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 a lot of missing records.**

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

Using the North Carolina Sclerotinia advisory

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The North Carolina Sclerotinia advisory is a cooperative effort by the State Climate Office of North Carolina and the Department of Plant Pathology at NC State University. The advisory helps to identify periods that are favorable for Sclerotinia blight development so that protective sprays can be applied.

Sclerotinia advisories account for favorable weather only; they do not account for field history. **Fields with no history of disease do not need to be sprayed** unless a new outbreak is confirmed. In fields with a history of disease, careful scouting should begin the second week in July.

There are two advisories for each location.

Use the advisory for **row index = 2 if rows are within 6” of touching.**

Use the advisory for **row index = 3 if rows are touching.**

Sprays normally are not needed if rows are more than 6” apart.

Advisory Details:

Date and station name - ECONET stations are indicated by an abbreviated name; airport stations are indicated by call letters. In general, ECONET stations are more reliable than airport stations. It is a good idea to check advisories for the two closest weather stations.

Daily Sclerotinia index values for the last 5 days. Three index values are given for **each day**:

MI - moisture index. MI = 1 is favorable for disease. MI = 0 means that moisture is too low for disease.

MI = 1 if 1) RH was 95% or higher for at least 8 consecutive hours; or 2) one-half inch of rain fell in the past 5 days; or 3) 1 inch of rain fell in the last 10 days. The advisory lists all of the reasons that MI=1 on a given day. If your rainfall history is different, the advisory may not apply to you.

TI - temperature index.

TI = 0 if the day’s 24-hour **average** temperature was more than 82°F; TI = 1 if 77 to 82°F; TI = 2 if 72 to 77°F; and TI = 3 if 72°F or lower.

EI - environmental index.

EI = MI * TI. The daily index (not shown) is obtained by multiplying the EI X row index X 3.

Row index –Use the advisory for row index = 2 for rows within 6” of touching. Use the advisory for row index = 3 for rows touching.

setDate - used to calculate the advisory

Five day index – this is the total of the daily index values for the past 5 days. **A spray is advised when the five day index is greater than 32.**

Last effective spray date (LESD) – A spray is assumed to be effective for 21 days. **You do not need to spray if you have sprayed since the LESD.**

Advisory – circled above. If the advisory is **“spray today”** conditions are favorable for Sclerotinia blight and you should spray if no Sclerotinia fungicide has been applied in the past 21 days. If the advisory is **“do not spray today”** a spray is not required.

Disease level - the five day index is used to rate the disease hazard as low (<32), moderate (32-47), high (48-98), or very high (≥99).

Growing degree days - for peanuts (base 56) since the LESD and since May 1.

Records count - number of hourly weather observations out of total possible observations. The advisory may not be reliable if there are a lot of missing records.

Most recent hourly observation – should be or 7:00:00 (7 a.m.) on today’s date.