

GROWER TIPS

APPLICATION RATE OF 100 PPM FOR WATER SOLUBLE FERTILIZERS

To apply 100 PPM of water soluble fertilizer: 1. Locate your injector ratio in the left hand column of the chart. 2. Locate your fertilizer across the top of the chart. 3. Make stock fertilizer concentrate by mixing respective ounces of fertilizer per one gallon of water. To test water for the desired PPM: Deduct the electrical conductivity (EC) in mmhos of your clear water, without fertilizer concentrate, from the EC of the liquid feed applied to your plants. For 100 PPM the EC should match the figure in parenthesis under your fertilizer in the chart.

INJECTOR RATIO	PLUS 15-0-15 (.75)	PLUS 16-17-17 (.73)	PLUS 17-5-24 (.76)	PLUS 20-9-20 (.69)	AP 20-18-20 (.47)	PLUS 20-18-18 (.48)	PLUS 21-0-20 (.50)	PLUS 24-7-15 (.45)
1:00	.09	.08	.08	.07	.07	.07	.06	.06
1:15	1.30	1.26	1.20	1.00	1.00	1.00	.95	.83
1:50	4.40	4.20	3.90	3.35	3.35	3.35	3.20	2.80
1:100	8.90	8.40	7.80	6.70	6.70	6.70	6.40	5.60
1:128	11.40	10.70	10.00	8.50	8.50	8.50	8.10	7.10
1:200	17.80	16.70	15.70	13.40	13.40	13.40	12.70	11.10

FERTILIZER REQUIRED FOR CONCENTRATE

The chart will aid in determining the amount (in ounces) of fertilizer needed per one gallon of water for 10 parts per million (PPM). 100 PPM ounces per gallon of concentrate.

% N	INJECTOR RATIO 1:300	INJECTOR RATIO 1:200	INJECTOR RATIO 1:150	INJECTOR RATIO 1:128	INJECTOR RATIO 1:100	INJECTOR RATIO 1:50	INJECTOR RATIO 1:30	INJECTOR RATIO 1:12
1	405.0000	270.0000	202.5000	172.8000	135.0000	67.5000	40.5000	16.20000
2	202.5000	135.0000	101.2500	86.4000	67.5000	33.7500	20.2500	8.10000
3	135.0000	90.0000	67.5000	57.6000	45.0000	22.5000	13.5000	5.40000
4	101.2500	67.5000	50.6250	43.2000	33.7500	16.8750	10.1250	4.05000
5	81.0000	54.0000	40.5000	34.5600	27.0000	13.5000	8.1000	3.24000
6	67.5000	45.0000	33.7500	28.8000	22.5000	11.2500	6.7500	2.70000
7	57.8750	38.5710	28.9280	24.6848	19.2850	9.6428	5.7857	2.31420
8	50.6250	33.7500	25.3120	21.6000	16.8750	8.4375	5.0625	2.02500
9	45.0000	30.0000	22.5000	19.2000	15.0000	7.5000	4.5000	1.80000
10	40.5000	27.0000	20.2500	17.2800	13.5000	6.7500	4.0500	1.62000
11	36.8180	24.5450	18.4090	15.7082	12.2720	6.1363	3.6818	1.47270
12	33.7500	22.5000	16.8750	14.4000	11.2500	6.6250	3.3750	1.35000
13	31.1530	20.7690	15.5760	13.2915	10.3840	5.1923	3.1153	1.24610
14	28.9280	19.2850	14.4640	12.3428	9.6428	4.8214	2.8928	1.15710
15	27.0000	18.0000	13.5000	11.5200	9.0000	4.5000	2.7000	1.80000
16	25.1320	16.8750	12.6560	10.8000	8.4375	4.2187	2.5312	1.01250
17	23.8230	15.8820	11.9110	10.1646	7.9411	3.9705	2.3823	.95294
18	22.5000	15.0000	11.2500	9.6000	7.5000	3.7500	2.2500	.90000
19	21.3150	14.2100	10.6570	9.0944	7.1050	3.5525	2.1315	.85263
20	20.2500	13.5000	10.1250	8.6400	6.7500	3.3750	2.0250	.81000
21	19.2850	12.8570	9.6425	8.2282	6.4283	3.2141	1.9285	.77142
22	18.4090	12.2720	9.2045	7.8545	6.1363	3.0681	1.8409	.73636
23	17.6080	11.7380	8.8040	7.5127	5.8693	2.9346	1.7608	.70434
24	16.8750	11.2500	8.4375	7.2000	5.6250	2.8125	1.6875	.67500
25	16.2000	10.8000	8.1000	6.9120	5.4000	2.7000	1.6200	.64800
26	15.5760	10.3840	7.7884	6.6461	5.1923	2.5961	1.5576	.62307
27	15.0000	10.0000	7.5000	6.4000	5.0000	2.5000	1.5000	.60000
28	14.4640	9.6428	7.2321	6.1714	4.8214	2.4107	1.4464	.57857
29	13.9650	9.3102	6.9826	5.9585	4.6551	2.3275	1.3965	.55862
30	13.5000	9.0000	6.7500	5.7600	4.5000	2.2500	1.3500	.54000
31	13.0640	8.7096	6.5322	5.5741	4.3548	2.1774	1.3064	.52222
32	12.6560	8.4374	6.3280	5.3999	4.2187	2.1093	1.2656	.50625
33	12.2720	8.1818	6.1363	5.2364	4.0909	2.0454	1.2272	.49091
34	11.9120	7.9412	5.9559	5.0824	3.9706	1.9853	1.1912	.47647
35	11.5713	7.7142	5.7856	4.9371	3.8571	1.9285	1.1571	.46285

- Determine your injectors ratio and select ratio at the top of the chart. For example: if your injector's ratio is 1 to 100, select 1:100 Injector Ratio.
- Select the fertilizer formulation you intend to use. Select the percentage of Nitrogen (N) in this formulation located in the left column. Fertilizer formulation of 24-7-15 has a N percentage of 24%.
- Follow N percentage across to the column of your injector ratio. This figure represents the ounce of soluble fertilizer to be added to 1 gallon of water for 100 PPM. An injector ratio of 1:100 with N percentage of 24, would need 5.625 ounces of fertilizer per gallon of water. When applied with your injector you will apply fertilizer at 100 PPM of N. To make this application 75 PPM multiply by 1.5. 200 PPM multiply by 2.0. 24% N at 200 PPM (5.625 x 2.0 = 11.25 ounces fertilizer per gallon.)
- How many gallons of concentrate is needed. Rule of thumb is 1/2 gallon of water per square foot of area to be watered. A 4' x 100' bench would need a total of 200 gallons of solution = 2 gallons of concentrate.





