

Driven by innovation  
Inspired by nature

# Peters®

## Product Use Guide

### Water Soluble Fertilizers

Peters®  
Professional

Peters®  
Excel  
pHLow®

Peters®  
Excel



An ICL Fertilizers Company



**everris.**  
**Peters®**  
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# Proven Products. Personalized Performance.

You'll find it in every bag of Peters Excel® and Peters Professional® water soluble fertilizer . . . a long history of innovation that has led to greater nutrition, unmatched quality and technological advancements. In fact, no other company puts more resources into testing and research to guarantee fertilizer performance for every grower.



Over the years, Everris® has continuously improved Peters® brand fertilizers, with advantages like better grades of ingredients, plastic packaging, and Everris' exclusive M-77® micronutrient system. The most recent Peters enhancement is the Peters® A-B-C Selection System,™ which is structured around water quality, the key to both solubility and nutrient availability.

The Peters A-B-C Selection System is yet another reason why more growers trust Peters for consistent performance, reliable innovations and expert technical support.

Whether you use the interactive online Selection System or rely on this guide, it has never been easier to match the best formulations to your water type . . . which brings you superior plant quality, health and color.

## The Everris Exclusive Micronutrient System

M-77 is a proprietary mixture that provides essential micronutrient nutrition to your plants with trace element sources blended at defined ratios. M-77 delivers optimum nutrition to crops raised in soilless growing media, especially in conditions where water quality is poor and soil pH is high. Only Everris provides this technologically advanced nutrition package in select Peters water soluble fertilizers.



# Water quality is the heart of the new Peters® A-B-C Selection System™

Water quality is the single most important factor in determining solubility and nutrient availability for plants.

In order to choose an appropriate water soluble fertilizer, you need to know exactly what your irrigation water is supplying to plants. It's especially important for growers whose irrigation source is affected by one of the following:

- Well water
- Any change in irrigation water source
- Multiple sources of irrigation water
- Heavy rain, melt-off or flooding
- Ongoing or recent droughts

The real success of the new Peters® A-B-C Selection System™ lies in its use of water quality as the first step in determining which formulations will work the best. Once you know your water, you can automatically narrow your options to the water soluble fertilizers that perform best in your operation.



## WATER QUALITY MEASUREMENTS

**Alkalinity:** Alkalinity, the bicarbonate and carbonate levels in water, is the most critical item to measure because it has a great effect on growing media pH. A certain amount of alkalinity is good, because it will buffer the soil solution from acidic influences such as peat moss and fertilizer. Excessively high or low alkalinity levels will directly impact the availability of micronutrients in growing media. Low alkalinity may lead to depressed growing media pH and micronutrient toxicities, while high levels of alkalinity can increase the growing medium pH over time and lead to micronutrient deficiencies.

**Soluble Salts (EC):** Soluble salts or electrical conductivity (EC) is a general measure of salts dissolved in the water. An irrigation source is best if EC levels fall between 0.2 and 1.2 mmhos/cm. Since the EC measurement does not identify which elements—helpful or harmful—are in the water, a complete nutrient analysis of water is necessary.

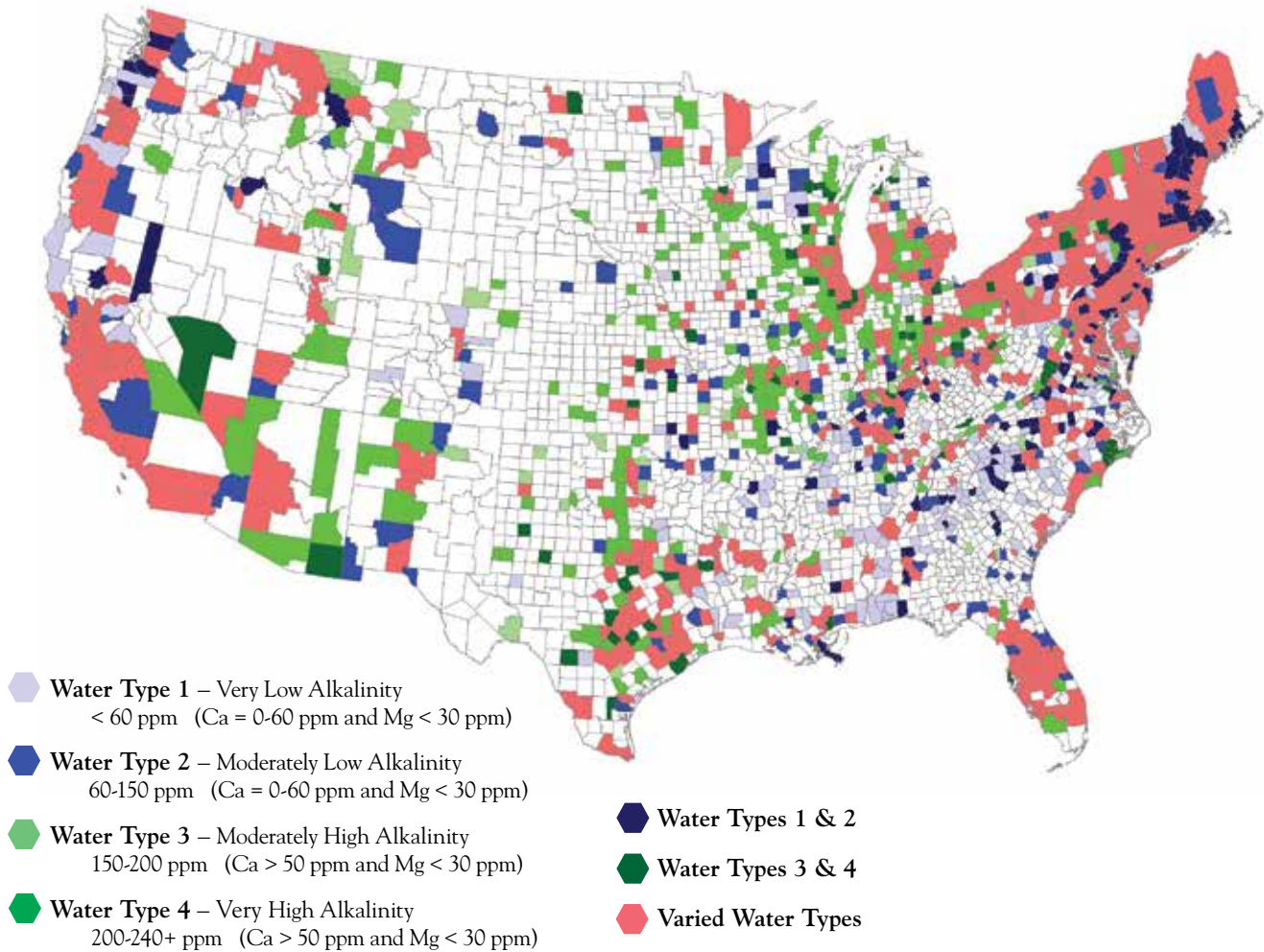
**Calcium (Ca):** Calcium is an essential element for plant growth that is often present in irrigation waters. Calcium is required in large quantities by young growing tissues, strengthening stems and promoting strong overall plant growth. Low levels will lead to poorly developed younger leaves or buds and other growing point disorders. Everris recommends that irrigation waters have a minimum of 40 to 75 ppm Ca. When calcium levels are below this range, it's necessary to supplement additional calcium for optimum results.

**Magnesium (Mg):** Like calcium, magnesium is often found in irrigation waters. Magnesium is an important component of chlorophyll, the green pigment that is responsible for photosynthesis. Irrigation waters should have a minimum 30 to 50 ppm Mg. Pure waters will generally not have sufficient magnesium, and deficiencies may occur unless the nutritional program addresses the need. Symptoms are generally expressed as interveinal chlorosis of the older leaves first. Also, remember to maintain a good calcium-to-magnesium ratio in the growing media (2:1 is recommended).

## WATER QUALITY TRENDS

The map below is based on more than 20,000 water analyses performed over the last decade. It was compiled to help identify geographic trends in water quality and to help growers get an idea of what water type or types are most prevalent in their areas. As you can see, water quality can vary greatly within a single county.

To see the variance found in your county, visit [www.PetersABC.com](http://www.PetersABC.com). Remember, though, accurate testing of your actual irrigation source is the only way to know exactly what your plants are getting from your water.



## HOW TO TAKE A WATER SAMPLE

Because water quality is so crucial to fertilizer performance, Everris® is dedicated to providing accurate, affordable analysis through The Everris Testing Lab. The Lab provides easy-to-understand reports for irrigation water that will determine your water type.



*Call The Everris Testing Lab toll free at 1-877-467-8522 to get a sample test kit, then follow these simple steps:*

1. Flush out the lines or hoses for several minutes with fresh solution before taking the sample.
2. Fill a clean bucket with water (or nutrient solution) and then submerge the Everris sample bottle or another clean, unbreakable, leak-proof container in the bucket.
3. Fill the sample bottle completely to the top, making certain there is no air space in the container. Close the lid tightly, clearly label each bottle with a permanent marker and send the solution sample to The Everris Testing Lab as soon as possible.

## Once you know your water type, choosing the right water soluble fertilizer is easy.



Everris applied years of research, testing and experience in determining which Peters® products perform best on which plants. We've used this data to help you select the formulations that will help you achieve the healthiest and most beautiful plants possible, so that you can remain as profitable as possible.

To make the system easy to use, all Peters products now carry a water type designation, so growers can quickly identify which formulations to use with various irrigation water sources. Plus, the entire Peters Excel® and Peters Professional® product lines were restructured into clearly defined application categories.



Some formulations are labeled "A" for All Purpose. Each is a one-bag solution that eliminates labor and storage issues. When correctly matched to your water type, "A" formulations ensure perfectly balanced and constant nutrient uptake, no matter what you're growing.

One "A" formulation can take the place of several crop-specific fertilizers, because each has been tested and proven to work over a broad range of plant types. Plus, Peters Excel can still be tank-mixed with other Peters Excel formulas for a single-tank solution that keeps emitters clean while saving labor and delivering superior nutrition.



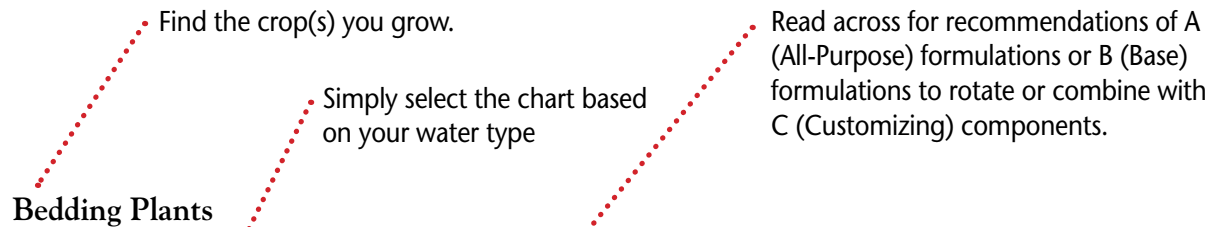
Growers can also opt for the added flexibility of using "B" Base formulations with one or more "C" Customizing components.

Base formulations include the Peters products that growers have trusted for more than 60 years. Each can be rotated and sometimes tank-mixed with one of the customizing components to meet specific nutrition or water quality needs, or used alone. Each Customizing Component provides a unique, prescriptive boost of specified nutrients for healthy, eye-catching results.

# The Peters® A-B-C Selection System™ works for every crop or crop type.

Everris® put decades of data into the Peters® A-B-C Selection System,™ building a highly efficient system that works for every grower, every crop. It's remarkably easy to use.

1. Know your water type. If you have never had your water tested, The Everris Testing Lab can provide all the information you need for a nominal fee. Visit [www.everris.us.com/testing-lab](http://www.everris.us.com/testing-lab) for details.
2. Find the crops you grow.
3. Find the row designated for your water type.
4. Read across for recommendations of one-bag "A" All-Purpose formulations or "B" Base formulations to rotate or combine with "C" Customizing components.



Suggested **Constant** Liquid Feeding Concentration: 50-150 ppm N | Suggested **Periodic** Liquid Feeding Concentration: 200-350 ppm N

Water Type(s)	A or B Stand Alone Products		B + C Combination or Rotation Products	
	Option I	Option II	Option I	Option II
<b>Type 1</b>	Peters Excel 13-2-13 Plug & Bedding Plant Special	Peters Professional 17-3-17 Peat-Lite Neutral Cal-Mag	Peters Professional 15-5-25 Peat-Lite Flowering Crop Special + Peters Professional 15-0-15 Peat-Lite Dark Weather Feed*	Peters Professional 20-2-20 Peat-Lite Low Phos Special + Peters Professional 15-0-15 Peat-Lite Dark Weather Feed*
<b>Type 2</b>	Peters Excel 15-5-15 Cal-Mag Special	Peters Professional 17-3-17 Peat-Lite Neutral Cal-Mag	Peters Professional 15-5-25 Peat-Lite Flowering Crop Special + Peters Professional 15-0-15 Peat-Lite Dark Weather Feed*	Peters Professional 20-2-20 Peat-Lite Low Phos Special + Peters Professional 15-0-15 Peat-Lite Dark Weather Feed*

Visit [www.PetersABC.com](http://www.PetersABC.com) to use our online interactive selection system.

# Product Use Guidelines

Peters Excel® and Peters Professional® products come in new bags with more details on product use. You will find directions and expanded rate information right at your fingertips when you need it most. The following are general use guidelines you'll also find on the new Peters® packaging.

## Directions for Use

**Selecting the Correct Fertilizer Program** – The chemical composition of the irrigation solutions applied to crops has a major influence on the nutrients available to plants in the long term. First, send a sample of your irrigation water to The Everris Testing Lab. Test results will indicate your ABC Water Type (1-4)<sup>TM</sup> that can be matched with a similar indicator that appears on the front of each bag of Everris water soluble fertilizer. Selecting a fertilizer based on this water type will ensure you experience the best results from your fertilizer program.

**Selecting the Correct Concentration** – The correct fertilizer concentration for a particular growing operation will depend on a number of factors including, feeding frequency, crop type, crop stage, growing media, pot size, leaching fraction and environmental conditions. Generally, fertilizer should be applied at concentrations necessary to sustain optimal root zone nutrient levels and quality plant growth. Continuous feeding provides a more uniform plant nutrition program and is recommended over periodic feeding.

**Fertilizer Compatibility** – All Peters Excel fertilizers are tank mix compatible with each other. However, not all Peters Professional and Peters Excel water soluble fertilizer products are compatible. There can be problems when blending calcium-containing fertilizers with sulfuric acid or sulfate-containing fertilizers such as S.T.E.M.<sup>TM</sup> or Epsom salts (magnesium sulfate). Refer to Everris Compatibility Information on our web site.

**Solubility** – Product components are completely water soluble. However, a number of factors will determine how fast the fertilizer will dissolve (i.e., desired concentration, temperature of irrigation water, agitation, time, irrigation water quality, the fertilizer itself and compatibility of other components in the stock tank). Each product has a stated maximum solubility that is determined under ideal lab conditions—it is physically impossible to maintain solubility above this value.

**Water Soluble Fertilizer Appearance** – This product is composed from a number of components, varying in size. Some of the products are uniform in appearance while others quite heterogeneous. The tracer dye color intensity and distribution may appear variable in the bag. However, once the product is diluted in a stock tank, the colorant level should be consistent.

**Monitoring** – The Everris Testing Laboratory is a reliable source for testing water, growing media or tissue. Injector monitoring and maintenance will help to ensure that you are feeding at optimal levels. Weekly on-site measurements of fertilizer solution and crop media EC and pH can be a valuable tool in managing your crop. A follow-up program of complete media analysis (and tissue in problem-solving situations) should be initiated to optimize your nutritional program.

**Storage:** Opened bags should be sealed. Unsealed or partially used products may take on moisture from the atmosphere and may subsequently soften or harden in the bag. As long as bags are properly re-sealed, this should in no way diminish nutrient content of the fertilizer. Store product in a cool, dry environment.

**Need More Information** – To fine-tune your fertilizer selection to your individual growing conditions, you can contact an experienced Everris horticultural professional or you can refer to the [www.PetersABC.com](http://www.PetersABC.com) web site to access the Peters® A-B-C Selection System.<sup>TM</sup>

Step-by-Step Mixing Information

Suggested Rates for Crop Types

Revised Chart Rates

Mixing for Smaller Quantities (no injectors)

**Peters Excel 20-20-20 CAL-MAG SPECIAL**  
Pre-Measured (Pre-Measured) Program

**20-20-20**  
CAL-MAG SPECIAL

**Step-by-Step Mixing Information**

**Suggested Rates for Crop Types**

**Revised Chart Rates**

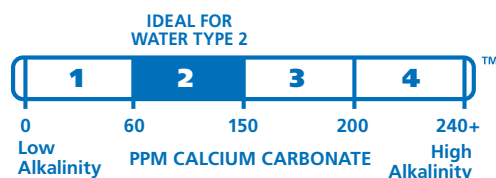
**Mixing for Smaller Quantities (no injectors)**

**EVERRIS**

## Even our packaging is easy to use.

Peters® packaging has been designed to help make it easier for you to quickly identify and differentiate between specific products. All pertinent information is prominently displayed, including water type, formulation type and nutritional ratios.

