

Technical Bulletin

Gradual-N[®] 30-0-0

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Introduction

Gradual-N is a liquid fertilizer that contains a high percentage of slowly available nitrogen in conjunction with some immediately available nitrogen (N). Gradual-N contains a total of 30% nitrogen (30-0-0). Approximately 60% of the nitrogen (18% of the total) is in the slowly available form and 40% (12% of the total) is in the urea form. Gradual-N has an alkaline pH. Therefore, when alkaline hydrolysis is a concern with certain pesticide combinations, a buffer may be needed.

Many times, it is advantageous to make nitrogen applications where all of the nitrogen is not immediately available. Gradual-N has some of the nitrogen immediately available, and some is available over time. The time required for the release of all the nitrogen is dependent upon primarily temperature and secondarily on microbial activity.

This combination of nitrogen sources allows higher nitrogen application rates without “shocking” the plant since all of the nitrogen is not immediately available. Many times the “shock” of an application of totally available nitrogen may cause some fruit abortion.

Fruit abortion is normally caused by plant stress. In this case, the stress is caused by having more nitrogen available than the plant can utilize. Simply, the plant produces high amounts of auxins which are translocated to the fruit. This level is such that an imbalance occurs causing the abscission layer to form which results in flower or fruit abortion.



The chart below indicates the amount of Gradual-N to apply for specific nitrogen rates.

Gradual-N per 100 gallons of spray solution							
Spray gal/1000 ft ²	Nitrogen						
	0.1 lb	0.2 lb	0.3 lb	0.4 lb	0.5 lb	0.75 lb	1 lb
5	0.65	1.30	1.95	2.60	3.25	4.88	6.50
4	0.81	1.62	2.43	3.24	4.05	6.08	8.10
3	1.07	2.14	3.21	4.28	5.35	8.03	10.70
2	1.60	3.20	4.80	6.40	8.00	12.00	16.00
1	3.23	6.46	9.69	12.92	16.15	24.23	32.30

Crops Labeled

Berries: strawberry

Grain and Other crops: corn, canola, cereals, cotton, rice, sugar beets

Vegetables: carrot, cole crops, cucurbits, lettuce, onion, pepper, potato, and tomato

Tree and Fruit Crops: apple, citrus, pear, apricot, cherry, nectarine, peach, and vines.

Turf: northern and southern grasses.



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Use Rates and Timing

Gradual-N 30-0-0 is most often recommended at 2 to 8 quarts per acre.

Contents

Guaranteed Analysis 30-0-0*

Total Nitrogen30.0%
 12.0% Urea Nitrogen
 18.0% Other Water Soluble Nitrogen

Derived from urea and methylene urea.

*18.0% slowly available nitrogen derived from methylene urea.

Chlorine (Cl), not more than 0.01%

Arsenic (As).....< 5 ppm

Cadmium (Cd).....< 5 ppm

Lead (Pb).....< 5 ppm

This bulletin provides some technical information and is not intended to give complete information for all applications. Always read and follow label directions.

Gradual-N is a registered trademark of RSA MicroTech, LLC.

Technical Specifications

Product class	fertilizer
Formulation	liquid
Weight/ gallon	10.3 pounds
Specific gravity	1.27
pH	9.0-9.5
Solubility in water	miscible
Appearance	clear
Odor	none
Min. storage temp.	40°F
Container size	
bulk	
250 gallon mini-bulks	
2 x 2.5 gallon package	
30 gallon drums available	