NUTRICULTURE WATER - SOLUBLE FERTILIZER

PLANT MARVEL LABORATORIES...
70 YEARS OF PROGRESS AND QUALITY CONTROL.

Established in 1922, Plant Marvel Laboratories pioneered the concept and use of water-soluble fertilizers in the commercial greenhouse market. We introduced our original 12-31-14 General Purpose Hi Phosphate formulation...the first commercial fertilizer to deliver a total nutrient feed to crops without fear of burning and with unparalleled ease of application more than sixty years ago.



First in our field - Over the years, the list of horticultural firsts from the pioneers at Plant Marvel Laboratories continues to grow. First to produce a high-concentrate, economical water-soluble fertilizer. First with a starter solution for faster development of new crops. First to promote various formulations specifically designed for the changing needs of crops at different stages of development. First to develop fertilizers specifically for crops suffering from toxicity due to excess mineral content in water or soil...and the list goes on. Nutriculture...the best choice for greenhouse crops.

Guaranteed trace elements - Every Nutriculture formula comes with a guaranteed analysis of trace elements, insuring that the exact nutrients your crop needs for profitable growth are exactly what it gets. No more no less. Nutriculture PLUS formulas offer a total nutrient feed, with guaranteed amounts of these chelated elements: sulphur, boron, copper, iron, manganese, molybdenum, zinc and calcium and magnesium where applicable, as well as the primary N P K requirements. For a complete breakdown of guaranteed analysis, PPM and EC reading on any formula, technical data sheets are available upon request.

Quality that is unsurpassed - Nutriculture formulas promote predictable crop response bag after bag because of stringent quality control of both raw materials and finished product. From total solubility to crop response, growers know what to expect when using Nutriculture, and they count on it.

Choosing a formula - Listed below are our more popular formulas for use in growing greenhouse crops. We have also listed formulas that are designed for tackling specific problems such as pH of growing media and water, or an imbalance of minor elements. Knowing what's in your water and growing media is the first step in choosing the right fertilizer. Help is available through your state universities, independent labs or you can contact us for a test kit.

13-2-13 PLUS PLUG SPECIAL W/6% CA & 3% MG

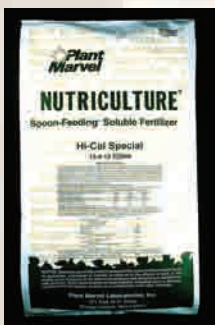
Formulated to provide optimum nutrients in the proper ratio for early stages of plug production. Provides high nitrate nitrogen, phosphorous, potash, calcium, magnesium, and other essential minor elements in an extremely soluble sulphate form.

15-3-18 PLUS HI CAL SPECIAL

Contains calcium, magnesium and a very high ratio of nitrogen in the preferred nitrate form. The nitrate will produce good, hard growth, while the phosphorous levels will keep growth short and compact between leaf nodes. The stepped-up amount of potash will insure good and healthy cell wall development.

15-10-30 PLUS POT MUM SPECIAL

This high potash formula was developed specifically for pot mums. The 1:2 nitrogen to potash ratio produce sturdier stems as well as aid in bud development, and flower size. This formulation also provides a stepped up micronutrient package that was designed for soilless mixes.



15-0-15 PLUS HI-CAL SPECIAL

86% of all nitrogen is in nitrate form. Ideal for crops responsive to nitrate nitrogen during low light periods - mums, carnations and all ammonium sensitive plants. A

good occasional feed for any crop to give it an immediate source of calcium.

15-3-20 PANSY SPECIAL 3% CAL. 1% MAG

Contains calcium magnesium and high ratios of nitrogen in the preferred nitrate form. The nitrate will produce good, hard growth, while the phosphorous levels will keep the Pansy short and compact. Stepped up amounts of Potash will ensure good and healthy cell wall development.

15-5-25 PLUS POINSETTIA SPECIAL

Ideal general purpose feed for established poinsettias requiring increased amounts of molybdenum. Promotes excellent color, sturdier stems and improved all-around growth and disease-resistance. 81% of all nitrogen in nitrate form, for low light period feeding.



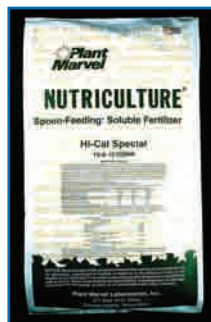


20-7-20 PLUS GENERAL PURPOSE ALKALINE WATER

This fertilizer has the same nitrate/ammonium ratio as a 20-10-20 but has the ability to neutralize even more bicarbonates due to its higher potential acidity. This fertilizer is slightly more acidic than 21-5-20 and contains no urea nitrogen. Theoretically, this formula, when fed at 200 ppm, will neutralize 300 ppm bicarbonate.

NUTRICULTURE QUANTITY DISCOUNTS

- 4 bags, less 5%
- 20 bags, less 10%
- 44 bags, less 15%
- 88 bags, less 20%



21-7-7 PLUS HI ACID

This fertilizer is an effective formula that will help in lowering pH when irrigation water or media are high in alkalinity. Generally used as an occasional feed for correcting these problems in most crops and as a basic feed for acid loving woody ornamentals and foliage plants. Commonly used as a foliar application or root feed on ornamentals, turf and nursery stock.



17-5-17 PLUS CAL-MAG SPECIAL W/4% CA & 1% MG

This Cal/Mag Special formula is probably very close to being the perfect fertilizer all in one bag. It contains all the major, secondary, and minor elements almost any crop would need. NPK, Calcium, Magnesium, six trace elements and a very high ratio of nitrogen in nitrate form. The calcium to magnesium ratio is perfectly proportioned so that they will not

impede one another's uptake by acting as antagonists. And while slightly on the acid side, this formula allows the delivery of these essential cations without major impact on media pH.