- **Easy:** Water quality is the heart of this new system of fertilizer selection. Once you know if your water is Type 1, 2, 3 or 4, you can quickly identify the best Peters formulations for the plants you're growing.



- **Flexible:** All Peters products are now categorized into A (All-Purpose) formulations, B (Base) formulations or C (Customizing) components, so growers can maintain their current nutrition management practices.



- **Efficient:** Formulas have been refined to provide the most effective mix of N-P-K ratios for the broadest range of crop nutrition. Plus, Everris' exclusive and proprietary M-77® minor element package improves performance by promoting a favorable root zone and making micronutrients more consistently available to plants.

## Peters Product Analysis and Rates

The following section provides detailed information including guaranteed analysis, application rates and a summary of product benefits. As a general rule of thumb, all Peters water soluble fertilizers should be fed at the following rates.

Recommended Feeding Rates		
Crop Type	Constant Liquid Feeding (ppm N)	Periodic Feeding (ppm N)
Bedding Plants	50 - 150	150 - 250
Containerized Woody Plants	50 - 100	200 - 350
Flowering Pot Crops	200 - 300	300 - 450
Potted Foliage	150 - 200	250 - 300
Plugs (All Types)	50 - 125	175 - 225
Landscape/Outdoors	200 - 300	400 - 600

Driven by innovation  
Inspired by nature



INTRODUCING  
**Peters® Excel pHLow®**

The all-in-one solution to feed your plants  
and better manage high alkalinity.

**Peters®**  
**Excel**  
**pHLow®**

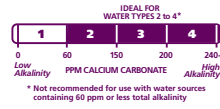
Peters® water soluble fertilizers have long delivered greater value from every bag. The tradition continues. Now you can easily and conveniently deliver complete, reliable plant nutrition, *plus* better manage high alkalinity at the same time.

- A patented acidifying technology manages alkalinity of irrigation water over a wide range of water types and application rates
- A safer alternative to conventional liquid acids
- Ideal for moderate to high alkalinity water (types 2-4) or when feeding constantly at low concentrations (< 100ppm N)
- Great for short term crops or when a “quick fix” rescue is needed for nutritional or pH issues
- Enables a proactive approach to media pH management versus reactive corrective measures
- Highly soluble; limits “scale” buildup in tanks, piping and drip emitters
- Available in multiple formulations; find your ideal solution with the online Peters® A-B-C Selection System™

# Peters<sup>®</sup> Excel<sup>®</sup>

pHLow<sup>®</sup>

SKU# E99001\*



**19-11-21**

**MULTI-PURPOSE**

This Multi-Purpose formulation provides your plants with the nutrition they need to thrive while easily and conveniently managing alkalinity of your irrigation water.

- Appropriate for Water Types 2, 3 and 4
- B (Base) formulation can be used alone or rotated with a C (Customizing) component
- Contains a complete range of essential micronutrients—in the right ratios—to match the specific nutritional needs of your plants

\* Available in Canada SKU # E99001C

**GUARANTEED ANALYSIS 19-11-21**

Total nitrogen (N) . . . . .	19%
7% ammoniacal nitrogen	
12% nitrate nitrogen	
Available phosphate (P <sub>2</sub> O <sub>5</sub> ) . . . . .	11%
Soluble potash (K <sub>2</sub> O) . . . . .	21%
Magnesium (Mg) . . . . .	0.15%
0.15% water soluble magnesium (Mg)	
Sulfur (S) . . . . .	0.2%
0.2% combined sulfur (S)	
Boron (B) . . . . .	0.02%
Copper (Cu) . . . . .	0.02%
0.02% chelated copper (Cu)	
Iron (Fe) . . . . .	0.095%
0.095% chelated iron (Fe)	
Manganese (Mn) . . . . .	0.045%
0.045% chelated manganese (Mn)	
Molybdenum (Mo) . . . . .	0.0095%
Zinc (Zn) . . . . .	0.045%
0.045% chelated zinc (Zn)	

**Derived from:** Ammonium Nitrate, Monopotassium Phosphate, Phosphoric Acid, Potassium Nitrate, Magnesium Sulfate, Boric Acid, Copper EDTA, Iron EDTA, Iron DTPA, Manganese EDTA, Ammonium Molybdate, Zinc EDTA

CONCENTRATION (ppm N) FERTILIZER	AVERAGE ALKALINITY REDUCTION (ppm TOTAL ALKALINITY)
100	20
200	40
300	50
400	70

MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS)		
Amount of Fertilizer*	+ Amount of Water (gallons)	= Approx. ppm N
1 tsp	1	283
1 tbsp	2	425
1 cup	25	544

\*level measurements

1 pound of fertilizer + 100 gallons of water = 227.7 ppm N

PRODUCT PROPERTIES	
Potential Acidity . . . . .	290 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N . . . . .	0.75 mmhos/cm
Maximum Solubility . . . . .	4.5 lbs/gal

Target Fertilizer Concentration (N/ppm) After Dilution	Common Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	0.3	1.8	2.3	3.6	5.3	0.19
50	0.5	3.6	4.6	7.1	10.7	0.38
75	0.8	5.3	6.8	10.7	16.0	0.56
100	1.1	7.1	9.1	14.3	21.4	0.75
125	1.3	8.9	11.4	17.8	26.7	0.94
150	1.6	10.7	13.7	21.4	32.1	1.13
175	1.9	12.5	16.0	24.9	37.4	1.31
200	2.1	14.3	18.2	28.5	42.8	1.50
250	2.7	17.8	22.8	35.6	53.4	1.88
300	3.2	21.4	27.4	42.8	64.1	2.25
350	3.7	24.9	31.9	49.9	***	2.63
400	4.3	28.5	36.5	57.0	***	3.00
450	4.8	32.1	41.0	64.1	***	3.38
500	5.3	35.6	45.6	71.3	***	3.75
600	6.4	42.8	54.7	***	***	4.50

\*\*\* Exceeds maximum solubility.

Target Fertilizer Concentration (N/ppm) After Dilution	Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	1497.1	224.6	175.4	112.3	74.9	0.19
50	748.5	112.3	87.7	56.1	37.4	0.38
75	499.0	74.9	58.5	37.4	25.0	0.56
100	374.3	56.1	43.9	28.1	18.7	0.75
125	299.4	44.9	35.1	22.5	15.0	0.94
150	249.5	37.4	29.2	18.7	12.5	1.13
175	213.9	32.1	25.1	16.0	10.7	1.31
200	187.1	28.1	21.9	14.0	9.4	1.50
250	149.7	22.5	17.5	11.2	7.5	1.88
300	124.8	18.7	14.6	9.4	6.2	2.25
350	106.9	16.0	12.5	8.0	***	2.63
400	93.6	14.0	11.0	7.0	***	3.00
450	83.2	12.5	9.7	6.2	***	3.38
500	74.9	11.2	8.8	5.6	***	3.75
600	62.4	9.4	7.3	***	***	4.50

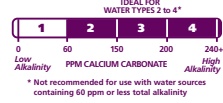
\*\*\* Exceeds maximum solubility.



# Peters<sup>®</sup> Excel<sup>®</sup>

pHLow<sup>®</sup>

SKU# E99000\*



**MULTI-PURPOSE**

This Multi-Purpose formulation provides your plants with the nutrition they need to thrive while easily and conveniently managing alkalinity of your irrigation water.

- Appropriate for Water Types 2, 3 and 4
- B (Base) formulation can be used alone or rotated with a C (Customizing) component
- Contains a complete range of essential micronutrients—in the right ratios—to match the specific nutritional needs of your plants

\* Available in Canada SKU # E99000C

**GUARANTEED ANALYSIS** **18-18-18**

Total nitrogen (N) .....	18%
7.5% ammoniacal nitrogen	
10.5% nitrate nitrogen	
Available phosphate (P <sub>2</sub> O <sub>5</sub> ) .....	18%
Soluble potash (K <sub>2</sub> O) .....	18%
Boron (B) .....	0.022%
Copper (Cu) .....	0.022%
0.022% chelated copper (Cu)	
Iron (Fe) .....	0.09%
0.09% chelated iron (Fe)	
Manganese (Mn) .....	0.045%
0.045% chelated manganese (Mn)	
Molybdenum (Mo) .....	0.009%
Zinc (Zn) .....	0.045%
0.045% chelated zinc (Zn)	

**Derived from:** Ammonium Nitrate, Monopotassium Phosphate, Phosphoric Acid, Potassium Nitrate, Boric Acid, Copper EDTA, Iron EDTA, Iron DTPA, Manganese EDTA, Ammonium Molybdate, Zinc EDTA

CONCENTRATION (ppm N) FERTILIZER	AVERAGE ALKALINITY REDUCTION (ppm TOTAL ALKALINITY)
100	20
200	40
300	50
400	70

MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS)		
Amount of Fertilizer*	+ Amount of Water (gallons)	= Approx. ppm N
1 tsp	1	276
1 tbsp	2	414
1 cup	25	530

\*level measurements

1 pound of fertilizer + 100 gallons of water = 251.7 ppm N

PRODUCT PROPERTIES	
Potential Acidity .....	578 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N .....	0.79 mmhos/cm
Maximum Solubility .....	5.5 lbs/gal

WEIGHT (IN OUNCES) OF PRODUCT NEEDED TO MIX ONE GALLON OF CONCENTRATE						
Target Fertilizer Concentration (N/ppm) After Dilution	Common Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	0.3	1.9	2.4	3.8	5.6	0.20
50	0.6	3.8	4.8	7.5	11.3	0.39
75	0.8	5.6	7.2	11.3	16.9	0.59
100	1.1	7.5	9.6	15.0	22.5	0.79
125	1.4	9.4	12.0	18.8	28.1	0.98
150	1.7	11.3	14.4	22.5	33.8	1.18
175	2.0	13.1	16.8	26.3	39.4	1.38
200	2.3	15.0	19.2	30.0	45.0	1.57
250	2.8	18.8	24.0	37.5	56.3	1.97
300	3.4	22.5	28.8	45.0	67.5	2.36
350	3.9	26.3	33.6	52.5	78.8	2.75
400	4.5	30.0	38.4	60.0	***	3.15
450	5.1	33.8	43.2	67.5	***	3.54
500	5.6	37.5	48.0	75.0	***	3.94
600	6.8	45.0	57.6	***	***	4.72

\*\*\* Exceeds maximum solubility.

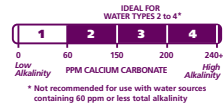
GALLONS OF WATER REQUIRED TO DISSOLVE ONE 25 LB BAG OF FERTILIZER						
Target Fertilizer Concentration (N/ppm) After Dilution	Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	1422.2	213.3	166.7	106.7	71.1	0.20
50	7111.1	106.7	83.3	53.3	35.6	0.39
75	474.1	71.1	55.6	35.6	23.7	0.59
100	355.6	53.3	41.7	26.7	17.8	0.79
125	284.4	42.7	33.3	21.3	14.2	0.98
150	237.0	35.6	27.8	17.8	11.9	1.18
175	203.2	30.5	23.8	15.2	10.2	1.38
200	177.8	26.7	20.8	13.3	8.9	1.57
250	142.2	21.3	16.7	10.7	7.1	1.97
300	118.5	17.8	13.9	8.9	5.9	2.36
350	101.6	15.2	11.9	7.6	5.1	2.75
400	88.9	13.3	10.4	6.7	***	3.15
450	79.0	11.9	9.3	5.9	***	3.54
500	71.1	10.7	8.3	5.3	***	3.94
600	59.3	8.9	6.9	***	***	4.72

\*\*\* Exceeds maximum solubility.

# Peters<sup>®</sup> Excel<sup>®</sup>

pHLow<sup>®</sup>

SKU# E99003\*



**15-7-25**

**HIGH MAG/HIGH K**

This High Mag/High K formulation provides your plants with the nutrition they need to thrive while easily and conveniently managing alkalinity of your irrigation water.

- Appropriate for Water Types 2, 3 and 4
- A (All-Purpose) formulation for constant, balanced nutrition
- Contains a complete range of essential micronutrients—in the right ratios—to match the specific nutritional needs of your plants

\* Available in Canada SKU # E99003C

**GUARANTEED ANALYSIS** **15-7-25**

Total nitrogen (N) .....	15%
4.1% ammoniacal nitrogen	
10.9% nitrate nitrogen	
Available phosphate (P <sub>2</sub> O <sub>5</sub> ) .....	7%
Soluble potash (K <sub>2</sub> O) .....	25%
Magnesium (Mg) .....	2.5%
2.5% water soluble magnesium (Mg)	
Sulfur (S) .....	3.3%
3.3% combined sulfur (S)	
Boron (B) .....	0.0175%
Copper (Cu) .....	0.0175%
0.0175% chelated copper (Cu)	
Iron (Fe) .....	0.07%
0.07% chelated iron (Fe)	
Manganese (Mn) .....	0.035%
0.035% chelated manganese (Mn)	
Molybdenum (Mo) .....	0.007%
Zinc (Zn) .....	0.035%
0.035% chelated zinc (Zn)	

**Derived from:** Ammonium Nitrate, Monopotassium Phosphate, Phosphoric Acid, Potassium Nitrate, Magnesium Sulfate, Boric Acid, Copper EDTA, Iron EDTA, Iron DTPA, Manganese EDTA, Ammonium Heptamolybdate, Zinc EDTA

CONCENTRATION (ppm N) FERTILIZER	AVERAGE ALKALINITY REDUCTION (ppm TOTAL ALKALINITY)
100	20
200	40
300	50
400	70

MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS)		
Amount of Fertilizer*	+ Amount of Water (gallons)	= Approx. ppm N
1 tsp	1	235
1 tbsp	2	353
1 cup	25	452

\*level measurements

1 pound of fertilizer + 100 gallons of water = 179.8 ppm N

PRODUCT PROPERTIES	
Potential Acidity .....	33 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N .....	0.91 mmhos/cm
Maximum Solubility .....	3.5 lbs/gal

WEIGHT (IN OUNCES) OF PRODUCT NEEDED TO MIX ONE GALLON OF CONCENTRATE						
Target Fertilizer Concentration (N/ppm) After Dilution	Common Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	0.3	2.3	2.9	4.5	6.8	0.23
50	0.7	4.5	5.8	9.0	13.5	0.46
75	1.0	6.8	8.6	13.5	20.3	0.68
100	1.4	9.0	11.5	18.0	27.0	0.91
125	1.7	11.3	14.4	22.5	33.8	1.14
150	2.0	13.5	17.3	27.0	40.5	1.37
175	2.4	15.8	20.2	31.5	47.3	1.59
200	2.7	18.0	23.0	36.0	54.0	1.82
250	3.4	22.5	28.8	45.0	***	2.28
300	4.1	27.0	34.6	54.0	***	2.73
350	4.7	31.5	40.3	***	***	3.19
400	5.4	36.0	46.1	***	***	3.64
450	6.1	40.5	51.8	***	***	4.10
500	6.8	45.0	***	***	***	4.56
600	8.1	54.0	***	***	***	5.47

\*\*\* Exceeds maximum solubility.

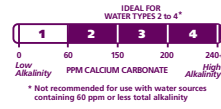
GALLONS OF WATER REQUIRED TO DISSOLVE ONE 25 LB BAG OF FERTILIZER						
Target Fertilizer Concentration (N/ppm) After Dilution	Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	1185.2	177.8	138.9	88.9	59.3	0.23
50	592.6	88.9	69.4	44.4	29.6	0.46
75	395.1	59.3	46.3	29.6	19.8	0.68
100	296.3	44.4	34.7	22.2	14.8	0.91
125	237.0	35.6	27.8	17.8	11.9	1.14
150	197.5	29.6	23.1	14.8	9.9	1.37
175	169.3	25.4	19.8	12.7	8.5	1.59
200	148.1	22.2	17.4	11.1	7.4	1.82
250	118.5	17.8	13.9	8.9	***	2.28
300	98.8	14.8	11.6	7.4	***	2.73
350	84.7	12.7	9.9	***	***	3.19
400	74.1	11.1	8.7	***	***	3.64
450	65.8	9.9	7.7	***	***	4.10
500	59.3	8.9	***	***	***	4.56
600	49.4	7.4	***	***	***	5.47

\*\*\* Exceeds maximum solubility.



