

## NITROGEN APPLICATION WITH DRIP IRRIGATION

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Applying nitrogen fertilizers through drip irrigation systems is efficient, effective, economical and convenient. It requires only a fertilizer injector tank with proper accessories, the age of the tree and knowledge of the kind of nitrogen material available.

The total amount of actual nitrogen applied for the year will depend on the size of the tree. During the first year after planting, about 1/10 of a pound of actual nitrogen per tree is required. The amount increases progressively each year until maturity when 1 to 1½ pounds of actual nitrogen per tree per year is required.

From the chart below you can readily determine how much material to add to the injector tank monthly in order to apply the proper amount for the year.

Tree Age Years	Actual Nitrogen/Tree/Year	Amount Per Tree Per Month				
		Pounds of Material		Fluid Ounces of Material		
		Urea (46%)	Amm Nit (33%)	Ca Nit (15.5%)	Amm Nit Sol (20%)	N-Sol (32%)
1	1/10 lb	.03	.04	.08	0.76	0.45
2	1/5 lb	.05	.08	.16	1.51	0.90
3	1/3 lb	.09	.13	.27	2.50	1.49
4	1/2 lb	.14	.19	.40	3.75	2.26
5	1 lb	.27	.38	.81	7.57	4.51
—	1-1/2 lb	.41	.57	1.21	11.32	6.77

This chart is based on the assumption that nitrogen is applied monthly over an 8-month irrigation period—March through November.

*How to use:* Determine age of tree and find factor for material being used. Multiply factor by number of trees and add that many pounds of fluid ounces (depending on material) to injector tank.

*Example 1:* You have a block of 265 trees, 3 years of age, and want to use urea as a nitrogen source. The urea factor for a 3-year-old tree is .09. Multiplying 265 by .09, you get 23.85 pounds— so add that many pounds of urea to the tank once a month for eight months (March through November).

*Example 2:* You are using N-Sol 32 instead of urea. The N-Sol 32 factor for a 3-year-old tree is 1.49. Multiplying 265 by 1.49, you get 394.85 fluid ounces—so add 3.1 gallons of N-Sol 32 solution. There are 128 fluid ounces in a gallon.

To avoid confusion of trying to remember when you fertilized last, get into the habit of applying fertilizer during the first irrigation of each month. This way you know the job is done and don't need to be concerned until the first irrigation of the next month. The

solubility of the dry materials is about seven pounds per gallon so a 30-gallon injector tank could dissolve up to 210 pounds of dry material. When fertilizing through drip irrigation, it is well to fill the system and irrigate for a quarter of the total time, then inject the nitrogen. The nitrogen will be run through the system with adequate time for flushing the lines before the end of the irrigation cycle.