20-10-20 PLUS GENERAL PURPOSE LOW PHOSPHATE

20-10-20 has a stepped up ratio of nitrate nitrogen vs. ammoniacal nitrogen (contains 62% of nitrogen in nitrate form). Preferred over 20-20-20 during dark, cooler winter months.

18-6-18 MAG IRON SPECIAL

Contains 60% of nitrogen in the nitrate form. Also works well as a dark weather feed. Formulated for growers with high calcium bicarbonate water who needs to compliment their magnesium level, while supplying additional iron to insure uptake at an elevated media pH level. Recommended as an excellent choice for managing lush green controlled growth on annuals such as calibrochoa, petunias, vinca, and roses.



20-20-20 PLUS GENERAL PURPOSE

General Purpose 1-1-1 balance for high but equal quantities of NPK. Promotes all around healthy growth in any crop. Promotes excellent blooming. An ideal formula for

24-8-16 PLUS TROPICAL FOLIAGE SPECIAL

Is formulated to give nutrient ratios shown to be at optimum levels for tropical foliage plants by Florida researchers. Excellent as a regular feed for established foliage plants as well as a maintenance feed for interiorscape use.

finishing bedding plants.

Other formulas are available upon request. Custom analysis is also available upon request. Most analysis available without boron or dye by special order.

Stock No.	Description-25lb. bags	Price	Stock No.	Description-25lb. bags
23074015	13-2-13 Plug Special		23074055	20-7-20 General Purpose for Alkaline Water
23074025	15-0-15 Hi-Cal Special		23074065	20-10-20 General Purpose Low Phosphate
23074810	15-3-18 Cal Mag Special		23074070	20-20-20 General Purpose
23074030	15-5-25 Poinsettia Special		23074155	21-7-7 Acid special
23074135	15-10-30 Pot Mum Special		23074190	24-8-16 Foliage Special
23074145	16-4-12 Easter Lily Special			
23074038	17-5-17 Cal Mag Special			

88 bags per pallet



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Dosmatic offers a wide range of innovative solutions for the horticulture industry. Our non-electric, water-driven proportional fertilizer injectors can help ensure beautiful blooms and healthy plants, in a consistent and cost-effective manner. Our injectors provide accurate and consistent dispensing of fertilizers, pesticides, herbicides, fungicides, algacides, acids, disinfectants and other water-soluble products at high and low flow rates. They can be readily configured to fit your requirements; and, with the industry's widest and most versatile line of products, you are sure to find the perfect solution for all your horticulture needs.

FEATURES & BENEFITS:

- Water-Driven, eliminates need for electricity
- High chemical and acid compatibility, allows for a wide range of chemical applications
- Patented internal mixing chamber separate from the motor
- Accurate and reliable at all flow rates
- Low pressure loss
- Built-in by-pass
- 3-Year Warranty – Best in the Industry!
- Less wasted solution – more cost effective
- Easy external ratio adjustment
- Strong and durable with some of the industry's highest operating pressure capabilities
- Easy to install, operate and maintain
- All units have a minimum water temp of 32°F and a maximum water temp of 100°F



LOW FLOW UNITS – GREAT FOR SMALLER GREENHOUSES.

	MixPro 15	MiniDos 1%	MiniDos 2.5%
Flow Rate:	0.15 – 7 gpm	0.3 – 12 gpm	0.3 – 12 gpm
Operating Pressure:	7 – 70 psi	6 – 140 psi	6 – 140 psi
Connection:	3/4" npt	3/4" npt	3/4" npt
Feed Ratio:	0.5%, 0.78%, 1% 1:200, 1:128, 1:100	0.20 – 1% 1:500 – 1:100	0.5 – 2.5% 1:200 – 1:40

MEDIUM FLOW UNITS

	A30 2.5% & SuperDos 30 2.5%	SuperDos 45 2.5%
Flow Rate:	0.15 – 30 gpm	0.5 – 45 gpm
Operating Pressure:	5 – 100 psi	5 – 100 psi
Connection:	1" npt/3/4" hose	1 1/4" npt
Feed Ratio:	0.2% - 2.5% 1:500 – 1:40	0.025% - 2.5% 1:4000 – 1:40



Dosmatic Mobile Injector Carts – offer a slim profile design, and are constructed of steel with heavy duty solid rubber wheels. Comes complete with water filter and all components needed, ready for immediate use! Available with 3/4" npt or 1" npt inlet/outlet connections.



Stock No.	Item Description
23051060	MixPro 15
23051070	MiniDos 1%
23051072	MiniDos 2.5%
23051020	A30 - 2.5%
23051052	SuperDos 30 – 2.5%
23051055	SuperDos 45 – 2.5%
23051002	3/4"npt Connections Mobile Cart #011815
23051004	1"npt Connections Mobile Cart #011818SD
23051100	3/4" npt Bypass Kit
23051101	1" npt Bypass Kit

Many other units available to meet your specific requirements, call for information. Dosmatic's injectors and metering pumps can operate at flow rates from 0.03 to 200 gpm, with injection rates ranging from 1:8000 to 1:05, and operating pressures up to 140 psi.



DOSMATIC REPAIR PARTS

	MD 1%	MD 2.5%	A30 2.5%	SD30 2.5%	A40 2.5%	SD45 2.5%
Kit A – Wear Parts Kit (dosage piston & o-ring)	011071	011055	011850V	011850V	011850V	011850V
Kit B – Wear Parts Kit (kit A, lower shaft, o-ring)	n/a	011044	011945V	011945V	011945V	011945V
Kit C – Wear Parts Kit (Kit A, inner cylinder, o-ring)	011072	011045	011850CV	011850CV	011850CV	011850CV
Kit D – Suction Tube Fitting Assembly (poppet, nut, washer, o-ring, spring, fitting)	011463V	011463V	011461V	011461V	011462V	
Kit D – Hose Kit (o-ring, suction tube fitting, check valve, 2 adapters, clamp, hose, filter)						011849M
Kit I1 – Inlet/Outlet Adapter Kit (2 adapters, nuts & gaskets)	n/a	n/a	011054	n/a	011099	n/a
Kit M – Mounting Bracket (mounting bracket, 4 hex caps & nuts)	011732	011732	011432	011432	011432	011432
Suction Tube	010025	010025	011015	011015	011025	Kit D
Filter for Suction Tube	011017	011017	011026	011026	011018	Kit D

Stock No.	Part#	Stock No.	Part#
23051360	011071	23051378	011849M
23051370	011055	230-3400148	011054
23051316	011850V	23051328	011099
23051372	011044	2305139	011732
23051308	011945V	23051321	011432
23051362	01072	230-3400142	010025
23051374	011045	230-3400121	011015
23051376	011850CV	230-3400130	011025
23051343	011463V	230-3400141	011017
23051320	011461V	230-3400128	011026
23051322	011462V	230-3400140	011018



Dosmatic offers other repair parts, however we recommend they be installed by our Dosmatic repair technician. Parts for older or discontinued units are still available, call for availability and pricing.