# Peters<sup>®</sup> Excel<sup>®</sup> pHLow<sup>®</sup>

SKU# E99004\*



**CAL-MAG**

This Cal-Mag formulation provides your plants with the nutrition they need to thrive while easily and conveniently managing alkalinity of your irrigation water.

- Appropriate for Water Types 2, 3 and 4
- A (All-Purpose) formulation for constant, balanced nutrition
- Contains a complete range of essential micronutrients—in the right ratios—to match the specific nutritional needs of your plants

\* Available in Canada SKU # E99004C

### GUARANTEED ANALYSIS **14-8-14**

Total nitrogen (N) . . . . .	14%
2.6% ammoniacal nitrogen	
11.4% nitrate nitrogen	
Available phosphate (P <sub>2</sub> O <sub>5</sub> ) . . . . .	8%
Soluble potash (K <sub>2</sub> O) . . . . .	14%
Calcium (Ca) . . . . .	4.0%
Magnesium (Mg) . . . . .	2.0%
2.0% water soluble magnesium (Mg)	
Boron (B) . . . . .	0.0175%
Copper (Cu) . . . . .	0.0175%
0.0175% chelated copper (Cu)	
Iron (Fe) . . . . .	0.07%
0.07% chelated iron (Fe)	
Manganese (Mn) . . . . .	0.035%
0.035% chelated manganese (Mn)	
Molybdenum (Mo) . . . . .	0.007%
Zinc (Zn) . . . . .	0.035%
0.035% chelated zinc (Zn)	

**Derived from:** Ammonium Nitrate, Monopotassium Phosphate, Phosphoric Acid, Potassium Nitrate, Calcium Nitrate, Magnesium Nitrate, Boric Acid, Copper EDTA, Iron EDTA, Iron DTPA, Manganese EDTA, Ammonium Molybdate, Zinc EDTA

CONCENTRATION (ppm N) FERTILIZER	AVERAGE ALKALINITY REDUCTION (ppm TOTAL ALKALINITY)
100	20
200	40
300	50
400	70

MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS)		
Amount of Fertilizer*	+ Amount of Water (gallons)	= Approx. ppm N
1 tsp	1	206
1 tbsp	2	308
1 cup	25	395

\*level measurements

1 pound of fertilizer + 100 gallons of water = 167.8 ppm N

PRODUCT PROPERTIES	
Potential Basicity . . . . .	47 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N . . . . .	0.84 mmhos/cm
Maximum Solubility . . . . .	5.5 lbs/gal

WEIGHT (IN OUNCES) OF PRODUCT NEEDED TO MIX ONE GALLON OF CONCENTRATE						
Target Fertilizer Concentration (N/ppm) After Dilution	Common Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	0.4	2.4	3.1	4.8	7.2	0.21
50	0.7	4.8	6.2	9.6	14.5	0.42
75	1.1	7.2	9.3	14.5	21.7	0.63
100	1.4	9.6	12.3	19.3	28.9	0.84
125	1.8	12.1	15.4	24.1	36.2	1.05
150	2.2	14.5	18.5	28.9	43.4	1.26
175	2.5	16.9	21.6	33.7	50.6	1.47
200	2.9	19.3	24.7	38.6	57.8	1.68
250	3.6	24.1	30.8	48.2	72.3	2.10
300	4.3	28.9	37.0	57.8	86.8	2.52
350	5.1	33.7	43.2	67.5	***	2.94
400	5.8	38.6	49.4	77.1	***	3.36
450	6.5	43.4	55.5	86.8	***	3.78
500	7.2	48.2	61.7	***	***	4.20
600	8.7	57.8	74.0	***	***	5.04

\*\*\* Exceeds maximum solubility.

GALLONS OF WATER REQUIRED TO DISSOLVE ONE 25 LB BAG OF FERTILIZER						
Target Fertilizer Concentration (N/ppm) After Dilution	Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	1106.5	166.0	129.7	83.0	55.3	0.21
50	553.3	83.0	64.8	41.5	27.7	0.42
75	368.8	55.3	43.2	27.7	18.4	0.63
100	276.6	41.5	32.4	20.7	13.8	0.84
125	221.3	33.2	25.9	16.6	11.1	1.05
150	184.4	27.7	21.6	13.8	9.2	1.26
175	158.1	23.7	18.5	11.9	7.9	1.47
200	138.3	20.7	16.2	10.4	6.9	1.68
250	110.7	16.6	13.0	8.3	5.5	2.10
300	92.9	13.8	10.8	6.9	4.6	2.52
350	79.0	11.9	9.3	5.9	***	2.94
400	69.2	10.4	8.1	5.2	***	3.36
450	61.5	9.2	7.2	4.6	***	3.78
500	55.3	8.3	6.5	***	***	4.20
600	46.1	6.9	5.4	***	***	5.04

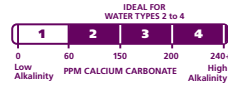
\*\*\* Exceeds maximum solubility.



# Peters<sup>®</sup> Excel



SKU# E99150\*



**MULTI PURPOSE**

Moderately acidic formulation serves as an excellent all-purpose fertilizer for Types 2, 3 and 4 irrigation water.

- B (Base) formulation can be used alone or rotated with a C (Customizing) component
- Appropriate for Water Types 2, 3 and 4
- Contains a complete range of essential micronutrients

\* Available in Canada SKU # E99153

### GUARANTEED ANALYSIS 21-5-20

Total nitrogen (N) .....	.21%
7.3% ammoniacal nitrogen	
12.6% nitrate nitrogen	
1.1% urea nitrogen	
Available phosphate (P <sub>2</sub> O <sub>5</sub> ) .....	.5%
Soluble potash (K <sub>2</sub> O) .....	.20%
Boron (B) .....	0.0262%
Copper (Cu) .....	0.0262%
0.0262% water soluble copper (Cu)	
Iron (Fe) .....	0.105%
0.105% chelated iron (Fe)	
Manganese (Mn) .....	0.0525%
0.0525% water soluble manganese (Mn)	
Molybdenum (Mo) .....	0.0105%
Zinc (Zn) .....	0.0525%
0.0525% water soluble zinc (Zn)	

**Derived from:** Ammonium Nitrate, Ammonium Phosphate, Potassium Nitrate, Urea Phosphate, Boric Acid, Copper Sulfate, Iron EDTA, Manganese Sulfate, Ammonium Molybdate, Zinc Sulfate

MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS)		
Amount of Fertilizer*	+ Amount of Water (gallons)	= Approx. ppm N
1 tsp	1	320
1 tbs	2	480
1 cup	25	614

\*level measurements

1 pound of fertilizer + 100 gallons of water = 251.7 ppm N

PRODUCT PROPERTIES	
Potential Acidity .....	390 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N .....	0.63 mmhos/cm
Maximum Solubility .....	4 lbs/gal

WEIGHT (IN OUNCES) OF PRODUCT NEEDED TO MIX ONE GALLON OF CONCENTRATE						
Target Fertilizer Concentration (N/ppm) After Dilution	Common Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	0.2	1.6	2.1	3.2	4.8	0.16
50	0.5	3.2	4.1	6.4	9.6	0.32
75	0.7	4.8	6.2	9.6	14.5	0.47
100	1.0	6.4	8.2	12.9	19.3	0.63
125	1.2	8.0	10.3	16.1	24.1	0.79
150	1.4	9.6	12.3	19.3	28.9	0.95
175	1.7	11.3	14.4	22.5	33.8	1.10
200	1.9	12.9	16.5	25.7	38.6	1.26
250	2.4	16.1	20.6	32.2	48.2	1.58
300	2.9	19.3	24.7	38.6	57.9	1.89
350	3.4	22.5	28.8	45.0	***	2.21
400	3.9	25.7	32.9	51.4	***	2.52
450	4.3	28.9	37.0	57.9	***	2.84
500	4.8	32.2	41.2	***	***	3.15
600	5.8	38.6	49.4	***	***	3.78

\*\*\* Exceeds maximum solubility.

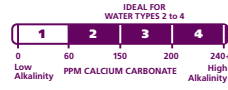
GALLONS OF WATER REQUIRED TO DISSOLVE ONE 25 LB BAG OF FERTILIZER						
Target Fertilizer Concentration (N/ppm) After Dilution	Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	1658.9	248.8	194.4	124.4	82.9	0.16
50	829.4	124.4	97.2	62.2	41.5	0.32
75	553.0	82.9	64.8	41.5	27.6	0.47
100	414.7	62.2	48.6	31.1	20.7	0.63
125	331.8	49.8	38.9	24.9	16.6	0.79
150	276.5	41.5	32.4	20.7	13.8	0.95
175	237.0	35.5	27.8	17.8	11.8	1.10
200	207.4	31.1	24.3	15.6	10.4	1.26
250	165.9	24.9	19.4	12.4	8.3	1.58
300	138.2	20.7	16.2	10.4	6.9	1.89
350	118.5	17.8	13.9	8.9	***	2.21
400	103.7	15.6	12.2	7.8	***	2.52
450	92.2	13.8	10.8	6.9	***	2.84
500	82.9	12.4	9.7	***	***	3.15
600	69.1	10.4	8.1	***	***	3.78

\*\*\* Exceeds maximum solubility.

# Peters<sup>®</sup> Excel



SKU# E99152



**MULTI PURPOSE  
NO BORON**

Moderately acidic boron-free formulation delivers high nitrate, low phosphate nutrition best with Types 2, 3 and 4 irrigation water.

- B (Base) formulation can be used alone or rotated with a C (Customizing) component
- Appropriate for Water Types 2, 3 and 4
- Contains a complete range of essential micronutrients

**GUARANTEED ANALYSIS 21-5-20**

Total nitrogen (N) . . . . .	21%
7.2% ammoniacal nitrogen	
12.7% nitrate nitrogen	
1.1% urea nitrogen	
Available phosphate (P <sub>2</sub> O <sub>5</sub> ) . . . . .	5%
Soluble potash (K <sub>2</sub> O) . . . . .	20%
Copper (Cu) . . . . .	0.0262%
0.0262% water soluble copper (Cu)	
Iron (Fe) . . . . .	0.105%
0.105% chelated iron (Fe)	
Manganese (Mn) . . . . .	0.0525%
0.0525% water soluble manganese (Mn)	
Molybdenum (Mo) . . . . .	0.0105%
Zinc (Zn) . . . . .	0.0525%
0.0525% water soluble zinc (Zn)	

**Derived from:** Ammonium Nitrate, Ammonium Phosphate, Potassium Nitrate, Urea Phosphate, Copper Sulfate, Iron EDTA, Manganese Sulfate, Ammonium Molybdate, Zinc Sulfate

Amount of Fertilizer*	Amount of Water (gallons)	Approx. ppm N
1 tsp	1	320
1 tbsp	2	480
1 cup	25	614

\*level measurements

1 pound of fertilizer + 100 gallons of water = 251.7 ppm N

**PRODUCT PROPERTIES**

Potential Acidity . . . . .	377 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N . . . . .	0.643 mmhos/cm
Maximum Solubility . . . . .	4 lbs/gal

WEIGHT (IN OUNCES) OF PRODUCT NEEDED TO MIX ONE GALLON OF CONCENTRATE						
Target Fertilizer Concentration (N/ppm) After Dilution	Common Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	0.2	1.6	2.1	3.2	4.8	0.16
50	0.5	3.2	4.1	6.4	9.6	0.32
75	0.7	4.8	6.2	9.6	14.5	0.47
100	1.0	6.4	8.2	12.9	19.3	0.63
125	1.2	8.0	10.3	16.1	24.1	0.79
150	1.4	9.6	12.3	19.3	28.9	0.95
175	1.7	11.3	14.4	22.5	33.8	1.10
200	1.9	12.9	16.5	25.7	38.6	1.26
250	2.4	16.1	20.6	32.2	48.2	1.58
300	2.9	19.3	24.7	38.6	57.9	1.89
350	3.4	22.5	28.8	45.0	***	2.21
400	3.9	25.7	32.9	51.4	***	2.52
450	4.3	28.9	37.0	57.9	***	2.84
500	4.8	32.2	41.2	***	***	3.15
600	5.8	38.6	49.4	***	***	3.78

\*\*\* Exceeds maximum solubility.

GALLONS OF WATER REQUIRED TO DISSOLVE ONE 25 LB BAG OF FERTILIZER						
Target Fertilizer Concentration (N/ppm) After Dilution	Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	1658.9	248.8	194.4	124.4	82.9	0.16
50	829.4	124.4	97.2	62.2	41.5	0.32
75	553.0	82.9	64.8	41.5	27.6	0.47
100	414.7	62.2	48.6	31.1	20.7	0.63
125	331.8	49.8	38.9	24.9	16.6	0.79
150	276.5	41.5	32.4	20.7	13.8	0.95
175	237.0	35.5	27.8	17.8	11.8	1.10
200	207.4	31.1	24.3	15.6	10.4	1.26
250	165.9	24.9	19.4	12.4	8.3	1.58
300	138.2	20.7	16.2	10.4	6.9	1.89
350	118.5	17.8	13.9	8.9	***	2.21
400	103.7	15.6	12.2	7.8	***	2.52
450	92.2	13.8	10.8	6.9	***	2.84
500	82.9	12.4	9.7	***	***	3.15
600	69.1	10.4	8.1	***	***	3.78

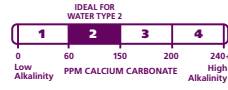
\*\*\* Exceeds maximum solubility.



# Peters® Excel



SKU# E99140\*



**CAL-MAG SPECIAL**

Excellent all-purpose formulation combines high nitrate and low phosphate with extra calcium and magnesium. Ideal for Type 2 irrigation water.

- A (All-Purpose) formulation for constant, balanced nutrition
- Ideal in operations irrigating with Water Type 2
- Contains a complete range of essential micronutrients

\* Available in Canada SKU # E99143

**GUARANTEED ANALYSIS 15-5-15**

Total nitrogen (N) .....	15%
1.1% ammoniacal nitrogen	
11.8% nitrate nitrogen	
2.1% urea nitrogen	
Available phosphate (P <sub>2</sub> O <sub>5</sub> ) .....	5%
Soluble potash (K <sub>2</sub> O) .....	15%
Calcium (Ca) .....	5.0%
Magnesium (Mg) .....	2.0%
2.0% water soluble magnesium (Mg)	
Boron (B) .....	0.0187%
Copper (Cu) .....	0.0187%
0.0187% water soluble copper (Cu)	
Iron (Fe) .....	0.075%
0.075% chelated iron (Fe)	
Manganese (Mn) .....	0.0375%
0.0375% water soluble manganese (Mn)	
Molybdenum (Mo) .....	0.0075%
Zinc (Zn) .....	0.0375%
0.0375% water soluble zinc (Zn)	

**Derived from:** Ammonium Nitrate, Potassium Nitrate, Calcium Nitrate, Magnesium Nitrate, Urea Phosphate, Boric Acid, Copper Sulfate, Iron EDTA, Manganese Sulfate, Ammonium Molybdate, Zinc Sulfate

MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS)		
Amount of Fertilizer*	+ Amount of Water (gallons)	= Approx. ppm N
1 tsp	1	194
1 tbsp	2	291
1 cup	25	372

\*level measurements

1 pound of fertilizer + 100 gallons of water = 179.8 ppm N

PRODUCT PROPERTIES	
Potential Basicity .....	131 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N .....	0.69 mmhos/cm
Maximum Solubility .....	3 lbs/gal

WEIGHT (IN OUNCES) OF PRODUCT NEEDED TO MIX ONE GALLON OF CONCENTRATE						
Target Fertilizer Concentration (N/ppm) After Dilution	Common Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	0.3	2.3	2.9	4.5	6.8	0.17
50	0.7	4.5	5.8	9.0	13.5	0.35
75	1.0	6.8	8.6	13.5	20.3	0.52
100	1.4	9.0	11.5	18.0	27.0	0.69
125	1.7	11.3	14.4	22.5	33.8	0.86
150	2.0	13.5	17.3	27.0	40.5	1.04
175	2.4	15.8	20.2	31.5	47.3	1.21
200	2.7	18.0	23.0	36.0	***	1.38
250	3.4	22.5	28.8	45.0	***	1.73
300	4.1	27.0	34.6	***	***	2.07
350	4.7	31.5	40.3	***	***	2.42
400	5.4	36.0	46.1	***	***	2.76
450	6.1	40.5	***	***	***	3.11
500	6.8	45.0	***	***	***	3.45
600	8.1	***	***	***	***	4.14

\*\*\* Exceeds maximum solubility.

