

Determining Peanut Pod Maturity and Estimating the Optimal Digging Date

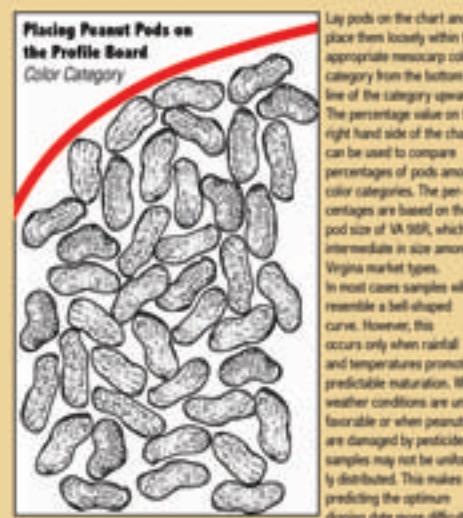
Using Pod Mesocarp Color for Digging Virginia Market Type Peanut

The following Agribusinesses provided financial support for printing and laminating this peanut profile board.

Using the peanut profile board

Gather 150 harvestable pods from each field or from each variety within a field, collecting pods from four or five locations. Keep pods in water until pod blanching. Use traditional pod blaster or a pressure washer equipped with a turbo nozzle to remove the outer hull and expose the mesocarp color layer. Your county extension agent can assist with this procedure.

Using the images of pods at the top of each column, place pods on the profile board under the appropriate mesocarp color category. Lay pods loosely as shown here.

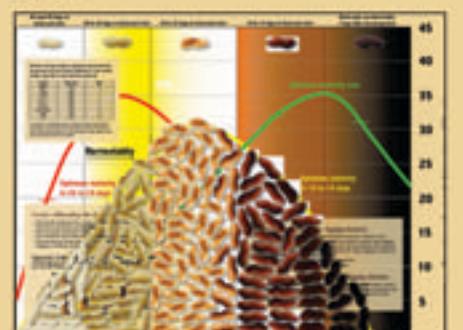


Use the percentage value on the right-hand side of the chart to compare percentages of pods among color categories. The percentages are based on the pod size of VA 98R, which is intermediate in size among Virginia market types.

The darker the mesocarp color, the more mature the peanut pod. Darker pods are heavier, will shrink less, and will grade better than pods with a lighter mesocarp color.



Peanuts in the photograph below placed on a peanut profile board will reach optimum maturity in 10 to 14 days.



Sampling two or three times during the fall gives the best indication of the rate of peanut maturity. This is particularly important when examining pods that are black. These pods will eventually be lost, and sampling only once does not give you enough information to determine when pods in the black category are likely to be lost. Using heat unit accumulations also can help you know when to begin determining maturity.

At least 50 days to black pod color

30 to 40 days to black pod color

20 to 25 days to black pod color

10 to 14 days to black pod color

Black pods can shed within 7 days after becoming black

45

BASF
The Chemical Company

40

Bayer CropScience
BECKER UNDERWOOD

35

Dow AgroSciences

30

Nichino America, Inc.

25

Nitragin

20

syngenta

15

USG

10

VALENT

5

Percentage of a sample that contains 150 pods

Relative ranking of days to optimum peanut maturity using heat units and relative difference in the number of days required to reach optimum maturity.

Variety	Heat units	Days
Champs	2,500	-9
Wilson	2,520	-7
VA 98R	2,560	-5
NC 12C	2,600	-3
NC-V 11	2,650	0
Gregory	2,650	0
Georgia Green	2,700	+3
Philips	2,720	+3
Perry	2,770	+7

For example, the variety Wilson will reach optimum maturity 7 days before the variety Gregory. The variety Perry will reach optimum maturity 7 days after the variety Gregory. Relative differences in maturity assumes varieties planted on the same day and grown under good conditions.

Optimum maturity in 20 to 24 days

Harvestable

SMK

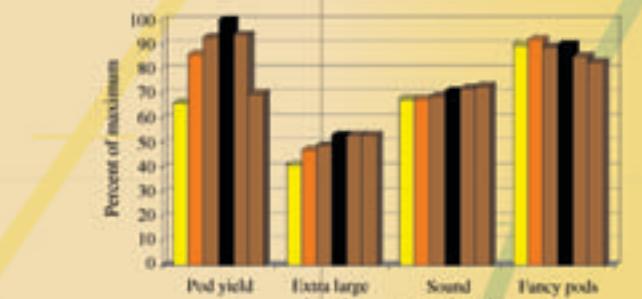
Optimum maturity now

Optimum maturity in 10 to 14 days

Factors influencing the decision to dig

- Pod maturity (influenced by variety and environmental conditions and plant health)
- Heat unit accumulation and soil moisture
- Peanut acreage, especially relative to other crops
- Soil conditions and weather forecast (likelihood of frost)
- Disease pressure (balance between pod loss and increased pod fill and pod weight)
- Digging, combining, hauling, and drying capacities

Digging date's influence on yield and market grades for the Virginia market type variety Gregory planted May 5, 2003, at the Peanut Belt Research Station located near Lewiston-Woodville, NC. Data are presented as percent of maximum.



Influence of disease on the digging decision

Diseases can dramatically affect pod shed and subsequent yield loss. However, most research suggests that extremely high levels of disease are needed to justify early digging. Peg strength and time required to reach optimum maturity will also influence this decision. Early digging is not justified if plants have tomato spotted wilt. Early digging is justified if:

- CBR (black root rot), at least 40 percent disease
- White mold or Sclerotinia blight, at least 50 percent disease
- Web blotch and leaf spot, at least 50 percent defoliation

Influence of freeze potential on the digging decision

Freeze damage, often referred to as frost damage, can greatly affect peanut quality, peanut flavor, and market value. Digging within 3 days prior to an expected frost is extremely risky even when good drying conditions exist. Poor drying conditions will extend the unsafe window for digging peanut to greater than 3 days.

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