MARYLAND PLANTS & SUPPLIES, INC. IS AN AUTHORIZED
DOSMATIC REPAIR STATION.

GROWER TIPS

- Cold water supply should be free of sand and grit. Minimum requirement is a 140 mesh filter for protection from random impurities.
- Use a suction tube with the filter for solutions (chemicals) that are being used. Filter should be a minimum of 2" (5cm) from the bottom on the container.
- Keep solution container covered to prevent various types of debris from entering. (Ex. dirt, flies, feathers etc....).
- **NEVER** use petroleum based products in unit.
- Clean inlet filter and replace as necessary to increase the life of the unit and reduce pressure loss.
- Rinse injector after each use. Do not allow to dry out as this will damage the lower end at the next start up and may cause damage to the seals, o-rings, etc... Put suction tube in quart of water and pull fresh water through injector until empty. This procedure is not needed in a continuous operation.
- Inspect solution filter screen each time a new solution is added. Wash with fresh water if necessary and replace filter if needed.
- Proper storage of Dosmatic units:
 1. Clean lower unit.
 2. Unscrew lower unit.
 3. Put lower unit and body into a 5 gallon pail of fresh water
- **Do not allow unit to freeze!**

DOSMATIC WARRANTY

3 YEAR WARRANTY ON THE COVER AND BODY. 2 YEAR WARRANTY ON THE MOTOR PISTON. 1 YEAR ON THE LOWER END.

*Note - Your only responsibility is ordinary maintenance (filtering incoming water and solution, and replacing the o-ring, dosage piston, and filter when worn). This warranty is INVALID if the defects are found to be due to product misuse (lack of maintenance, lack of proper filtration, defective installation, freezing, misuse and/or abuse, or side effects of chemicals that are chosen to inject).





Arysta LifeScience

Harmony In Growth

Nutricote - the technologically advanced controlled release fertilizer that gives your plants the nutrients they need - when they need them! Nutricote releases nutrients gradually and predictably! Nutricote is a homogeneous fertilizer coated with a unique pliable resin that allows very predictable release rates. All of the nitrogen, phosphorus, and potassium are contained in each individual prill. Release period is specified by **TYPE**. Actual rate of release of Nutricote is determined by temperature, slowing down in cool weather and releasing more quickly under warmer temperatures. Consult TYPE and rate recommendations below and Directions For Use. Moisture, pH, soil type and microbial activity does not significantly affect Nutricote release.

UNIQUE NUTRICOTE QUALITIES:

- True control of nutrient release delivers season long or crop-cycle long feeding which provides a grower the most economical use of fertilizer dollars \$\$\$. In the nursery Nutricote can reduce the need for a costly late season reapplication of fertilizer - it goes the distance!
- Optimum fertilizer levels are maintained in the root zone while leaching of nutrients is minimized. Nutricote provides the highest degree of crop safety when compared to similar products - reduced salt buildup. The preferred controlled release fertilizer for Greenhouse use.
- Nutricote's patented resin coating provides superior release as well as a fertilizer granule that is durable, smooth and uniform in size. The resin coating resists damage from mechanical media blenders, heat freezing and thawing.
- Higher nitrate nitrogen content in comparison to most other coated fertilizers, and high quality NPK components, NPK + minors, DAP, Potassium Sulfate and Calcium Nitrate.
- Nutricote is ideal for incorporation with growing media, top dressing, dibbling or for use in split-feed programs in conjunction with water soluble fertilizers..



The Greenhouse release rate varies slightly less than the Nursery release rate because of the controlled environment in greenhouses.

Guaranteed Analysis	13-13-13	17-7-8	18-6-8	14-14-14	20-7-10
Total Nitrogen (N)*	13%	17%	18%	14%	20%
6.5% Ammoniacal Nitrogen					
6.5% Nitrate Nitrogen					
Available Phosphate (P2O5)*	13%	7%	6%	14%	7%
Soluble Potash (K2O)*	13%	8%	8%	14%	10%
Total Magnesium (Mg)*	1.2%	1.2%	1.2%		
1.2% Water Soluble Magnesium					
Boron (B)*	0.02%	0.02%	0.02%		
Copper (Cu)*	0.05%	0.05%	0.05%		
Iron (Fe)	0.20%	0.20%	0.20%		
0.20% Chelated Iron					
Total Manganese (Mn)*	0.06%	0.06%	0.06%		
0.06% Water Soluble Manganese					
Molybdenum (Mo)*	0.02%	0.02%	0.02%		
Chlorine (Cl), Not More Than	1%	1%	1%	1%	1%

13-13-13, 17-7-8, 18-6-8 are derived from: Ammonium Nitrate, Ammonium Phosphate, Calcium Phosphate, Copper Sulfate, Ferrous Ethylenediamine Tetraacetate, Magnesium Sulfate, Manganese Sulfate, Potassium Nitrate, Sodium Borate and Sodium Molybdate.

14-14-14 and 20-7-10 are derived form: Ammonium Nitrate, Ammonium Phosphate, Calcium Phosphate, Potassium Nitrate, and Potassium Sulfate.

NUTRICOTE MEASURES

- 1 Teaspoon = 5 Grams
- 2 Tablespoons = 15 Grams
- 1 Cup = 240 Grams

QUANTITY DISCOUNTS

- 3 bags, less 5%
- 10 bags, less 10%
- 20 bags, less 15%
- 40 bags, less 20%

NOTE: NUTRICOTE CANNOT BE STEAM STERILIZED.