GALLONS OF WATER REQUIRED TO DISSOLVE ONE 25 LB BAG OF FERTILIZER						
Target Fertilizer Concentration (N/ppm) After Dilution	Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	1185.2	177.8	138.9	88.9	59.3	0.17
50	592.6	88.9	69.4	44.4	29.6	0.35
75	395.1	59.3	46.3	29.6	19.8	0.52
100	296.3	44.4	34.7	22.2	14.8	0.69
125	237.0	35.6	27.8	17.8	11.9	0.86
150	197.5	29.6	23.1	14.8	9.9	1.04
175	169.3	25.4	19.8	12.7	8.5	1.21
200	148.1	22.2	17.4	11.1	***	1.38
250	118.5	17.8	13.9	8.9	***	1.73
300	98.8	14.8	11.6	***	***	2.07
350	84.7	12.7	9.9	***	***	2.42
400	74.1	11.1	8.7	***	***	2.76
450	65.8	9.9	***	***	***	3.11
500	59.3	8.9	***	***	***	3.45
600	49.4	***	***	***	***	4.14

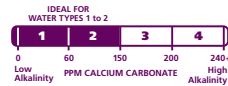
\*\*\* Exceeds maximum solubility.



# Peters<sup>®</sup> Excel



SKU# E99130



PANSY, SALVIA & VINCA

Formulated for compact growth and bright blossoms on pansy, salvia, vinca, etc. with high nitrate, low phosphate and extra boron.

- A (All-Purpose) formulation for constant, balanced nutrition
- Most effective with Water Types 1 and 2
- Contains calcium, magnesium and other minor elements

### GUARANTEED ANALYSIS 15-2-20

Total nitrogen (N) . . . . .	15%
1.4% ammoniacal nitrogen	
12.8% nitrate nitrogen	
0.8% urea nitrogen	
Available phosphate (P <sub>2</sub> O <sub>5</sub> ) . . . . .	2%
Soluble potash (K <sub>2</sub> O) . . . . .	20%
Calcium (Ca) . . . . .	3.75%
Magnesium (Mg) . . . . .	2.0%
2.0% water soluble magnesium (Mg)	
Boron (B) . . . . .	0.03%
Copper (Cu) . . . . .	0.0187%
0.0187% water soluble copper (Cu)	
Iron (Fe) . . . . .	0.1%
0.1% chelated iron (Fe)	
Manganese (Mn) . . . . .	0.05%
0.05% water soluble manganese (Mn)	
Molybdenum (Mo) . . . . .	0.0075%
Zinc (Zn) . . . . .	0.0375%
0.0375% water soluble zinc (Zn)	

**Derived from:** Ammonium Nitrate, Potassium Nitrate, Calcium Nitrate, Urea Phosphate, Magnesium Nitrate, Boric Acid, Copper Sulfate, Iron EDTA, Manganese Sulfate, Ammonium Molybdate, Zinc Sulfate

MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS)		
Amount of Fertilizer* +	Amount of Water (gallons) =	Approx. ppm N
1 tsp	1	169
1 tbsp	2	253
1 cup	25	324

\*level measurements

1 pound of fertilizer + 100 gallons of water = 179.8 ppm N

PRODUCT PROPERTIES	
Potential Basicity . . . . .	234 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N . . . . .	0.83 mmhos/cm
Maximum Solubility . . . . .	3.5 lbs/gal

WEIGHT (IN OUNCES) OF PRODUCT NEEDED TO MIX ONE GALLON OF CONCENTRATE						
Target Fertilizer Concentration (N/ppm) After Dilution	Common Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	0.3	2.3	2.9	4.5	6.8	0.21
50	0.7	4.5	5.8	9.0	13.5	0.42
75	1.0	6.8	8.6	13.5	20.3	0.62
100	1.4	9.0	11.5	18.0	27.0	0.83
125	1.7	11.3	14.4	22.5	33.8	1.04
150	2.0	13.5	17.3	27.0	40.5	1.25
175	2.4	15.8	20.2	31.5	47.3	1.45
200	2.7	18.0	23.0	36.0	54.0	1.66
250	3.4	22.5	28.8	45.0	***	2.08
300	4.1	27.0	34.6	54.0	***	2.49
350	4.7	31.5	40.3	***	***	2.91
400	5.4	36.0	46.1	***	***	3.32
450	6.1	40.5	51.8	***	***	3.74
500	6.8	45.0	***	***	***	4.15
600	8.1	54.0	***	***	***	4.98

\*\*\* Exceeds maximum solubility.

GALLONS OF WATER REQUIRED TO DISSOLVE ONE 25 LB BAG OF FERTILIZER						
Target Fertilizer Concentration (N/ppm) After Dilution	Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	1185.2	177.8	138.9	88.9	59.3	0.21
50	592.6	88.9	69.4	44.4	29.6	0.42
75	395.1	59.3	46.3	29.6	19.8	0.62
100	296.3	44.4	34.7	22.2	14.8	0.83
125	237.0	35.6	27.8	17.8	11.9	1.04
150	197.5	29.6	23.1	14.8	9.9	1.25
175	169.3	25.4	19.8	12.7	8.5	1.45
200	148.1	22.2	17.4	11.1	7.4	1.66
250	118.5	17.8	13.9	8.9	***	2.08
300	98.8	14.8	11.6	7.4	***	2.49
350	84.7	12.7	9.9	***	***	2.91
400	74.1	11.1	8.7	***	***	3.32
450	65.8	9.9	7.7	***	***	3.74
500	59.3	8.9	***	***	***	4.15
600	49.4	7.4	***	***	***	4.98

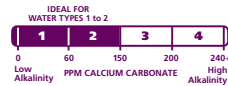
\*\*\* Exceeds maximum solubility.



# Peters<sup>®</sup> Excel



SKU# E99120\*



## 13-2-13

**PLUG & BEDDING  
PLANT SPECIAL**

Ideal for plugs, liners, bedding plants and vegetable transplants with high nitrate and low phosphate levels to encourage healthy, compact growth.

- A (All-Purpose) formulation for constant, balanced nutrition
- Most effective with Water Types 1 and 2
- Contains calcium, magnesium and other minor elements

\* Available in Canada SKU # E99123

### GUARANTEED ANALYSIS **13-2-13**

Total nitrogen (N) .....	13%
12.1% nitrate nitrogen	
0.9% urea nitrogen	
Available phosphate (P <sub>2</sub> O <sub>5</sub> ) .....	2%
Soluble potash (K <sub>2</sub> O) .....	13%
Calcium (Ca) .....	6.0%
Magnesium (Mg) .....	3.0%
3.0% water soluble magnesium (Mg)	
Boron (B) .....	0.0162%
Copper (Cu) .....	0.0162%
0.0162% water soluble copper (Cu)	
Iron (Fe) .....	0.065%
0.065% chelated iron (Fe)	
Manganese (Mn) .....	0.0325%
0.0325% water soluble manganese (Mn)	
Molybdenum (Mo) .....	0.0065%
Zinc (Zn) .....	0.0325%
0.0325% water soluble zinc (Zn)	

**Derived from:** Potassium Nitrate, Calcium Nitrate, Magnesium Nitrate, Urea Phosphate, Boric Acid, Copper Sulfate, Iron EDTA, Manganese Sulfate, Ammonium Molybdate, Zinc Sulfate

### MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS)

Amount of Fertilizer* +	Amount of Water (gallons) =	Approx. ppm N
1 tsp	1	168
1 tbs	2	252
1 cup	25	323

\*level measurements

1 pound of fertilizer + 100 gallons of water = 179.8 ppm N

### PRODUCT PROPERTIES

Potential Basicity .....	.335 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N .....	0.75 mmhos/cm
Maximum Solubility .....	5 lbs/gal

WEIGHT (IN OUNCES) OF PRODUCT NEEDED TO MIX ONE GALLON OF CONCENTRATE						
Target Fertilizer Concentration (N/ppm) After Dilution	Common Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	0.4	2.6	3.3	5.2	7.8	0.19
50	0.8	5.2	6.6	10.4	15.6	0.38
75	1.2	7.8	10.0	15.6	23.4	0.56
100	1.6	10.4	13.3	20.8	31.1	0.75
125	1.9	13.0	16.6	26.0	38.9	0.94
150	2.3	15.6	19.9	31.1	46.7	1.13
175	2.7	18.2	23.3	36.3	54.5	1.31
200	3.1	20.8	26.6	41.5	62.3	1.50
250	3.9	26.0	33.2	51.9	77.9	1.88
300	4.7	31.1	39.9	62.3	***	2.25
350	5.4	36.3	46.5	72.7	***	2.63
400	6.2	41.5	53.1	***	***	3.00
450	7.0	46.7	59.8	***	***	3.38
500	7.8	51.9	66.4	***	***	3.75
600	9.3	62.3	79.7	***	***	4.50

\*\*\* Exceeds maximum solubility.

### GALLONS OF WATER REQUIRED TO DISSOLVE ONE 25 LB BAG OF FERTILIZER

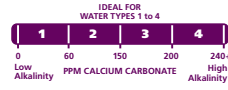
Target Fertilizer Concentration (N/ppm) After Dilution	Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	1027.6	154.1	120.4	77.1	51.4	0.19
50	513.8	77.1	60.2	38.5	25.7	0.38
75	342.5	51.4	40.1	25.7	17.1	0.56
100	256.9	38.5	30.1	19.3	12.8	0.75
125	205.5	30.8	24.1	15.4	10.3	0.94
150	171.3	25.7	20.1	12.8	8.6	1.13
175	146.8	22.0	17.2	11.0	7.3	1.31
200	128.5	19.3	15.1	9.6	6.4	1.50
250	102.8	15.4	12.0	7.7	5.1	1.88
300	85.6	12.8	10.0	6.4	***	2.25
350	73.4	11.0	8.6	5.5	***	2.63
400	64.2	9.6	7.5	***	***	3.00
450	57.1	8.6	6.7	***	***	3.38
500	51.4	7.7	6.0	***	***	3.75
600	42.8	6.4	5.0	***	***	4.50

\*\*\* Exceeds maximum solubility.

# Peters<sup>®</sup> Excel



SKU# E99160



**MAGNITRATE SPECIAL**

A premium choice for all crops that require supplemental magnesium.

- C (Customizing) component provides steady nitrogen uptake
- Effective for all Water Types
- Contains a complete range of essential micronutrients

**GUARANTEED ANALYSIS 10-0-0**

Total nitrogen (N) . . . . .	10%
10% nitrate nitrogen	
Magnesium (Mg) . . . . .	9.0%
9.0% water soluble magnesium (Mg)	
Boron (B) . . . . .	0.0125%
Copper (Cu) . . . . .	0.0125%
0.0125% water soluble copper (Cu)	
Iron (Fe) . . . . .	0.05%
0.05% chelated iron (Fe)	
Manganese (Mn) . . . . .	0.025%
0.025% water soluble manganese (Mn)	
Molybdenum (Mo) . . . . .	0.005%
Zinc (Zn) . . . . .	0.025%
0.025% water soluble zinc (Zn)	

**Derived from:** Magnesium Nitrate, Boric Acid, Copper Sulfate, Iron EDTA, Manganese Sulfate, Ammonium Molybdate, Zinc Sulfate

MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS)		
Amount of Fertilizer*	+ Amount of Water (gallons)	= Approx. ppm N
1 tsp	3	35
1 tbsp	10	31
1 cup	100	50

\*level measurements

1 pound of fertilizer + 100 gallons of water = 179.8 ppm N

PRODUCT PROPERTIES	
Potential Basicity . . . . .	357 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N . . . . .	0.70 mmhos/cm
Maximum Solubility . . . . .	5 lbs/gal

WEIGHT (IN OUNCES) OF PRODUCT NEEDED TO MIX ONE GALLON OF CONCENTRATE						
Target Fertilizer Concentration (N/ppm) After Dilution	Common Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	0.5	3.4	4.3	6.8	10.1	0.18
50	1.0	6.8	8.6	13.5	20.3	0.35
75	1.5	10.1	13.0	20.3	30.4	0.53
100	2.0	13.5	17.3	27.0	40.5	0.70
125	2.5	16.9	21.6	33.8	50.6	0.88
150	3.0	20.3	25.9	40.5	60.8	1.05
175	3.5	23.6	30.2	47.3	70.9	1.23
200	4.1	27.0	34.6	54.0	***	1.40
250	5.1	33.8	43.2	67.5	***	1.75
300	6.1	40.5	51.8	***	***	2.10
350	7.1	47.3	60.5	***	***	2.45
400	8.1	54.0	69.1	***	***	2.80
450	9.1	60.8	77.8	***	***	3.15
500	10.1	67.5	***	***	***	3.50
600	12.2	***	***	***	***	4.20

\*\*\* Exceeds maximum solubility.

GALLONS OF WATER REQUIRED TO DISSOLVE ONE 25 LB BAG OF FERTILIZER						
Target Fertilizer Concentration (N/ppm) After Dilution	Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	790.1	118.5	92.6	59.3	39.5	0.18
50	395.1	59.3	46.3	29.6	19.8	0.35
75	263.4	39.5	30.9	19.8	13.2	0.53
100	197.5	29.6	23.1	14.8	9.9	0.70
125	158.0	23.7	18.5	11.9	7.9	0.88
150	131.7	19.8	15.4	9.9	6.6	1.05
175	112.9	16.9	13.2	8.5	5.6	1.23
200	98.8	14.8	11.6	7.4	***	1.40
250	79.0	11.9	9.3	5.9	***	1.75
300	65.8	9.9	7.7	***	***	2.10
350	56.4	8.5	6.6	***	***	2.45
400	49.4	7.4	5.8	***	***	2.80
450	43.9	6.6	5.1	***	***	3.15
500	39.5	5.9	***	***	***	3.50
600	32.9	***	***	***	***	4.20

\*\*\* Exceeds maximum solubility.

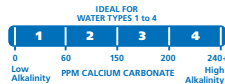


# Peters<sup>®</sup> Professional



SKU# E99087

## PRODUCT ANALYSIS AND RATES



**HIGH EFFICIENCY**

Economical to use: higher N % means you need less fertilizer to make up your desired ppm N concentration. A high nitrate N % and low-phosphate feed that encourages dense, compact, healthy growth in all crop types.

- B (Base) formulation can be used alone or rotated with a C (Customizing) component
- Effective for all Water Types
- Contains a full range of essential micronutrients

### GUARANTEED ANALYSIS **25-5-15**

Total Nitrogen (N).....	25%
10.8% ammoniacal nitrogen	
14.2% nitrate nitrogen	
Available Phosphate (P2O5).....	5%
Soluble Potash (K2O).....	15%
Boron (B).....	0.039%
Iron (Fe).....	0.15%
0.15% chelated iron (Fe)	
Manganese (Mn).....	0.075%
0.075% chelated manganese (Mn)	
Molybdenum (Mo).....	0.015%
Zinc (Zn).....	0.075%
0.075% chelated zinc (Zn)	

**Derived from:** Ammonium Nitrate, Ammonium Phosphate, Potassium Nitrate, Boric Acid, Copper EDTA, Iron EDTA, Manganese EDTA, Ammonium Molybdate, Zinc EDTA

**WARNING:** This fertilizing material contains Boron (B). Use on any crops other than those recommended may result in serious injury to the crop(s). This fertilizer contains more than .001% molybdenum (Mo). The application of fertilizing materials containing molybdenum (Mo) may result in forage crops containing levels of molybdenum (Mo) which are toxic to ruminant animals.

MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS)		
Amount of Fertilizer*	+ Amount of Water (gallons)	= Approx. ppm N
1 tsp	1	355
1 tbsp	2	533
1 cup	25	731

\*level measurements

1 pound of fertilizer + 100 gallons of water = 301.9 ppm N

PRODUCT PROPERTIES	
Potential Acidity.....	593 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N.....	0.57 mmhos/cm
Maximum Solubility.....	5.5 lbs/gal

WEIGHT (IN OUNCES) OF PRODUCT NEEDED TO MIX ONE GALLON OF CONCENTRATE						
Target Fertilizer Concentration (N/ppm) After Dilution	Common Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	0.2	1.3	1.7	2.7	4.0	0.14
50	0.4	2.7	3.4	5.3	8.0	0.29
75	0.6	4.0	5.1	8.0	12.0	0.43
100	0.8	5.3	6.8	10.7	16.0	0.57
125	1.0	6.7	8.5	13.4	20.0	0.71
150	1.2	8.0	10.3	16.0	24.0	0.86
175	1.4	9.3	12.0	18.7	28.0	1.00
200	1.6	10.7	13.7	21.4	32.0	1.14
250	2.0	13.4	17.1	26.7	40.1	1.43
300	2.4	16.0	20.5	32.0	48.1	1.71
350	2.8	18.7	23.9	37.4	56.1	2.00
400	3.2	21.4	27.3	42.7	64.1	2.28
450	3.6	24.0	30.8	48.1	72.1	2.57
500	4.0	26.7	34.2	53.4	80.1	2.85
600	4.8	32.0	41.0	64.1	***	3.42

\*\*\* Exceeds maximum solubility.

