

## Fruit Growers Laboratory - Citrus Nitrogen Management Plan – Calculating Nitrogen Demand

Yield Method (based on fruit removal) = 1.5 lbs. of N per 1000 lbs. of fruit

| *Yield (1000 lbs.) | *Percent Canopy | N RATE (lbs.) for Season |
|--------------------|-----------------|--------------------------|
| <3 use canopy only |                 |                          |
| 3                  |                 |                          |
| 4                  |                 |                          |
| 5                  |                 |                          |
| 10                 |                 |                          |
| 15                 |                 |                          |
| 20 (See Example)   | 100             | <b>86</b>                |
| 25                 |                 |                          |
| 30                 |                 |                          |
| 35                 |                 |                          |
| 40                 |                 |                          |
| 45                 |                 |                          |
| 50                 |                 |                          |
| 50+ same as 50     |                 |                          |

\* RATE recommendation assumes average NUE (nitrogen use efficiency) of 70 %.

**Example:** 20,000 lb. yield X 1.5 lbs. per 1000 lbs. fruit +30 lbs. for (maintenance N rate for 100 % canopy) divided by 0.7 NUE (70 % nitrogen use efficiency for solid set sprinklers) = rate for season. Calculation: 20 X 1.5 = 30 plus 30 maintenance = 60 divided by 0.7 = **85.7 RATE**

| *Percent Canopy | Tree Maintenance N (lbs.) | Approximate Tree Age |
|-----------------|---------------------------|----------------------|
| 100             | 30                        | 8+                   |
| 80              | 27                        | 6-7                  |
| 60              | 24                        | 5-6                  |
| 40              | 21                        | 4-5                  |
| 20              | 18                        | 3-4                  |
| 10 or less      | 15                        | 1-2                  |

\***Projected Yield** is determined by calculating total yield in lbs. from previous years pack out records as well as field estimates. Actual Yield (Packout) values from your packing company will be used at the end of the season and reported on the NMP worksheet to evaluate program efficiency. This information should be available from your fruit pack

\***Percent Canopy** is determined by estimating the shaded or vegetated coverage area of an orchard from an aerial view. This method determines the amount of nitrogen needed by trees

of varying size and age for the maintenance and development of leaves, shoots, branches, trunks and roots.

**Nitrogen Credits - Nitrogen from Other Sources**

Nitrogen from other sources such as; Nitrate-nitrogen from irrigation water, soil residual Nitrate-nitrogen, foliar sprays, cover crops and organic inputs are to be included in the Nutrient Management Worksheet as credits that are subtracted from tree nitrogen demand to determine the amount of any additional N that you may need to apply.