Stock No.	Item	Release Period (Type)
NUTRICOTE		
23040120	14-14-14	70 day
23040130	14-14-14	100 day
23040140	14-14-14	140 day
23040330	20-7-10	100 day
23040340	20-7-10	140 day
23040350	20-7-10	180 day
23040390	20-7-10 Blend	140 day
23040395	20-7-10 Blend	180 day
NUTRICOTE TOTAL WITH MINORS		
23040020	13-13-13	70 day
23040030	13-13-13	100 day
23040040	13-13-13	140 day
23040050	13-13-13	180 day
23040220	18-6-8	70 day
23040230	18-6-8	100 day
23040240	18-6-8	140 day
23040250	18-6-8	180 day
23040440	17-7-8 Blend	140 day
23040450	17-7-8 Blend	180 day

Nutricote and Nutricote Total are available as Types 40, 70, 100, 140, 180 & 270. Non-stock Types available by special order.





Arysta LifeScience

Harmony In Growth

Directions For Use - Appropriate TYPE and application rates vary depending upon growing temperatures and crop need. Using the Nutricote Region map, identify the Nutricote Region number appropriate for the application (Region 1, 2, 3, 4 or Greenhouse). Check the Release Time Estimate Graph to ensure the TYPE is appropriate for the desired period of nutrient release. Use the appropriate TYPE column for application rates. If topdressed, water must pass over prills to carry nutrients into the media or soil. Use a higher rate if applied to soil or media that is sandy, with good drainage and low cation exchange capacity. Decrease rates with clay, poor drainage or high cation exchange capacity soil or media, or liquid feed.

TOP DRESSING APPLICATE RATES* (IN GRAMS) BY CONTAINER SIZE FOR THE GREENHOUSE

GREENHOUSE Container Size	4" Std L-M-H	6" HB L-M-H	6" Aza L-M-H	6" Std L-M-H	8" HB L-M-H	8" Aza L-M-H	10" HB L-M-H	10" Aza L-M-H
NUTRICOTE TOTAL 13-13-13 / NUTRICOTE 14-14-14								
Type 70 - 70 days @ 77°F	1-1-2	2-4-6	2-5-8	3-6-10	4-7-12	5-11-18	7-14-24	10-21-35
Type 100 - 100 days @ 77°F	1-2-3	3-5-9	3-7-11	4-8-13	5-11-17	7-16-25	10-21-34	14-31-50
Type 140 - 140 days @ 77°F	1-3-4	4-7-10	5-8-12	6-10-15	7-13-18	11-19-27	14-26-37	21-37-54
NUTRICOTE TOTAL 18-6-8								
Type 70 - 70 days @ 77°F	1-1-2	1-3-5	2-4-7	2-5-8	3-6-11	4-10-16	6-13-21	8-19-31
Type 100 - 100 days @ 77°F	1-2-3	2-5-8	3-6-10	3-7-12	4-9-16	6-14-23	9-18-31	12-27-45
Type 140 - 140 days @ 77°F	1-2-3	3-6-9	4-7-11	5-9-13	6-11-17	10-17-25	13-23-34	19-33-50

TOP DRESSING APPLICATE RATES* (IN GRAMS) BY CONTAINER SIZE FOR THE GREENHOUSE

NURSERY CONTAINER SIZE	6" Rd L-M-H	1 gal L-M-H	7 1/2" 1 gal L-M-H	2 gal L-M-H	9 1/2" 2 gal L-M-H	3 gal L-M-H	5 gal L-M-H	7 gal L-M-H
NUTRICOTE TOTAL 13-13-13 / 14-14-14								
Type 70 (2-3 Month)	3-6-11	5-9-17	7-14-25	10-19-36	13-27-49	17-34-62	27-54-100	39-78-143
Type 100 (4-5 Month)	4-9-13	6-13-20	9-19-30	13-28-42	18-38-58	23-48-74	36-77-118	52-110-169
Type 140 (7-9 Month)	8-12-15	11-18-23	17-27-34	24-39-49	33-53-67	43-68-85	68-109-136	97-156-195
Type 180 (9-12 Month)	8-14-19	12-21-28	18-32-42	26-45-60	36-62-82	45-79-105	73-127-168	104-182-240
NUTRICOTE TOTAL 18-6-8								
Type 70 (2-3 Month)	3-6-8	4-8-12	6-12-18	8-18-26	11-24-36	14-31-45	23-50-73	32-71-104
Type 100 (4-5 Month)	4-7-11	5-11-17	8-16-25	11-23-36	16-31-49	20-40-62	32-64-100	45-91-143
Type 140 (7-9 Month)	6-10-13	9-14-19	14-22-28	19-31-41	27-42-56	34-54-71	54-86-114	78-123-162
Type 180 (9-12 Month)	8-11-15	11-17-22	17-25-33	24-36-47	33-49-65	43-62-82	68-100-132	97-143-188
NUTRICOTE 20-7-10								
Type 70 (2-3 Month)	3-5-7	4-8-11	6-11-16	8-16-23	11-22-31	14-28-40	23-45-64	32-65-91
Type 100 (4-5 Month)	4-7-10	5-10-14	8-15-22	11-21-31	16-29-42	20-37-54	32-59-86	45-84-123
Type 140 (7-9 Month)	6-9-12	8-13-18	12-19-27	18-28-39	24-38-53	31-48-68	50-77-109	71-110-156
Type 180 (9-12 Month)	7-12-15	11-17-23	16-26-34	23-37-49	31-51-67	40-65-85	64-104-136	91-149-195
NUTRICOTE TOTAL BLENDS								
17-7-8 Type 140 (7-9 Month)	7-10-13	10-15-20	15-23-30	21-32-42	29-45-58	37-57-74	59-91-118	84-130-169
17-7-8 Type 180 (9-12 Month)	8-12-15	12-17-23	18-26-34	26-37-49	36-51-67	45-65-85	73-104-136	104-149-195

USING A COMBINATION OF NUTRICOTE AND LIQUID FEED

A combination feed program provides consistent day-to-day release from NUTRICOTE and the capacity to adjust plant growth with liquid feed. When using a combination program, use 1/2 of the high or recommended rate of NUTRICOTE and feed with a liquid fertilizer at 1/2 the rate normally used. For example, if 200 ppm nitrogen is the normal rate of liquid feed used - use 100 ppm nitrogen liquid feed in combination with NUTRICOTE. The liquid feed should be adjusted up or down according to the plants needs. These rates are to be used as a guide only.