GALLONS OF WATER REQUIRED TO DISSOLVE ONE 25 LB BAG OF FERTILIZER						
Target Fertilizer Concentration (N/ppm) After Dilution	Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	1997.3	299.6	234.1	149.8	99.9	0.14
50	998.7	149.8	117.0	74.9	49.9	0.29
75	665.8	99.9	78.0	49.9	33.3	0.43
100	499.3	74.9	58.5	37.4	25.0	0.57
125	399.5	59.9	46.8	30.0	20.0	0.71
150	332.9	49.9	39.0	25.0	16.6	0.86
175	285.3	42.8	33.4	21.4	14.3	1.00
200	249.7	37.4	29.3	18.7	12.5	1.14
250	199.7	30.0	23.4	15.0	10.0	1.43
300	166.4	25.0	19.5	12.5	8.3	1.71
350	142.7	21.4	16.7	10.7	7.1	2.00
400	124.8	18.7	14.6	9.4	6.2	2.28
450	111.0	16.6	13.0	8.3	5.5	2.57
500	99.9	15.0	11.7	7.5	5.0	2.85
600	83.2	12.5	9.8	6.2	***	3.42

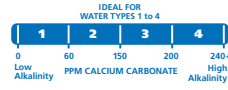
\*\*\* Exceeds maximum solubility.



# Peters<sup>®</sup> Professional



SKU# E99720\*



**FOLIAGE SPECIAL**

Classic low-phosphate ratio proven by Florida researches for tropical foliage and hanging baskets. Excellent choice for interiorscapes.

- B (Base) formulation can be used alone or rotated with a C (Customizing) component
- Effective for all Water Types
- Contains a complete range of essential micronutrients

\* Available in Canada SKU # E99723

**GUARANTEED ANALYSIS 24-8-16**

Total nitrogen (N) . . . . .	24%
7.1% ammoniacal nitrogen	
8.7% nitrate nitrogen	
8.2% urea nitrogen	
Available phosphate (P <sub>2</sub> O <sub>5</sub> ) . . . . .	8%
Soluble potash (K <sub>2</sub> O) . . . . .	16%
Magnesium (Mg) . . . . .	0.35%
0.35% water soluble magnesium (Mg)	
Sulfur (S) . . . . .	2.0%
2.0% combined sulfur (S)	
Boron (B) . . . . .	0.015%
Copper (Cu) . . . . .	0.015%
0.015% chelated copper (Cu)	
Iron (Fe) . . . . .	0.06%
0.06% chelated iron (Fe)	
Manganese (Mn) . . . . .	0.03%
0.03% chelated manganese (Mn)	
Molybdenum (Mo) . . . . .	0.006%
Zinc (Zn) . . . . .	0.03%
0.03% chelated zinc (Zn)	

**Derived from:** Ammonium Nitrate, Ammonium Phosphate, Ammonium Sulfate, Potassium Nitrate, Urea, Potassium Phosphate, Magnesium Sulfate, Boric Acid, Copper EDTA, Iron EDTA, Manganese EDTA, Ammonium Molybdate, Zinc EDTA

MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS)		
Amount of Fertilizer* +	Amount of Water (gallons)	Approx. ppm N
1 tsp	1	285
1 tbs	2	428
1 cup	25	548

\*level measurements

1 pound of fertilizer + 100 gallons of water = 287.6 ppm N

PRODUCT PROPERTIES	
Potential Acidity . . . . .	726 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N . . . . .	0.45 mmhos/cm
Maximum Solubility . . . . .	3 lbs/gal

WEIGHT (IN OUNCES) OF PRODUCT NEEDED TO MIX ONE GALLON OF CONCENTRATE						
Target Fertilizer Concentration (N/ppm) After Dilution	Common Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	0.2	1.4	1.8	2.8	4.2	0.11
50	0.4	2.8	3.6	5.6	8.4	0.23
75	0.6	4.2	5.4	8.4	12.7	0.34
100	0.8	5.6	7.2	11.3	16.9	0.45
125	1.1	7.0	9.0	14.1	21.1	0.56
150	1.3	8.4	10.8	16.9	25.3	0.68
175	1.5	9.9	12.6	19.7	29.6	0.79
200	1.7	11.3	14.4	22.5	33.8	0.90
250	2.1	14.1	18.0	28.2	42.2	1.13
300	2.5	16.9	21.6	33.8	***	1.35
350	3.0	19.7	25.2	39.4	***	1.58
400	3.4	22.5	28.8	45.0	***	1.80
450	3.8	25.3	32.4	***	***	2.03
500	4.2	28.2	36.0	***	***	2.25
600	5.1	33.8	43.2	***	***	2.70

\*\*\* Exceeds maximum solubility.

GALLONS OF WATER REQUIRED TO DISSOLVE ONE 25 LB BAG OF FERTILIZER						
Target Fertilizer Concentration (N/ppm) After Dilution	Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	1894.6	284.2	222.0	142.1	94.7	0.11
50	947.3	142.1	111.0	71.0	47.4	0.23
75	631.5	94.7	74.0	47.4	31.6	0.34
100	473.7	71.0	55.5	35.5	23.7	0.45
125	378.9	56.8	44.4	28.4	18.9	0.56
150	315.8	47.4	37.0	23.7	15.8	0.68
175	270.7	40.6	31.7	20.3	13.5	0.79
200	236.8	35.5	27.8	17.8	11.8	0.90
250	189.5	28.4	22.2	14.2	9.5	1.13
300	157.9	23.7	18.5	11.8	***	1.35
350	135.3	20.3	15.9	10.1	***	1.58
400	118.4	17.8	13.9	8.9	***	1.80
450	105.3	15.8	12.3	***	***	2.03
500	94.7	14.2	11.1	***	***	2.25
600	78.9	11.8	9.3	***	***	2.70

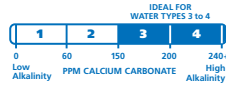
\*\*\* Exceeds maximum solubility.



# Peters<sup>®</sup> Professional



SKU# E99330



**ACID SPECIAL**

Produce healthy acid-loving crops with this formula's high potential acidity that offsets high water alkalinity or lowers pH levels in growing media.

- C (Customizing) component can be used with a variety of B (Base) formulations
- Excellent choice for Water Types 3 and 4
- Contains a full range of essential micronutrients plus extra iron to promote greening

**GUARANTEED ANALYSIS** **21-7-7**

Total nitrogen (N) . . . . .	21%
10.4% ammoniacal nitrogen	
10.6% urea nitrogen	
Available phosphate (P <sub>2</sub> O <sub>5</sub> ) . . . . .	7%
Soluble potash (K <sub>2</sub> O) . . . . .	7%
Magnesium (Mg) . . . . .	0.6%
0.6% water soluble magnesium (Mg)	
Sulfur (S) . . . . .	13.0%
13.0% combined sulfur (S)	
Boron (B) . . . . .	0.0262%
Copper (Cu) . . . . .	0.0262%
0.0262% chelated copper (Cu)	
Iron (Fe) . . . . .	0.15%
0.15% chelated iron (Fe)	
Manganese (Mn) . . . . .	0.05%
0.05% chelated manganese (Mn)	
Molybdenum (Mo) . . . . .	0.01%
Zinc (Zn) . . . . .	0.05%
0.05% chelated zinc (Zn)	

**Derived from:** Ammonium Phosphate, Ammonium Sulfate, Urea, Potassium Sulfate, Magnesium Sulfate, Boric Acid, Copper EDTA, Iron EDTA, Manganese EDTA, Ammonium Molybdate, Zinc EDTA

MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS)		
Amount of Fertilizer* +	Amount of Water (gallons)	Approx. ppm N
1 tsp	1	245
1 tbs	2	368
1 cup	25	471

\*level measurements

1 pound of fertilizer + 100 gallons of water = 251.7 ppm N

PRODUCT PROPERTIES	
Potential Acidity . . . . .	1518 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N . . . . .	0.52 mmhos/cm
Maximum Solubility . . . . .	4 lbs/gal

WEIGHT (IN OUNCES) OF PRODUCT NEEDED TO MIX ONE GALLON OF CONCENTRATE						
Target Fertilizer Concentration (N/ppm) After Dilution	Common Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	0.2	1.6	2.1	3.2	4.8	0.13
50	0.5	3.2	4.1	6.4	9.6	0.26
75	0.7	4.8	6.2	9.6	14.5	0.39
100	1.0	6.4	8.2	12.9	19.3	0.52
125	1.2	8.0	10.3	16.1	24.1	0.65
150	1.4	9.6	12.3	19.3	28.9	0.78
175	1.7	11.3	14.4	22.5	33.8	0.91
200	1.9	12.9	16.5	25.7	38.6	1.04
250	2.4	16.1	20.6	32.2	48.2	1.30
300	2.9	19.3	24.7	38.6	57.9	1.56
350	3.4	22.5	28.8	45.0	***	1.82
400	3.9	25.7	32.9	51.4	***	2.08
450	4.3	28.9	37.0	57.9	***	2.34
500	4.8	32.2	41.2	***	***	2.60
600	5.8	38.6	49.4	***	***	3.12

\*\*\* Exceeds maximum solubility.

GALLONS OF WATER REQUIRED TO DISSOLVE ONE 25 LB BAG OF FERTILIZER						
Target Fertilizer Concentration (N/ppm) After Dilution	Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	1658.9	248.8	194.4	124.4	82.9	0.13
50	829.4	124.4	97.2	62.2	41.5	0.26
75	553.0	82.9	64.8	41.5	27.6	0.39
100	414.7	62.2	48.6	31.1	20.7	0.52
125	331.8	49.8	38.9	24.9	16.6	0.65
150	276.5	41.5	32.4	20.7	13.8	0.78
175	237.0	35.5	27.8	17.8	11.8	0.91
200	207.4	31.1	24.3	15.6	10.4	1.04
250	165.9	24.9	19.4	12.4	8.3	1.30
300	138.2	20.7	16.2	10.4	6.9	1.56
350	118.5	17.8	13.9	8.9	***	1.82
400	103.7	15.6	12.2	7.8	***	2.08
450	92.2	13.8	10.8	6.9	***	2.34
500	82.9	12.4	9.7	***	***	2.60
600	69.1	10.4	8.1	***	***	3.12

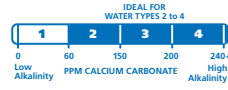
\*\*\* Exceeds maximum solubility.



# Peters® Professional



SKU# E99290\*



General Purpose

When growing media contains mineral soil, this formula provides acidifying action to help combat excessive pH. Also use when reduced micronutrients are desired.

- B (Base) formulation can be used alone or rotated with a C (Customizing) component
- Appropriate for Water Types 2, 3 and 4 as a drip, drench or foliar feed
- Contains a full range of essential micronutrients
- Also available in no dye formulation (SKU# E99291)

\* Available in Canada SKU # E99293

### GUARANTEED ANALYSIS **20-20-20**

Total nitrogen (N) . . . . .	20%
4.1% ammoniacal nitrogen	
5.5% nitrate nitrogen	
10.4% urea nitrogen	
Available phosphate (P <sub>2</sub> O <sub>5</sub> ) . . . . .	20%
Soluble potash (K <sub>2</sub> O) . . . . .	20%
Magnesium (Mg) . . . . .	0.05%
0.05% water soluble magnesium (Mg)	
Boron (B) . . . . .	0.0125%
Copper (Cu) . . . . .	0.0125%
0.0125% chelated copper (Cu)	
Iron (Fe) . . . . .	0.05%
0.05% chelated iron (Fe)	
Manganese (Mn) . . . . .	0.025%
0.025% chelated manganese (Mn)	
Molybdenum (Mo) . . . . .	0.005%
Zinc (Zn) . . . . .	0.025%
0.025% chelated zinc (Zn)	

**Derived from:** Ammonium Phosphate, Potassium Nitrate, Urea, Potassium Phosphate, Magnesium Sulfate, Boric Acid, Copper EDTA, Iron EDTA, Manganese EDTA, Ammonium Molybdate, Zinc EDTA

MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS)		
Amount of Fertilizer* +	Amount of Water (gallons)	Approx. ppm N
1 tsp	1	238
1 tbs	2	357
1 cup	25	457

\*level measurements

1 pound of fertilizer + 100 gallons of water = 239.7 ppm N

PRODUCT PROPERTIES	
Potential Acidity . . . . .	576 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N . . . . .	0.41 mmhos/cm
Maximum Solubility . . . . .	3.5 lbs/gal

WEIGHT (IN OUNCES) OF PRODUCT NEEDED TO MIX ONE GALLON OF CONCENTRATE						
Target Fertilizer Concentration (N/ppm) After Dilution	Common Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	0.3	1.7	2.2	3.4	5.1	0.10
50	0.5	3.4	4.3	6.8	10.1	0.21
75	0.8	5.1	6.5	10.1	15.2	0.31
100	1.0	6.8	8.6	13.5	20.2	0.41
125	1.3	8.4	10.8	16.9	25.3	0.51
150	1.5	10.1	13.0	20.3	30.4	0.62
175	1.8	11.8	15.1	23.6	35.4	0.72
200	2.0	13.5	17.3	27.0	40.5	0.82
250	2.5	16.9	21.6	33.8	50.6	1.03
300	3.0	20.3	25.9	40.5	***	1.23
350	3.5	23.6	30.2	47.3	***	1.44
400	4.1	27.0	34.6	54.0	***	1.64
450	4.6	30.4	38.9	***	***	1.85
500	5.1	33.8	43.2	***	***	2.05
600	6.1	40.5	51.8	***	***	2.46

\*\*\* Exceeds maximum solubility.

GALLONS OF WATER REQUIRED TO DISSOLVE ONE 25 LB BAG OF FERTILIZER						
Target Fertilizer Concentration (N/ppm) After Dilution	Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	1580.2	237.0	185.2	118.5	79.0	0.10
50	790.1	118.5	92.6	59.3	39.5	0.21
75	526.7	79.0	61.7	39.5	26.3	0.31
100	395.1	59.3	46.3	29.6	19.8	0.41
125	316.1	47.4	37.0	23.7	15.8	0.51
150	263.4	39.5	30.9	19.8	13.2	0.62
175	225.7	33.9	26.5	16.9	11.3	0.72
200	197.5	29.6	23.1	14.8	9.9	0.82
250	158.0	23.7	18.5	11.9	7.9	1.03
300	131.7	19.8	15.4	9.9	***	1.23
350	112.9	16.9	13.2	8.5	***	1.44
400	98.8	14.8	11.6	7.4	***	1.64
450	87.8	13.2	10.3	***	***	1.85
500	79.0	11.9	9.3	***	***	2.05
600	65.8	9.9	7.7	***	***	2.46

\*\*\* Exceeds maximum solubility.

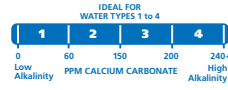


# Peters® Professional



SKU# E99300

## PRODUCT ANALYSIS AND RATES



**General Purpose**

Crops that are sensitive to excess micronutrients thrive with this classic formula with its acidifying action that corrects an overload of growing media pH.

