

RUTGERS COOPERATIVE EXTENSION

of Hunterdon County

NEW JERSEY AGRICULTURAL EXPERIMENT STATION

Peach Nitrogen Fertilization Guidelines-2006

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General Thoughts

- All growers should utilize annual soil and leaf analysis test results in planning your fertility program.
- In determining the total calculated nitrogen requirement you should take into account the vigor of your soil as well as the leaf analysis results from the previous season.
- Mature peach trees require 0.025-0.05 pounds of actual nitrogen per year of tree age. You should determine your annual total nitrogen requirement per tree and then calculate a per acre rate with the fertilizer source of your choice.

Split Applications of Nitrogen

For the past 13 years we have been suggesting that Northern New Jersey peach growers split their nitrogen applications into two or three equal applications based on the total amount of Nitrogen needed for the season as calculated above. This spreads the Nitrogen out over the season a bit. However the major advantage is that in the event of frost/freeze event, resulting in a reduced crop load (fruit set), you can eliminate the second (and/or third) application(s) reducing excessive vegetative growth and cutting cost.

Two Applications = 3 weeks pre-bloom and at shuck split

Three Applications = 3 weeks pre bloom, shuck split and 3 weeks later

- Apply the first application (1/2 of the total nitrogen needed rate) one month to three weeks before bloom and the 2nd half at shuck split if a good crop is present. I suggest the first application utilize a complete fertilizer, if your soil-leaf analysis shows any deficiency of Potassium(K_2O) or Phosphorus(P_2O_5). If a complete fertilizer is called for as per soil testing, follow these guidelines; for loam and silt loam soil types, use a 2-1-1 ratio such as 16-8-8 to increase available P and K levels. Sandy Loam soils may benefit from a 1-1-1 ratio fertilizer.
- The second and/or third nitrogen application should utilize Calcium Nitrate for the Nitrogen Source as CaN will also supply calcium. CaN would be our preferred Nitrogen source, followed by Ammonium Sulfate, Ammonium Nitrate, Urea, and Nitrate of Soda (especially if potash levels are deficient)

Sample Calculations - You need to know what percent Nitrogen your fertilizer contains:

| | |
|------------------|-------|
| Calcium Nitrate | 16% |
| Ammonium Sulfate | 20.5% |
| Ammonium Nitrate | 33% |
| Urea | 45% |
| Nitrate of Soda | 16% |

Example: Seven year old peach trees on a strong growing site

7 years old X 0.025 = 0.175 lbs. N per tree up to (7 x 0.05=) 0.35 lbs. N tree

Using CaN at 16% actual nitrogen, the above rate per tree of 0.175-0.35 would equal 1-2 lbs. per tree

At a 20 X 20 spacing = 109 trees/A @2 lbs. per tree X 109 trees= 218 lbs. of CaN/A

1 lb. CaN or 16-8-8 = 0.16 lbs. of actual N

2 lbs. CaN or 16-8-8 = 0.32 lbs. of actual N

If you use 16-8-8, which is also 16% actual nitrogen, the rate is the same, 1-2 lbs. per tree

At a 20 X 20 spacing = 109 trees/A @ 2 lbs. per tree X 109T/A= 218 lbs. of 16-18-18/A

For Non Bearing Peaches

Non bearing trees (1-2 years old) require 0.1-0.2 lbs. actual Nitrogen per year of tree age. The same calculations would apply and split applications are extremely beneficial to keep the tree growing during the first half of the growing season.

Liming and pH for peach production

Maintaining a target pH of 6.5 is essential for peach production. All soils should have their pH levels adjusted at least one full year prior to establishment of peaches with the addition of calcium or magnesium oxides according to a soil test. On many non-limestone north Jersey soils pH may drop as much as 1/2 point per year. The correct type of limestone is also important. Limestone consists of calcium and magnesium oxides. On most northern new Jersey soils magnesium is rarely deficient. Unless a magnesium soil test is low or very low, magnesium or dolomitic lime should not be used, **only high calcium** limestone.

The NJ regulations regarding the classification of liming materials have changed. You will note that all our soil tests results now list lime rates in Calcium Carbonate Equivalents (CCE). For a complete discussion of this change in liming recommendations please be sure to review the Orchard Nutrition section of the 2006 NJ Commercial Tree Fruit Production Guide.

For additional information contact your county agricultural fruit agent or your NJ Rutgers IPM program associate. The NJ Commercial Tree Fruit Production Guide can be found on the world wide web at <http://www.rce.rutgers.edu/>