1. This information and the application rates recommended should be used as a guideline in developing a fertilization program.
2. Individual grower cultural practices and plant species may vary rates slightly. Before using in full production, a trial of this product is recommended to determine the suitability of the product for the intended use.
3. Before using in full production, a trial of this product is recommended to determine the suitability of the product for the intended use.
4. This product is designed for a single application only.





Multicote Controlled Release Fertilizer (CRF) comes after years of research comparing the technologies of all the major suppliers to the industry. Grower trials of the newest coating technology developed by Haifa Chemicals Ltd. have shown the product is safe to incorporate in mixes, reliably releases nutrients, and is not prone to excess release when exposed to stress. The Multicote formulations include six for the greenhouse industry and six for usage in outdoor container production. Within the container production formulations, both flowering and non-flowering plant material formulations are available. Each formulation is available in a selection of longevities that will make the product suitable for use in production throughout North America. Multicote is available both in 50 lb. bags or incorporated into your favorite Sunshine or Metro-Mixes. Other formulations are available.

Multicote's controlled release fertilizer formulations are made with the highest quality nutrients. These homogenous granules are encapsulated in a multilayer polymer coating. The polymer coating controls the release rate, thereby allowing a slow continuous diffusion of dissolved nutrients to the root zone. As the soil warms up the release rate increases consistent with the plant's growth rate and nutrient consumption. These premium NPK formulations have a reliable release profile, which is unaffected by soil type, soil pH, moisture or microbial activity.

Multicote is a granular fertilizer that is coated with a unique polymer coating. As the soil warms the polymer coating controls the rate of the fertilizer release allowing a controlled continuous diffusion of nutrients into the root zone. As the soil cools the rate of diffusion decreases.

THERE ARE CURRENTLY THREE DIFFERENT MULTICOTE PRODUCT TYPES:

1. Multicote Extra - are products that are 100% homogenous NPK + minors. All the NPK and Minors are together in the prill.
2. Multicote NPK-Pro - are blends of approximately 50% Multicote Extra which is our homogenous NPK + minors, and can contain coated Urea, Potassium Nitrate, and (MAP) Monoammonium phosphate.
3. Multicote N-Pro - are blends of approximately 25% Multicote Extra which is our homogenous NPK + minors, and can contain coated Urea, Potassium Nitrate, and (MAP) Monoammonium phosphate.

Temperature	CHOICE OF RELEASE LONGEVITY			
	60°	70°	80°	90°
	Average Release Longevity in Months			
Multicote (4)	5	4	3	2
Multicote (6)	7-8	6	4	3
Multicote (8)	9-10	8	6-7	5-6
Multicote (12)	14-15	12	8-9	7-8

Stock No.	Description - 50 lb. bag	
MULTICOTE EXTRA		
23041013	15-7-15	4 Month
23041026	15-7-15	6 Month
23041042	15-7-15	8 Month
23041052	14-7-14	12 Month
MULTICOTE NPK-PRO		
23041015	14-14-16	3-4 Month
23041016	18-6-12	4 Month
23041031	21-5-14	6 Month
23041025	15-15-15	6 Month
23041040	18-6-12	8 Month
23041037	17-7-14	8 Month
23041036	20-6-12	8 Month
23041047	17-6-14	12 Month
23041046	20-5-12	12 Month
MULTICOTE N-PRO		
23041028	24-5-10	6 Month
23041038	23-5-10	8 Month
23041051	22-5-11	12 Month



QUANTITY DISCOUNTS	
10 bags,	less 8%
20 bags,	less 12%
40 bags,	less 18%
160 bags,	less 23%

CONVERSION TABLE	
Rounded Measure	Grams
1 teaspoon (tsp.)	5
1 Tablespoon (Tbs.)	15
1 ounce	28
1/4 cup	63
1/2 cup	125
1 cup	250





TOP DRESSING APPLICATION RATES* (IN GRAMS) BY CONTAINER SIZE FOR THE NURSERY/GREENHOUSE

CONTAINER	5" STD (GRAMS) L-M-H	6" STD (GRAMS) L-M-H	1 GAL. (GRAMS) L-M-H	2 GAL. (GRAMS) L-M-H	3 GAL. (GRAMS) L-M-H	5 GAL. (GRAMS) L-M-H	7 GAL. (GRAMS) L-M-H
4 MONTH EXTRA NPK-PRO	2-4-6 2-4-6	3-7-10 3-7-10	5-11-15 5-11-15	13-23-32 13-23-32	19-40-57 19-40-57	30-64-90 30-64-90	43-90-130 43-90-130
6 MONTH EXTRA NPK-PRO N-PRO	3-4.5-6 3-4.5-6 2-4-5	5-7.5-11 5-7.5-11 3-6-9	7.5-11.5-16.5 7.5-11.5-16.5 5-9-14	17-25-36 17-25-36 11-20-29	29-44-64 29-44-64 19-35-51	47-70-102 47-70-102 31-56-82	67-100-145 67-100-145 40-75-100
8 MONTH EXTRA NPK-PRO N-PRO	4-6-8 3-5-7 3-5-6	7-11-15 5-9-12 6-8-10	10-16-22 8-14-18 9-12-15	22-35-48 17-30-40 19-26-32	39-62-84 28-40-70 34-45-57	63-99-135 45-80-110 54-73-91	90-140-192 65-110-155 78-104-130
12 MONTH EXTRA NPK-PRO N-PRO	4.5-6.5-8 4.5-6.5-8 5-7-9	7.5-11.5-14 7.5-11.5-14 8-12-15	11.5-17.5-21 11.5-17.5-21 12-17-23	24-37-45 24-37-45 26-37-49	42-65-80 42-65-80 45-65-85	68-105-125 68-105-125 73-104-136	97-150-180 97-150-180 104-150-195