- B (Base) formulation can be used alone or rotated with a C (Customizing) component
- Effective for all Water Types
- Contains a full range of essential micronutrients

### GUARANTEED ANALYSIS 20-10-20

Total nitrogen (N) . . . . .	20%
8.0% ammoniacal nitrogen	
12.0% nitrate nitrogen	
Available phosphate (P <sub>2</sub> O <sub>5</sub> ) . . . . .	10%
Soluble potash (K <sub>2</sub> O) . . . . .	20%
Magnesium (Mg) . . . . .	0.15%
0.15% water soluble magnesium (Mg)	
Boron (B) . . . . .	0.0125%
Copper (Cu) . . . . .	0.0125%
0.0125% chelated copper (Cu)	
Iron (Fe) . . . . .	0.05%
0.05% chelated iron (Fe)	
Manganese (Mn) . . . . .	0.025%
0.025% chelated manganese (Mn)	
Molybdenum (Mo) . . . . .	0.005%
Zinc (Zn) . . . . .	0.025%
0.025% chelated zinc (Zn)	

**Derived from:** Ammonium Nitrate, Potassium Nitrate, Potassium Phosphate, Magnesium Sulfate, Boric Acid, Copper EDTA, Iron EDTA, Manganese EDTA, Ammonium Molybdate, Zinc EDTA

MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS)		
Amount of Fertilizer*	+ Amount of Water (gallons)	= Approx. ppm N
1 tsp	1	305
1 tbsp	2	457
1 cup	25	585

\*level measurements

1 pound of fertilizer + 100 gallons of water = 239.7 ppm N

PRODUCT PROPERTIES	
Potential Acidity . . . . .	404 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N . . . . .	0.62 mmhos/cm
Maximum Solubility . . . . .	3.5 lbs/gal

WEIGHT (IN OUNCES) OF PRODUCT NEEDED TO MIX ONE GALLON OF CONCENTRATE						
Target Fertilizer Concentration (N/ppm) After Dilution	Common Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	0.3	1.7	2.2	3.4	5.1	0.16
50	0.5	3.4	4.3	6.8	10.1	0.31
75	0.8	5.1	6.5	10.1	15.2	0.47
100	1.0	6.8	8.6	13.5	20.3	0.62
125	1.3	8.4	10.8	16.9	25.3	0.78
150	1.5	10.1	13.0	20.3	30.4	0.93
175	1.8	11.8	15.1	23.6	35.4	1.09
200	2.0	13.5	17.3	27.0	40.5	1.24
250	2.5	16.9	21.6	33.8	50.6	1.55
300	3.0	20.3	25.9	40.5	***	1.86
350	3.5	23.6	30.2	47.3	***	2.17
400	4.1	27.0	34.6	54.0	***	2.48
450	4.6	30.4	38.9	***	***	2.79
500	5.1	33.8	43.2	***	***	3.10
600	6.1	40.5	51.8	***	***	3.72

\*\*\* Exceeds maximum solubility.

GALLONS OF WATER REQUIRED TO DISSOLVE ONE 25 LB BAG OF FERTILIZER						
Target Fertilizer Concentration (N/ppm) After Dilution	Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	1580.2	237.0	185.2	118.5	79.0	0.16
50	790.1	118.5	92.6	59.3	39.5	0.31
75	526.7	79.0	61.7	39.5	26.3	0.47
100	395.1	59.3	46.3	29.6	19.8	0.62
125	316.0	47.4	37.0	23.7	15.8	0.78
150	263.4	39.5	30.9	19.8	13.2	0.93
175	225.7	33.9	26.5	16.9	11.3	1.09
200	197.5	29.6	23.1	14.8	9.9	1.24
250	158.0	23.7	18.5	11.9	7.9	1.55
300	131.7	19.8	15.4	9.9	***	1.86
350	112.9	16.9	13.2	8.5	***	2.17
400	98.8	14.8	11.6	7.4	***	2.48
450	87.8	13.2	10.3	***	***	2.79
500	79.0	11.9	9.3	***	***	3.10
600	65.8	9.9	7.7	***	***	3.72

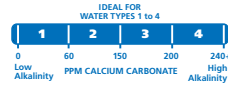
\*\*\* Exceeds maximum solubility.



# Peters<sup>®</sup> Professional



SKU# E99090



PETUNIA SPECIAL

Elevated iron and magnesium levels and M-77 multiple chelate system specifically designed for petunias and other high iron demanding crops.

A high nitrate N and low-phosphate feed that encourages dense, compact, healthy growth in petunias and other flowering crops.

- B (Base) formulation can be used alone or rotated with a C (Customizing) component
- Effective for all Water Types
- Contains a full range of essential micronutrients

**GUARANTEED ANALYSIS** **20-3-19**

Total Nitrogen (N) . . . . .	20%
7.8% ammoniacal nitrogen	
12.2% nitrate nitrogen	
Available Phosphate (P2O5) . . . . .	3%
Soluble Potash (K2O) . . . . .	19%
Magnesium (Mg) . . . . .	1.35%
1.35% water soluble magnesium (Mg)	
Sulfur (S) . . . . .	2.5%
2.5% combined sulfur (S)	
Boron (B) . . . . .	0.02%
Iron (Fe) . . . . .	0.2%
0.2% chelated iron (Fe)	
Manganese (Mn) . . . . .	0.05%
0.05% chelated manganese (Mn)	
Molybdenum (Mo) . . . . .	0.01%
Zinc (Zn) . . . . .	0.05%
0.05% chelated zinc (Zn)	

**Derived from:** Ammonium Nitrate, Ammonium Sulfate, Ammonium Phosphate, Potassium Nitrate, Magnesium Sulfate, Boric Acid, Iron EDTA, Iron DTPA, Ammonium Molybdate, Manganese EDTA, ZincEDTA

**WARNING:** This fertilizing material contains Boron (B). Use on any crops other than those recommended may result in serious injury to the crop(s). This fertilizer contains more than .001% molybdenum (Mo). The application of fertilizing materials containing molybdenum (Mo) may result in forage crops containing levels of molybdenum (Mo) which are toxic to ruminant animals.

MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS)		
Amount of Fertilizer* +	Amount of Water (gallons) =	Approx. ppm N
1 tsp	1	305
1 tbsp	2	457
1 cup	25	585

\*level measurements

1 pound of fertilizer + 100 gallons of water = 239.7 ppm N

PRODUCT PROPERTIES	
Potential Acidity . . . . .	424 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N . . . . .	0.54 mmhos/cm
Maximum Solubility . . . . .	5 lbs/gal

WEIGHT (IN OUNCES) OF PRODUCT NEEDED TO MIX ONE GALLON OF CONCENTRATE						
Target Fertilizer Concentration (N/ppm) After Dilution	Common Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	0.3	1.7	2.2	3.4	5.1	0.14
50	0.5	3.4	4.3	6.8	10.1	0.27
75	0.8	5.1	6.5	10.1	15.2	0.41
100	1.0	6.8	8.6	13.5	20.3	0.54
125	1.3	8.4	10.8	16.9	25.3	0.68
150	1.5	10.1	13.0	20.3	30.4	0.81
175	1.8	11.8	15.1	23.6	35.4	0.95
200	2.0	13.5	17.3	27.0	40.5	1.08
250	2.5	16.9	21.6	33.8	50.6	1.35
300	3.0	20.3	25.9	40.5	60.8	1.62
350	3.5	23.6	30.2	47.3	70.9	1.89
400	4.1	27.0	34.6	54.0	***	2.16
450	4.6	30.4	38.9	60.8	***	2.43
500	5.1	33.8	43.2	67.5	***	2.70
600	6.1	40.5	51.8	***	***	3.24

\*\*\* Exceeds maximum solubility.

GALLONS OF WATER REQUIRED TO DISSOLVE ONE 25 LB BAG OF FERTILIZER						
Target Fertilizer Concentration (N/ppm) After Dilution	Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	1580.2	237.0	185.2	118.5	79.0	0.14
50	790.1	118.5	92.6	59.3	39.5	0.27
75	526.7	79.0	61.7	39.5	26.3	0.41
100	395.1	59.3	46.3	29.6	19.8	0.54
125	316.0	47.4	37.0	23.7	15.8	0.68
150	263.4	39.5	30.9	19.8	13.2	0.81
175	225.7	33.9	26.5	16.9	11.3	0.95
200	197.5	29.6	23.1	14.8	9.9	1.08
250	158.0	23.7	18.5	11.9	7.9	1.35
300	131.7	19.8	15.4	9.9	6.6	1.62
350	112.9	16.9	13.2	8.5	5.6	1.89
400	98.8	14.8	11.6	7.4	***	2.16
450	87.8	13.2	10.3	6.6	***	2.43
500	79.0	11.9	9.3	5.9	***	2.70
600	65.8	9.9	7.7	***	***	3.24

\*\*\* Exceeds maximum solubility.

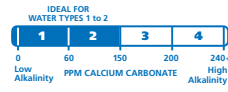


# Peters<sup>®</sup> Professional



SKU# E99340

## PRODUCT ANALYSIS AND RATES



**PLUG & BEDDING  
PLANT SPECIAL  
NO MINORS, NO DYE**

Ideal for plugs, liners, bedding plants and vegetable transplants with high nitrate and low phosphate levels to encourage healthy, compact growth.

- B (Base) formulation for constant, balanced nutrition
- Most effective with Water Types 1 and 2
- Contains calcium and magnesium
- For growers who prefer to add their own micronutrient package

### GUARANTEED ANALYSIS **13-2-13**

Total nitrogen (N) .....	13%
0.4% ammoniacal nitrogen	
12.6% nitrate nitrogen	
Available phosphate (P <sub>2</sub> O <sub>5</sub> ) .....	2%
Soluble potash (K <sub>2</sub> O) .....	13%
Calcium (Ca) .....	6.0%
Magnesium (Mg) .....	3.0%
3.0% water soluble magnesium (Mg)	

**Derived from:** Ammonium Phosphate, Potassium Nitrate, Calcium Nitrate, Magnesium Nitrate

MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS)		
Amount of Fertilizer*	+ Amount of Water (gallons)	= Approx. ppm N
1 tsp	1	160
1 tbs	2	240
1 cup	25	307

\*level measurements

1 pound of fertilizer + 100 gallons of water = 155.8 ppm N

PRODUCT PROPERTIES	
Potential Basicity .....	356 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N .....	0.74 mmhos/cm
Maximum Solubility .....	3 lbs/gal

WEIGHT (IN OUNCES) OF PRODUCT NEEDED TO MIX ONE GALLON OF CONCENTRATE						
Target Fertilizer Concentration (N/ppm) After Dilution	Common Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	0.4	2.6	3.3	5.2	7.8	0.19
50	0.8	5.2	6.6	10.4	15.6	0.37
75	1.2	7.8	10.0	15.6	23.4	0.56
100	1.6	10.4	13.3	20.8	31.1	0.74
125	1.9	13.0	16.6	26.0	38.9	0.93
150	2.3	15.6	19.9	31.1	46.7	1.11
175	2.7	18.2	23.3	36.3	***	1.30
200	3.1	20.8	26.6	41.5	***	1.48
250	3.9	26.0	33.2	***	***	1.85
300	4.7	31.1	39.9	***	***	2.22
350	5.4	36.3	46.5	***	***	2.59
400	6.2	41.5	***	***	***	2.96
450	7.0	46.7	***	***	***	3.33
500	7.8	***	***	***	***	3.70
600	9.3	***	***	***	***	4.44

\*\*\* Exceeds maximum solubility.

GALLONS OF WATER REQUIRED TO DISSOLVE ONE 25 LB BAG OF FERTILIZER						
Target Fertilizer Concentration (N/ppm) After Dilution	Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	1027.6	154.1	120.4	77.1	51.4	0.19
50	513.8	77.1	60.2	38.5	25.7	0.37
75	342.5	51.4	40.1	25.7	17.1	0.56
100	256.9	38.5	30.1	19.3	12.8	0.74
125	205.5	30.8	24.1	15.4	10.3	0.93
150	171.3	25.7	20.1	12.8	8.6	1.11
175	146.8	22.0	17.2	11.0	***	1.30
200	128.5	19.3	15.1	9.6	***	1.48
250	102.8	15.4	12.0	***	***	1.85
300	85.6	12.8	10.0	***	***	2.22
350	73.4	11.0	8.6	***	***	2.59
400	64.2	9.6	***	***	***	2.96
450	57.1	8.6	***	***	***	3.33
500	51.4	***	***	***	***	3.70
600	42.8	***	***	***	***	4.44

\*\*\* Exceeds maximum solubility.

# Peters® Professional UNI-MIX®

GROWING MEDIA NUTRIENT CHARGE

SKU# E99930



**11-5-11**

Nutrient charge contains all essential major, secondary and micro-elements. Flexible granular formula can be incorporated in growing media.

- Provides immediate and slow release nutrient characteristics
- Granular nature allows easy, uniform distribution when incorporated into growing media

- Incorporate at 2 pounds per cubic yard in addition to limestone, if required. Gypsum may be substituted for some of the limestone for acid-loving plants.
- Start using Peters® fertilizer as a liquid application at planting or no later than two weeks after planting.
- Never steam-sterilize or heat mixes containing Uni-Mix.
- Available in 50 lb bags only.

**GUARANTEED ANALYSIS** **11-5-11**

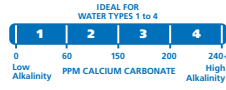
Total nitrogen (N) . . . . .	11%
4.6% nitrate nitrogen	
0.7% urea nitrogen	
1.2% other water soluble nitrogen	
4.5% water insoluble nitrogen	
Available phosphate (P <sub>2</sub> O <sub>5</sub> ) . . . . .	5%
Soluble potash (K <sub>2</sub> O) . . . . .	11%
Calcium (Ca) . . . . .	7.2%
Magnesium (Mg) . . . . .	2.9%
2.9% water soluble magnesium (Mg)	
Sulfur (S) . . . . .	7.0%
7.0% combined sulfur (S)	
Boron (B) . . . . .	0.02%
Copper (Cu) . . . . .	0.05%
0.05% water soluble copper (Cu)	
Iron (Fe) (Total) . . . . .	1.0%
1.0% water soluble iron (Fe)	
Manganese (Mn) . . . . .	0.14%
0.14% water soluble manganese	
Molybdenum (Mo) . . . . .	0.004%
Zinc (Zn) . . . . .	0.15%
0.15% water soluble zinc (Zn)	

**Derived from:** Potassium Nitrate, Calcium Nitrate, Methylenurea, Calcium Phosphate, Sulfate Of Potash Magnesia, Calcium Sulfate, Magnesium Sulfate, Boric Acid, Copper Sulfate, Iron Sulfate, Manganese Sulfate, Ammonium Molybdate, Zinc Sulfate

# Peters<sup>®</sup> Professional



SKU# E99310



**HYDROPONIC SPECIAL**

Designed exclusively for hydroponic culture, this classic formula is ideal for most hydroponic crops, especially tomatoes, cucumbers and lettuce.

- Flexible B (Base) formulation is easily augmented to meet unique plant needs
- Effective for all Water Types
- Buffered to help maintain acceptable working solution pH

**GUARANTEED ANALYSIS** **5-11-26**

Total nitrogen (N) . . . . .	5%
5.0% nitrate nitrogen	
Available phosphate (P <sub>2</sub> O <sub>5</sub> ) . . . . .	11%
Soluble potash (K <sub>2</sub> O) . . . . .	26%
Magnesium (Mg) . . . . .	3.1%
3.1% water soluble magnesium (Mg)	
Sulfur (S) . . . . .	4.0%
4.0% combined sulfur (S)	
Boron (B) . . . . .	0.05%
Copper (Cu) . . . . .	0.015%
0.015% chelated copper (Cu)	
Iron (Fe) . . . . .	0.3%
0.3% chelated iron (Fe)	
Manganese (Mn) . . . . .	0.05%
0.05% chelated manganese (Mn)	
Molybdenum (Mo) . . . . .	0.01%
Zinc (Zn) . . . . .	0.015%
0.015% chelated zinc (Zn)	

**Derived from:** Potassium Nitrate, Potassium Phosphate, Magnesium Sulfate, Boric Acid, Copper EDTA, Iron EDTA, Manganese EDTA, Ammonium Molybdate, Zinc EDTA

PRODUCT PROPERTIES	
Potential Basicity . . . . .	215 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N . . . . .	1.45 mmhos/cm
Maximum Solubility . . . . .	3 lbs/gal

**Step 1:** Dissolve 130 ounces or 8 pounds 2 ounces of this material in 1000 gallons to obtain the following concentrations

	Total	ppm
Nitrogen (All Nitrate)	N	50
Phosphorus	P	48
Potassium	K	216
Magnesium	Mg	31
Sulfate	SO <sub>4</sub>	125
Iron	Fe	3
Manganese	Mn	0.50
Zinc	Zn	0.15
Copper	Cu	0.15
Boron	B	0.50
Molybdenum	Mo	0.10

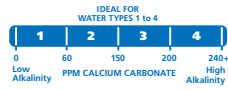
**Step 2:** Based on the results of a current water test, determine if additional magnesium is required. An average of 50 ppm magnesium in the final solution is desirable for most crops. If water test results indicate that additional magnesium is required, dissolve Epsom salts. One ounce of Epsom salts dissolved in 100 gallons (10 oz/1000 gallons) supplies 7.5 ppm magnesium. Water with very low magnesium levels may require the addition of up to 2 oz/100 gallons (20 oz/1000 gallons) of Epsom salts.

**Step 3:** After the Hydroponic Special and any Epsom salts needed have been dissolved in the tank, proceed as follows:

- Dissolve 86 ounces of calcium nitrate in the same 1000 gallons. Total nutrient concentration will then be: Nitrogen as N: 150 ppm N, Calcium as Ca: 116 ppm Ca.