CONTAINER	10 GAL. (GRAMS) L-M-H	15 GAL. (GRAMS) L-M-H	20 GAL. (GRAMS) L-M-H	25 GAL. (GRAMS) L-M-H	45 GAL. (GRAMS) L-M-H	95 GAL. (GRAMS) L-M-H	200 GAL. (GRAMS) L-M-H	LARGE CONTAINER (PER SQ. FT.) (GRAMS) L-M-H
4 MONTH EXTRA NPK-PRO	63-110-157 63-110-157	67-120-170 67-120-170	100-180-260 100-180-260	125-220-315 125-220-315	215-380-540 215-380-540			45-78-112 45-78-112
6 MONTH EXTRA NPK-PRO N-PRO	70-110-158 70-110-158 45-80-110	80-121-171 80-121-171 55-90-120	100-181-261 100-181-261 65-120-180	126-221-316 126-221-316 80-140-220	220-385-545 220-385-545 130-240-370	220-410-640	320-600-920	50-80-115 50-80-115
8 MONTH EXTRA NPK-PRO N-PRO	95-150-200 95-140-200 80-110-140	100-160-215 100-150-215 90-120-150	155-250-330 155-230-330 115-160-200	190-300-400 190-280-400 140-200-240	320-520-700 320-480-680 240-340-410	550-900-1200 550-825-1100 410-580-700	800-1300-1740 800-1200-1600 600-840-1020	
12 MONTH EXTRA NPK-PRO N-PRO	125-170-220 125-170-220 110-160-200	134-180-235 134-180-235 120-170-210	207-280-360 207-280-360 160-220-290	252-340-440 252-340-440 190-270-360	432-580-755 432-580-755 330-460-610	700-1050-1400 700-1050-1400 560-780-1050	1000-1500-2000 1000-1500-2000 820-1140-1520	





OSMOCOTE CLASSIC - High performance Osmocote Classic accurately delivers the selected balance of nitrogen, phosphorous and potassium in each individual prill. Formulated for greenhouse, nursery or landscaping applications, Osmocote Classic gives growers unmatched control and flexibility.

OSMOCOTE PLUS - A perfect balance of nitrogen, phosphorous and potassium is enhanced with minor elements. Osmocote Plus formulations have been developed for a variety of uses, including greenhouse, nursery, foliage and landscaping.



OSMOCOTE PRO - For growers who need an affordable and reliable controlled release fertilizer that gives them the utmost flexibility. Osmocote is blended with minor elements and other sources of nitrogen for additional performance characteristics.



OSMOCOTE PLUS CONTROLLED RELEASE FERTILIZER TABLETS are bonded, premeasured amounts of Controlled Release Fertilizer which continuously release major and micro nutrients from every single prill. The results are even bigger, even greener and faster growing plants with less labor and management effort.



Stock No.	Description - 50 lb. bag
OSMOCOTE CLASSIC	
230-1414140	14-14-14 (3-4 month)
230-1806120	18-6-12 (8-9 month)
OSMOCOTE PLUS	
230-1591230	15-9-12 (3-4 month)
230-1591250	15-9-12 (5-6 month)
230-1591280	15-9-12 (8-9 month)
230-1509120*	15-9-12 (12-14 month)
OSMOCOTE PRO W/POLY-S®	
230-1905090	19-5-9 Plus Minors (12-14 month)
230-1950880*	19-5-8 Plus Minors (8-9 month)
OSMOCOTE PRO W/IBDU PLUS MINORS	
230-2040880	20-4-8 (8-9 month)

Items marked with () are sold by the pallet only.*



Stock No.	Description
230-701025	15-8-11 7.5 grams 1000/case



Agriform fertilizers are specially formulated for use with almost any landscape planting. Place Agriform tablets in the planting hole to provide excellent nutrient uptake from the day you put them in the ground.

Feeds plants up to 2 years.

SUGGESTED RATES

Container Size	# of Tablets
1 gal	1
2 gal	1-2
3-5 gal	2-3
7 gal	3-5
15 gal	7-10

Stock No.	Description	Price
230-7201051A	20-10-5 10 gram (1000/cs)	
230-7201052A	20-10-5 21 gram (500/cs)	



A blend of essential micronutrients designed to optimize the growth potential of plants in soilless media. Available over 18 month period. Incorporate into soil at 1-2 lbs. per cu. yard.

PLEASE CALL US FOR CURRENT PRICING (800) 248-2818

Stock No.	Description	Price
23015001	50 lb. Bag	



Step Hi Mag provides important secondary and micronutrients to support initial and continued growth of container-grown and landscape ornamentals. Enhanced **STEP** formulation provides a higher level of magnesium, in addition to a combination of readily available and slowly available forms of micronutrients. Dry, free-flowing, dense, homogeneous product of uniform particle size provides enhanced distribution of nutrients and minimizes dust. Versatile: can be topdressed or incorporated.

Stock No.	Description	Price
23015004	50 lb. Bag	





- Homogeneous (all in one particle) small granular micronutrient product... **Uniform distribution of particles and complete nutrition in each prill.**
- Contains elevated levels of Iron, Magnesium and Sulfur vs. the industry standards... **Better plant response and no need to supplement with Epsom salts or Iron Sulfate.**
- Designed with no Boron in the formulation... **When combined with a complete CRF or other fertilizer, there is no risk of elevated levels of Boron.**

- Suntrace's key nutrients Iron and Magnesium are both sourced from Sulfate and Sucrate. Sulfate gives a relatively quick available source of these nutrients, while the Sucrate gives a more SLOWLY AVAILABLE source of these two keys Micronutrients... **Healthier, greener plants!**



- Easily and accurately applies soluble fertilizer to lawn,
- Garden and greenhouse plants
- Attaches to standard hose fittings
- Prevents backflow should pressure fail

- Brass body for durability
- 16:1 ratio
- Spring filter to eliminate clogging
- Easy to follow instructions

Mixing instructions: make a concentrated solution. Using a bucket that is 1 to 5 gallons, mix your fertilizer with water at 16 times the rate normally used. (The product will be diluted 16 times as it passes through the siphon mixer.)

Stock No.	Description
23041070	SunTrace Granular
23041075	SunTrace Max Coarse

Rates: Incorporate into soil at 1-2 lbs per cubic yard.