# Peters® Professional S.T.E.M.™ SOLUBLE TRACE ELEMENT MIX

SKU# E99900



The industry's standard micronutrient supplement, providing the all-important "quick fix" nutrition for more than 50 years.

- C (Customizing) component can be used with a variety of B (Base) formulations
- Effective for all Water Types
- Contains the ideal balance of all essential micronutrients

### GUARANTEED ANALYSIS

Sulfur (S) . . . . .	13.0%
13.0% combined sulfur (S)	
Boron (B) . . . . .	1.35%
Copper (Cu) . . . . .	2.3%
2.3% water soluble copper (Cu)	
Iron (Fe) . . . . .	7.5%
7.5% water soluble iron (Fe)	
Manganese (Mn) . . . . .	8.0%
8.0% water soluble manganese (Mn)	
Molybdenum (Mo) . . . . .	0.04%
Zinc (Zn) . . . . .	4.5%
4.5% water soluble zinc (Zn)	

**Derived from:** Magnesium Sulfate, Boric Acid, Copper Sulfate, Iron Sulfate, Manganese Sulfate, Ammonium Molybdate, Zinc Sulfate

MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS) USING APPROXIMATE VOLUME MEASURES			
Amount of Fertilizer*	Low Application Rate	Medium Application Rate	High Application Rate
1 tsp	9 gal	4.5 gal	2.25 gal
1 tbsp	27 gal	13.5 gal	6.75 gal
1 cup	432 gal	216 gal	108 gal

\*level measurements

**Drench one time, corrective application:** Add 2 to 8 oz of Peters Professional S.T.E.M. per 100 gallons of water.

MINOR ELEMENT LEVELS (PPM) ACHIEVED				
Application Rate (oz/100 gal)	2	4	6	8
Sulfur (S)	21	42	63	84
Boron (B)	2	4	6	8
Copper (Cu)	4.8	9.6	14.4	19.2
Iron (Fe)	11.25	22.5	33.75	45
Manganese (Mn)	12	24	36	48
Molybdenum (Mo)	0.06	0.12	0.18	0.24
Zinc (Zn)	6.75	13.5	20.25	27
E.C. mmhos/cm	0.12	0.24	0.36	0.48

**Continuous Feeding:** Boost trace elements with every feeding—add 0.1 oz (2.8 g) to 0.3 oz (8.5 g) of Peters Professional S.T.E.M. per 100 gallons of water. One-half level teaspoon holds approximately 0.1 oz.

MINOR ELEMENT LEVELS (PPM) ACHIEVED			
Application Rate (oz/100 gal)	0.1	0.2	0.3
Sulfur (S)	1.05	2.10	3.15
Boron (B)	0.10	0.20	0.30
Copper (Cu)	0.24	0.48	0.72
Iron (Fe)	0.56	1.13	1.69
Manganese (Mn)	0.6	1.2	1.8
Molybdenum (Mo)	0.003	0.006	0.009
Zinc (Zn)	0.34	0.68	1.01

1. Fill the tank to approximately 1/3 tank volume. (Note: if possible use warm water to more quickly dissolve the fertilizer.)
2. Add mineral acid only if necessary (addition may be required with alkalinity levels greater than 250 mg/L calcium carbonate).
3. Add S.T.E.M. and any other compatible fertilizer and stir vigorously.
4. Top off the tank volume with water.



# Peters® Professional Liquid S.T.E.M.™



SKU# E99068

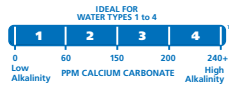
The industry's standard micronutrient supplement for the last 50 years, now in a convenient, ready-to-mix liquid formulation. Goes from the jug to the tank in one easy step with no solubility issues.

- C (Customizing) component can be used with a variety of B (Base) formulations
- Effective for all Water Types
- Contains the ideal balance of all essential micronutrients readily available as chelates

### GUARANTEED ANALYSIS

Boron (B) . . . . .	0.13%
Copper (Cu) . . . . .	0.125%
0.125% chelated Copper (Cu)	
Iron (Fe) . . . . .	4.6%
4.6% chelated iron (Fe)	
Manganese (Mn) . . . . .	1.25%
1.25% chelated manganese (Mn)	
Molybdenum (Mo) . . . . .	0.015%
Zinc (Zn) . . . . .	0.6%
0.6% chelated zinc (Zn)	

**Derived from:** Boric Acid, Copper EDTA, Iron EDTA, Manganese EDTA, Ammonium Molybdate, Zinc EDTA



### Liquid Stem Rates Tables

**One time, corrective application** - apply based on analysis / observations.

**Drench** (using a 1:100 Injector): add 2 to 8 fl. oz. Peters Professional Liquid STEM per gallon of stock solution.

**Drench** (using a 1:200 Injector): add 4 to 16 fl. oz. Liquid STEM per gallon of stock solution.

**Drench** (without an injector): add 2 to 8 fl. oz. Liquid STEM per 100 gal of water.

**Foliar Spray** - add 2 to 4 fl. oz. Liquid STEM / 100 gal of water.

**TABLE 1: DRENCH/SPRAY APPLICATION RATES**

	LOW			HIGH
Rate (fl oz Liquid STEM/100 gal)	2.0	4.0	6.0	8.0
Rate (ml Liquid STEM/ 100 gal)	59	118	178	237
<b>Micronutrient levels achieved</b>				
Nutrient	ppm	ppm	ppm	ppm
Boron (B)	0.26	0.53	0.079	1.06
Copper (Cu)	0.25	0.51	0.76	1.02
Iron (Fe)	9.34	18.7	28.0	37.4
Manganese (Mn)	2.54	5.1	7.6	10.2
Molybdenum (Mo)	0.03	0.06	0.09	0.12
Zinc (Zn)	1.22	2.4	3.7	4.9

One tablespoon = 0.5 fl. oz.      One fl. oz. = 29.6 mls.

1. Fill the tank to approximately 1/3 tank volume.
2. Add mineral acid only if necessary (addition may be required with alkalinity levels greater than 250 mg/L calcium carbonate).
3. Add Liquid S.T.E.M. and any other compatible fertilizer and stir vigorously.
4. Add water to required volume.

CONVENTIONAL MEASURE*	LOW			HIGH
1 tsp of Peters Professional Liquid STEM	8.3 gal.	4.1 gal.	2.8 gal.	2.1 gal.
1 tbsp of Peters Professional Liquid STEM	25 gal.	12.5 gal.	8.3 gal.	6.25 gal.
1 cup of Peters Professional Liquid STEM	400 gal.	200 gal.	133.3 gal.	100 gal.

\*Smaller Volumes without an injector - add volumes of liquid STEM to specified volumes of water to approximate rates in Table 1.

**Continuous Feeding:** Combine with normal fertilizer program as desired to boost micronutrient levels with every feeding. Apply based on analysis / observations.

**1:100 Injectors:** Add 3.5 to 10 mls of Peters Professional Liquid STEM per 1 gallons of stock solution.

**1:200 Injectors:** Add 7 to 20 mls of Peters Professional Liquid STEM per 1 gallons of stock solution.

**Tank:** Add 3.5 to 10 mls of Peters Professional Liquid STEM per 100 gallons of water..

**TABLE 3: CONTINUOUS FEED RATES**

	LOW	MEDIUM	HIGH
Rate (fl oz / 100 gal)	0.12	0.24	0.34
Rate (ml / 100 gal)	3.5	7.0	10.0
<b>Micronutrient levels achieved</b>			
Nutrient	ppm	ppm	ppm
Boron (B)	0.016	0.032	0.048
Copper (Cu)	0.015	0.03	0.046
Iron (Fe)	0.56	1.12	1.68
Manganese (Mn)	0.15	0.3	0.46
Molybdenum (Mo)	0.002	0.004	0.005
Zinc (Zn)	0.07	0.15	0.22

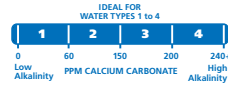


# Peters<sup>®</sup> Professional



SKU# E99250\*

## PRODUCT ANALYSIS AND RATES



PEAT-LITE SPECIAL<sup>®</sup>

Versatile formula can be used in year-around operations; acidifying action corrects excessive pH in growing media.

- B (Base) formulation can be used alone or rotated with a C (Customizing) component
- Effective for all Water Types
- Contains a full range of essential micronutrients

\* Available in Canada SKU # E99253

### GUARANTEED ANALYSIS 20-10-20

Total nitrogen (N) . . . . .	20%
8.1% ammoniacal nitrogen	
11.9% nitrate nitrogen	
Available phosphate (P <sub>2</sub> O <sub>5</sub> ) . . . . .	10%
Soluble potash (K <sub>2</sub> O) . . . . .	20%
Magnesium (Mg) . . . . .	0.15%
0.15% water soluble magnesium (Mg)	
Boron (B) . . . . .	0.025%
Copper (Cu) . . . . .	0.025%
0.025% chelated copper (Cu)	
Iron (Fe) . . . . .	0.1%
0.1% chelated iron (Fe)	
Manganese (Mn) . . . . .	0.05%
0.05% chelated manganese (Mn)	
Molybdenum (Mo) . . . . .	0.01%
Zinc (Zn) . . . . .	0.05%
0.05% chelated zinc (Zn)	

**Derived from:** Ammonium Nitrate, Potassium Nitrate, Potassium Phosphate, Magnesium Sulfate, Boric Acid, Copper EDTA, Iron EDTA, Manganese EDTA, Ammonium Molybdate, Zinc EDTA

MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS)		
Amount of Fertilizer* +	Amount of Water (gallons)	= Approx. ppm N
1 tsp	1	284
1 tbs	2	426
1 cup	25	545

\*level measurements

1 pound of fertilizer + 100 gallons of water = 239.7 ppm N

PRODUCT PROPERTIES	
Potential Acidity . . . . .	415 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N . . . . .	0.59 mmhos/cm
Maximum Solubility . . . . .	3 lbs/gal

WEIGHT (IN OUNCES) OF PRODUCT NEEDED TO MIX ONE GALLON OF CONCENTRATE						
Target Fertilizer Concentration (N/ppm) After Dilution	Common Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	0.3	1.7	2.2	3.4	5.1	0.15
50	0.5	3.4	4.3	6.8	10.1	0.30
75	0.8	5.1	6.5	10.1	15.2	0.44
100	1.0	6.8	8.6	13.5	20.3	0.59
125	1.3	8.4	10.8	16.9	25.3	0.74
150	1.5	10.1	13.0	20.3	30.4	0.89
175	1.8	11.8	15.1	23.6	35.4	1.03
200	2.0	13.5	17.3	27.0	40.5	1.18
250	2.5	16.9	21.6	33.8	***	1.48
300	3.0	20.3	25.9	40.5	***	1.77
350	3.5	23.6	30.2	47.3	***	2.07
400	4.1	27.0	34.6	***	***	2.36
450	4.6	30.4	38.9	***	***	2.66
500	5.1	33.8	43.2	***	***	2.95
600	6.1	40.5	***	***	***	3.54

\*\*\* Exceeds maximum solubility.

GALLONS OF WATER REQUIRED TO DISSOLVE ONE 25 LB BAG OF FERTILIZER						
Target Fertilizer Concentration (N/ppm) After Dilution	Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	1580.2	237.0	185.2	118.5	79.0	0.15
50	790.1	118.5	92.6	59.3	39.5	0.30
75	526.7	79.0	61.7	39.5	26.3	0.44
100	395.1	59.3	46.3	29.6	19.8	0.59
125	316.0	47.4	37.0	23.7	15.8	0.74
150	263.4	39.5	30.9	19.8	13.2	0.89
175	225.7	33.9	26.5	16.9	11.3	1.03
200	197.5	29.6	23.1	14.8	9.9	1.18
250	158.0	23.7	18.5	11.9	***	1.48
300	131.7	19.8	15.4	9.9	***	1.77
350	112.9	16.9	13.2	8.5	***	2.07
400	98.8	14.8	11.6	***	***	2.36
450	87.8	13.2	10.3	***	***	2.66
500	79.0	11.9	9.3	***	***	2.95
600	65.8	9.9	***	***	***	3.54

\*\*\* Exceeds maximum solubility.

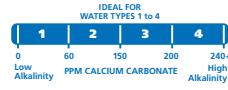


# Peters® Professional



SKU# E99252

## PRODUCT ANALYSIS AND RATES



**PEAT-LITE SPECIAL®  
NO BORON**

Classic balance of nutrition in a no-boron option either to match irrigation waters that are high in boron or to reduce boron levels in growing media.

- B (Base) formulation can be used alone or rotated with a C (Customizing) component
- Effective for all Water Types
- Contains a full range of essential micronutrients

### GUARANTEED ANALYSIS **20-10-20**

Total nitrogen (N) . . . . .	20%
8.0% ammoniacal nitrogen	
12.0% nitrate nitrogen	
Available phosphate (P <sub>2</sub> O <sub>5</sub> ) . . . . .	10%
Soluble potash (K <sub>2</sub> O) . . . . .	20%
Magnesium (Mg) . . . . .	0.15%
0.15% water soluble magnesium (Mg)	
Copper (Cu) . . . . .	0.025%
0.025% chelated copper (Cu)	
Iron (Fe) . . . . .	0.1%
0.1% chelated iron (Fe)	
Manganese (Mn) . . . . .	0.05%
0.05% chelated manganese (Mn)	
Molybdenum (Mo) . . . . .	0.01%
Zinc (Zn) . . . . .	0.05%
0.05% chelated zinc (Zn)	

**Derived from:** Ammonium Nitrate, Potassium Nitrate, Potassium Phosphate, Magnesium Sulfate, Copper EDTA, Iron EDTA, Manganese EDTA, Ammonium Molybdate, Zinc EDTA

MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS)		
Amount of Fertilizer* +	Amount of Water (gallons) =	Approx. ppm N
1 tsp	1	284
1 tbsp	2	426
1 cup	25	545

\*level measurements

1 pound of fertilizer + 100 gallons of water = 239.7 ppm N

PRODUCT PROPERTIES	
Potential Acidity . . . . .	402 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N . . . . .	0.59 mmhos/cm
Maximum Solubility . . . . .	3 lbs/gal

WEIGHT (IN OUNCES) OF PRODUCT NEEDED TO MIX ONE GALLON OF CONCENTRATE						
Target Fertilizer Concentration (N/ppm) After Dilution	Common Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	0.3	1.7	2.2	3.4	5.1	0.15
50	0.5	3.4	4.3	6.8	10.1	0.30
75	0.8	5.1	6.5	10.1	15.2	0.44
100	1.0	6.8	8.6	13.5	20.2	0.59
125	1.3	8.4	10.8	16.9	25.3	0.74
150	1.5	10.1	13.0	20.3	30.4	0.89
175	1.8	11.8	15.1	23.6	35.4	1.03
200	2.0	13.5	17.3	27.0	40.5	1.18
250	2.5	16.9	21.6	33.8	***	1.48
300	3.0	20.3	25.9	40.5	***	1.77
350	3.5	23.6	30.2	47.3	***	2.07
400	4.1	27.0	34.6	***	***	2.36
450	4.6	30.4	38.9	***	***	2.66
500	5.1	33.8	43.2	***	***	2.95
600	6.1	40.5	***	***	***	3.54

\*\*\* Exceeds maximum solubility.

GALLONS OF WATER REQUIRED TO DISSOLVE ONE 25 LB BAG OF FERTILIZER						
Target Fertilizer Concentration (N/ppm) After Dilution	Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	1580.2	237.0	185.2	118.5	79.0	0.15
50	790.1	118.5	92.6	59.3	39.5	0.30
75	526.7	79.0	61.7	39.5	26.3	0.44
100	395.1	59.3	46.3	29.6	19.8	0.59
125	316.0	47.4	37.0	23.7	15.8	0.74
150	263.4	39.5	30.9	19.8	13.2	0.89
175	225.7	33.9	26.5	16.9	11.3	1.03
200	197.5	29.6	23.1	14.8	9.9	1.18
250	158.0	23.7	18.5	11.9	***	1.48
300	131.7	19.8	15.4	9.9	***	1.77
350	112.9	16.9	13.2	8.5	***	2.07
400	98.8	14.8	11.6	***	***	2.36
450	87.8	13.2	10.3	***	***	2.66
500	79.0	11.9	9.3	***	***	2.95
600	65.8	9.9	***	***	***	3.54

\*\*\* Exceeds maximum solubility.

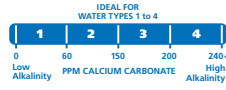


# Peters® Professional



SKU# E99270

## PRODUCT ANALYSIS AND RATES



**PEAT-LITE® LOW PHOS SPECIAL**

A low-phosphate feed that encourages dense, compact, healthy growth in plugs, liners, bedding plants and vegetable transplants.