Stock No.	Description
230-9SIPHONH	Brass Siphon Mixer

solo[®] 421S SPREADER

Designed for spreading a variety of granular materials over irregular terrain, this chest-mounted, extremely portable precision spreader is perfect for use in decorative beds with fertilizers and insecticides! Ideal for lawn maintenance operators treating parking lot islands. Eliminates bagging over curbs with cumbersome wheeled units. The 421S is also effective spreading ice melt, oil absorbents, seeds and a variety of granular products.

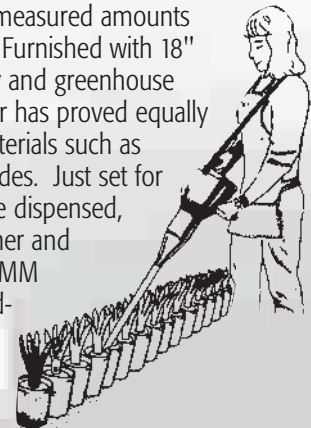


- Fingertip levers control direction and volume.
- Comfortable cross-shoulder strap.
- Fully enclosed gearbox-driven agitator is corrosion resistant.
- Large opening allows easy filling and cleaning.
- 20 lbs capacity hopper with cap protects operator from chemicals and dust.

Stock No.	Description
22060802	421S Spreader

E-Z FEEDER

A fast easy method of applying measured amounts of slow release fertilizer pellets. Furnished with 18" extension. Designed for nursery and greenhouse container feeding, the E-Z Feeder has proved equally suitable for dispensing other materials such as herbicides and systemic insecticides. Just set for desired amount of material to be dispensed, place tub near surface of container and depress plunger. Models A/A-1/MM have a smaller hopper than models C/C-1 (models C/C-1 have twice the capacity as the A/A-1/MM).



APPLICATION RANGE:

Model A	1/2 thru 4 tsp. - (2.5 thru 21 grams)
Model A-1	1/8 thru 1-1/2 tsp. - (.75 thru 7.5 grams)
Model C	1-1/2 thru 7-1/2 tsp. - (7 thru 37 grams)
Model C-1	1/2 thru 4 tsp. - (2.5 thru 21 grams)
Model MM	1/12 thru 1 tsp. - (.4 thru 5 grams)

Stock No.	Description
275-6SSEZFPN	Model A E-Z Feeder
275-6SA1EZPN	Model A-1 E-Z Feeder
275-6SSCEZFPN	Model C E-Z Feeder
275-6SC1EZPN	Model C-1 E-Z Feeder
275-6SMMEZPN	Model MM E-Z Feeder
275-6STRAPPN	Strap for Models A/A-1/MM

**Strap included with Models C and C-1.*

SPECIALTY ITEMS

ALUMINUM SULFATE 17% AL

Aluminum sulfate is specially made to help acid loving plants grow better by lowering pH levels and making soil more acidic. Use as a supplement to your regular feed program to correct alkaline soil conditions.

Stock No.	Description
230-5036	4 lb. Aluminum Sulfate
230-5035	50 lb. Aluminum Sulfate

AMMONIUM MOLYBDATE

For use as a fertilizer supplement for poinsettias and many vegetable crops. It can be incorporated into the liquid feed program or used as a foliar spray. Rate of 2 grams or 1/4 tsp. (2.1 g) per 2 gal. of water for foliar spray, OR 100 gal. of water for intermittent feed, OR 1000 gal. of water for constant feed.

Stock No.	Description
230-AMM01LBP	1 lb. Jack's Ammonium Molybdate

EPSOM SALT MAGNESIUM SULPHATE

Water soluble source of magnesium and sulfur. Will not effect media pH. Do not mix with other fertilizers.

Stock No.	Description
230-5008	50 lb. Epsom Salt

IRON CHELATE DP 10% SEQUESTRENE

For use in correcting iron deficiency. Best results occur with a media pH between 6.0 pH to 7.5 pH.

Stock No.	Description
230-0513413G	5 lb. Iron Chelate
230-0513414G	55 lb. Iron Chelate

IRON (FERROUS SULFATE) 30% FE SPRAYABLE

Reduces media pH.

Stock No.	Description
230-5045	50 lb. bag
235-7033	2.5 gal Limestone F

LIMESTONE F

Micronized, flowable limestone that insures ideal distribution of a safe neutralizing agent. Small particle size speeds growing media pH level adjustments. Limestone F adds calcium and magnesium to the media.

Stock No.	Description
235-7033	2.5 gal.

CALCIUM CHLORIDE DIHYDRATE

Use to prevent calcium deficiency in poinsettias.

Stock No.	Description
230-23010	1 lb. Jack's Calcium Chloride Dihydrate

CALCIUM NITRATE 15.5-0-0 CA

Greenhouse grade is water soluble. For use when high nitrate nitrogen is desired. Helps raise media pH. Safe for use with drip systems. Agricultural grade is granular.

Stock No.	Description
230-5006	50 lb. Greenhouse Grade
230-5005	50 lb. Agricultural Grade

POTASSIUM BICARBONATE

Increases media pH.

Stock No.	Description
230-23015	5 lb.
230-23020	25 lb.

POTASSIUM NITRATE

Greenhouse grade is a high quality, water soluble form of potassium which contains 13% nitrate nitrogen and 46% potash/potassium. Safe for use with drip systems.

Stock No.	Description
230-5000	13.7-0-46 Soluble

SULFATE OF POTASH 00-52

Crystalline 0-0-52 is the greenhouse grade which is a water soluble source of potassium and sulphur. Used extensively in hydroponics.

Stock No.	Description
230-5020	50 lb. granular
230-5022	50 lb. soluble

WHILE IT IS OUR INTENTION TO REPORT ACCURATE AND RELIABLE INFORMATION FROM INDUSTRY RECOGNIZED SOURCES, THERE IS NO GUARANTEE/WARRANTY WRITTEN OR IMPLIED THAT THIS INFORMATION IS ACCURATE. IT IS THE BUYER'S RESPONSIBILITY TO READ THE PRODUCT LABEL AND USE THE PRODUCT ACCORDING TO LABEL RECOMMENDATIONS.

Call for availability of other specialty items and quantity discounts.