- B (Base) formulation can be used alone or rotated with a C (Customizing) component
- Effective for all Water Types
- Contains a full range of essential micronutrients

### GUARANTEED ANALYSIS **20-2-20**

Total nitrogen (N) . . . . .	20%
7.2% ammoniacal nitrogen	
12.8% nitrate nitrogen	
Available phosphate (P <sub>2</sub> O <sub>5</sub> ) . . . . .	2%
Soluble potash (K <sub>2</sub> O) . . . . .	20%
Magnesium (Mg) . . . . .	1.1%
1.1% water soluble magnesium (Mg)	
Boron (B) . . . . .	0.025%
Copper (Cu) . . . . .	0.025%
0.025% chelated copper (Cu)	
Iron (Fe) . . . . .	0.1%
0.1% chelated iron (Fe)	
Manganese (Mn) . . . . .	0.05%
0.05% chelated manganese (Mn)	
Molybdenum (Mo) . . . . .	0.01%
Zinc (Zn) . . . . .	0.05%
0.05% chelated zinc (Zn)	

**Derived from:** Ammonium Nitrate, Potassium Nitrate, Potassium Phosphate, Magnesium Sulfate, Boric Acid, Copper EDTA, Iron EDTA, Manganese EDTA, Ammonium Molybdate, Zinc EDTA

MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS)		
Amount of Fertilizer*	+ Amount of Water (gallons)	= Approx. ppm N
1 tsp	1	305
1 tbsps	2	457
1 cup	25	585

\*level measurements

1 pound of fertilizer + 100 gallons of water = 239.7 ppm N

PRODUCT PROPERTIES	
Potential Acidity . . . . .	290 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N . . . . .	0.60 mmhos/cm
Maximum Solubility . . . . .	3 lbs/gal

WEIGHT (IN OUNCES) OF PRODUCT NEEDED TO MIX ONE GALLON OF CONCENTRATE						
Target Fertilizer Concentration (N/ppm) After Dilution	Common Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	0.3	1.7	2.2	3.4	5.1	0.15
50	0.5	3.4	4.3	6.8	10.1	0.30
75	0.8	5.1	6.5	10.1	15.2	0.45
100	1.0	6.8	8.6	13.5	20.3	0.60
125	1.3	8.4	10.8	16.9	25.3	0.75
150	1.5	10.1	13.0	20.3	30.4	0.90
175	1.8	11.8	15.1	23.6	35.4	1.05
200	2.0	13.5	17.3	27.0	40.5	1.20
250	2.5	16.9	21.6	33.8	***	1.50
300	3.0	20.3	25.9	40.5	***	1.80
350	3.5	23.6	30.2	47.3	***	2.10
400	4.1	27.0	34.6	***	***	2.40
450	4.6	30.4	38.9	***	***	2.70
500	5.1	33.8	43.2	***	***	3.00
600	6.1	40.5	***	***	***	3.60

\*\*\* Exceeds maximum solubility.

GALLONS OF WATER REQUIRED TO DISSOLVE ONE 25 LB BAG OF FERTILIZER						
Target Fertilizer Concentration (N/ppm) After Dilution	Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	1580.2	237.0	185.2	118.5	79.0	0.15
50	790.1	118.5	92.6	59.3	39.5	0.30
75	526.7	79.0	61.7	39.5	26.3	0.45
100	395.1	59.3	46.3	29.6	19.8	0.60
125	316.0	47.4	37.0	23.7	15.8	0.75
150	263.4	39.5	30.9	19.8	13.2	0.90
175	225.7	33.9	26.5	16.9	11.3	1.05
200	197.5	29.6	23.1	14.8	9.9	1.20
250	158.0	23.7	18.5	11.9	***	1.50
300	131.7	19.8	15.4	9.9	***	1.80
350	112.9	16.9	13.2	8.5	***	2.10
400	98.8	14.8	11.6	***	***	2.40
450	87.8	13.2	10.3	***	***	2.70
500	79.0	11.9	9.3	***	***	3.00
600	65.8	9.9	***	***	***	3.60

\*\*\* Exceeds maximum solubility.

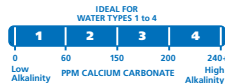


# Peters® Professional



SKU# E99240\*

## PRODUCT ANALYSIS AND RATES



**PEAT-LITE® HIGH MAG SPECIAL**

Highly effective stand-alone fertilizer with extra magnesium to maintain deep green foliage.

- B (Base) formulation for constant, balanced nutrition
- Excellent stand-alone for Water Types 3 and 4; use as a base in Water Types 1 and 2
- Contains a complete range of essential micronutrients

\* Available in Canada SKU # E99243

### GUARANTEED ANALYSIS **18-8-17**

Total nitrogen (N) .....	18%
7.3% ammoniacal nitrogen	
10.7% nitrate nitrogen	
Available phosphate (P <sub>2</sub> O <sub>5</sub> ) .....	8%
Soluble potash (K <sub>2</sub> O) .....	17%
Magnesium (Mg) .....	2.5%
2.5% water soluble magnesium (Mg)	
Sulfur (S) .....	1.0%
1.0% combined sulfur (S)	
Boron (B) .....	0.0225%
Copper (Cu) .....	0.0225%
0.0225% chelated copper (Cu)	
Iron (Fe) .....	0.09%
0.09% chelated iron (Fe)	
Manganese (Mn) .....	0.045%
0.045% chelated manganese (Mn)	
Molybdenum (Mo) .....	0.009%
Zinc (Zn) .....	0.045%
0.045% chelated zinc (Zn)	

**Derived from:** Ammonium Nitrate, Ammonium Phosphate, Potassium Nitrate, Magnesium Sulfate, Boric Acid, Copper EDTA, Iron EDTA, Manganese EDTA, Ammonium Molybdate, Zinc EDTA

MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS)		
Amount of Fertilizer*	+ Amount of Water (gallons)	= Approx. ppm N
1 tsp	1	267
1 tbsp	2	400
1 cup	25	512

\*level measurements

1 pound of fertilizer + 100 gallons of water = 215.7 ppm N

PRODUCT PROPERTIES	
Potential Acidity .....	381 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N .....	0.65 mmhos/cm
Maximum Solubility .....	3 lbs/gal

Target Fertilizer Concentration (N/ppm) After Dilution	Common Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	0.3	1.9	2.4	3.8	5.6	0.16
50	0.6	3.8	4.8	7.5	11.3	0.33
75	0.8	5.6	7.2	11.3	16.9	0.49
100	1.1	7.5	9.6	15.0	22.5	0.65
125	1.4	9.4	12.0	18.8	28.1	0.81
150	1.7	11.3	14.4	22.5	33.8	0.98
175	2.0	13.1	16.8	26.3	39.4	1.14
200	2.3	15.0	19.2	30.0	45.0	1.30
250	2.8	18.8	24.0	37.5	***	1.63
300	3.4	22.5	28.8	45.0	***	1.95
350	3.9	26.3	33.6	***	***	2.28
400	4.5	30.0	38.4	***	***	2.60
450	5.1	33.8	43.2	***	***	2.93
500	5.6	37.5	48.0	***	***	3.25
600	6.8	45.0	***	***	***	3.90

\*\*\* Exceeds maximum solubility.

Target Fertilizer Concentration (N/ppm) After Dilution	Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	1422.2	213.3	166.7	106.7	71.1	0.16
50	711.1	106.7	83.3	53.3	35.6	0.33
75	474.1	71.1	55.6	35.6	23.7	0.49
100	355.6	53.3	41.7	26.7	17.8	0.65
125	284.4	42.7	33.3	21.3	14.2	0.81
150	237.0	35.6	27.8	17.8	11.9	0.98
175	203.2	30.5	23.8	15.2	10.2	1.14
200	177.8	26.7	20.8	13.3	8.9	1.30
250	142.2	21.3	16.7	10.7	7.1	1.63
300	118.5	17.8	13.9	8.9	***	1.95
350	101.6	15.2	11.9	***	***	2.28
400	88.9	13.3	10.4	***	***	2.60
450	79.0	11.9	9.3	***	***	2.93
500	71.1	10.7	8.3	***	***	3.25
600	59.3	8.9	***	***	***	3.90

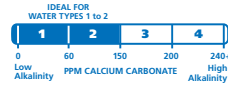
\*\*\* Exceeds maximum solubility.

# Peters® Professional



SKU# E99230\*

## PRODUCT ANALYSIS AND RATES



**PEAT-LITE® NEUTRAL CAL-MAG**

Premium all-purpose formulation produces a nearly neutral reaction to help maintain steady pH in growing media.

- A (All-Purpose) formulation for constant, balanced nutrition
- Ideal for Water Types 1 and 2
- Contains calcium, magnesium and other minor elements

\* Available in Canada SKU # E99233

### GUARANTEED ANALYSIS **17-3-17**

Total nitrogen (N) . . . . .	17%
4.0% ammoniacal nitrogen	
13.0% nitrate nitrogen	
Available phosphate (P <sub>2</sub> O <sub>5</sub> ) . . . . .	3%
Soluble potash (K <sub>2</sub> O) . . . . .	17%
Calcium (Ca) . . . . .	4.0%
Magnesium (Mg) . . . . .	1.25%
1.25% water soluble magnesium (Mg)	
Boron (B) . . . . .	0.0212%
Copper (Cu) . . . . .	0.0212%
0.0212% chelated copper (Cu)	
Iron (Fe) . . . . .	0.0850%
0.0850% chelated iron (Fe)	
Manganese (Mn) . . . . .	0.0425%
0.0425% chelated manganese (Mn)	
Molybdenum (Mo) . . . . .	0.0085%
Zinc (Zn) . . . . .	0.0425%
0.0425% chelated zinc (Zn)	

**Derived from:** Ammonium Nitrate, Ammonium Phosphate, Potassium Nitrate, Calcium Nitrate, Magnesium Nitrate, Boric Acid, Copper EDTA, Iron EDTA, Manganese EDTA, Ammonium Molybdate, Zinc EDTA

MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS)		
Amount of Fertilizer* +	Amount of Water (gallons)	Approx. ppm N
1 tsp	1	216
1 tbs	2	324
1 cup	25	415

\*level measurements

1 pound of fertilizer + 100 gallons of water = 203.7 ppm N

PRODUCT PROPERTIES	
Potential Basicity . . . . .	27 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N . . . . .	0.65 mmhos/cm
Maximum Solubility . . . . .	5 lbs/gal

WEIGHT (IN OUNCES) OF PRODUCT NEEDED TO MIX ONE GALLON OF CONCENTRATE						
Target Fertilizer Concentration (N/ppm) After Dilution	Common Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	0.3	2.0	2.5	3.9	5.9	0.16
50	0.6	3.9	5.0	7.9	11.8	0.33
75	0.9	5.9	7.5	11.8	17.7	0.49
100	1.2	7.9	10.0	15.7	23.6	0.65
125	1.5	9.8	12.6	19.6	29.4	0.81
150	1.8	11.8	15.1	23.6	35.3	0.98
175	2.1	13.7	17.6	27.5	41.2	1.14
200	2.4	15.7	20.1	31.4	47.1	1.30
250	2.9	19.6	25.1	39.3	58.9	1.63
300	3.5	23.6	30.1	47.1	70.7	1.95
350	4.1	27.5	35.2	55.0	***	2.28
400	4.7	31.4	40.2	62.8	***	2.60
450	5.3	35.3	45.2	70.7	***	2.93
500	5.9	39.2	50.2	78.5	***	3.25
600	7.1	47.1	60.3	***	***	3.90

\*\*\* Exceeds maximum solubility.

GALLONS OF WATER REQUIRED TO DISSOLVE ONE 25 LB BAG OF FERTILIZER						
Target Fertilizer Concentration (N/ppm) After Dilution	Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	1358.8	203.8	159.2	101.9	67.9	0.16
50	679.4	101.9	79.6	51.0	34.0	0.33
75	452.9	67.9	53.1	34.0	22.6	0.49
100	339.7	51.0	39.8	25.5	17.0	0.65
125	271.8	40.8	31.8	20.4	13.6	0.81
150	226.5	34.0	26.5	17.0	11.3	0.98
175	194.1	29.1	22.7	14.6	9.7	1.14
200	169.9	25.5	19.9	12.7	8.5	1.30
250	135.9	20.4	15.9	10.2	6.8	1.63
300	113.2	17.0	13.3	8.5	5.7	1.95
350	97.1	14.6	11.4	7.3	***	2.28
400	84.9	12.7	10.0	6.4	***	2.60
450	75.5	11.3	8.8	5.7	***	2.93
500	67.9	10.2	8.0	5.1	***	3.25
600	56.6	8.5	6.6	***	***	3.90

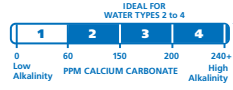
\*\*\* Exceeds maximum solubility.





# Peters<sup>®</sup> Professional

SKU# E99210\*



PRODUCT ANALYSIS AND RATES

## 15-16-17

PEAT-LITE SPECIAL<sup>®</sup>

The perfect 1:1:1 N-P-K formulation for geraniums raised in soilless growing media.

- B (Base) formulation can be used alone or rotated with a C (Customizing) component
- Appropriate for Water Types 2, 3 and 4
- Contains a full range of essential micronutrients

\* Available in Canada SKU # E99213

### GUARANTEED ANALYSIS 15-16-17

Total nitrogen (N) . . . . .	15%
3.10% ammoniacal nitrogen	
7.90% nitrate nitrogen	
4.00% urea nitrogen	
Available phosphate (P <sub>2</sub> O <sub>5</sub> ) . . . . .	16%
Soluble potash (K <sub>2</sub> O) . . . . .	17%
Magnesium (Mg) . . . . .	0.1%
0.1% water soluble magnesium (Mg)	
Boron (B) . . . . .	0.0187%
Copper (Cu) . . . . .	0.0187%
0.0187% chelated copper (Cu)	
Iron (Fe) . . . . .	0.075%
0.075% chelated iron (Fe)	
Manganese (Mn) . . . . .	0.0375%
0.0375% chelated manganese (Mn)	
Molybdenum (Mo) . . . . .	0.0075%
Zinc (Zn) . . . . .	0.0375%
0.0375% chelated zinc (Zn)	

**Derived from:** Ammonium Phosphate, Potassium Nitrate, Sodium Nitrate, Urea, Magnesium Sulfate, Boric Acid, Copper EDTA, Iron EDTA, Manganese EDTA, Ammonium Molybdate, Zinc EDTA

MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS)		
Amount of Fertilizer*	+ Amount of Water (gallons)	= Approx. ppm N
1 tsp	1	197
1 tbsp	2	296
1 cup	25	378

\*level measurements

1 pound of fertilizer + 100 gallons of water = 179.8 ppm N

PRODUCT PROPERTIES	
Potential Acidity . . . . .	202 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N . . . . .	0.62 mmhos/cm
Maximum Solubility . . . . .	4.25 lbs/gal

WEIGHT (IN OUNCES) OF PRODUCT NEEDED TO MIX ONE GALLON OF CONCENTRATE						
Target Fertilizer Concentration (N/ppm) After Dilution	Common Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	0.3	2.3	2.9	4.5	6.8	0.16
50	0.7	4.5	5.8	9.0	13.5	0.31
75	1.0	6.8	8.6	13.5	20.3	0.47
100	1.4	9.0	11.5	18.0	27.0	0.62
125	1.7	11.3	14.4	22.5	33.8	0.78
150	2.0	13.5	17.3	27.0	40.5	0.93
175	2.4	15.8	20.2	31.5	47.3	1.09
200	2.7	18.0	23.0	36.0	54.0	1.24
250	3.4	22.5	28.8	45.0	67.5	1.55
300	4.1	27.0	34.6	54.0	***	1.86
350	4.7	31.5	40.3	63.0	***	2.17
400	5.4	36.0	46.1	***	***	2.48
450	6.1	40.5	51.8	***	***	2.79
500	6.8	45.0	57.6	***	***	3.10
600	8.1	54.0	***	***	***	3.72

\*\*\* Exceeds maximum solubility.

GALLONS OF WATER REQUIRED TO DISSOLVE ONE 25 LB BAG OF FERTILIZER						
Target Fertilizer Concentration (N/ppm) After Dilution	Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	1185.2	177.8	138.9	88.9	59.3	0.16
50	592.6	88.9	69.4	44.4	29.6	0.31
75	395.1	59.3	46.3	29.6	19.8	0.47
100	296.3	44.4	34.7	22.2	14.8	0.62
125	237.0	35.6	27.8	17.8	11.9	0.78
150	197.5	29.6	23.1	14.8	9.9	0.93
175	169.3	25.4	19.8	12.7	8.5	1.09
200	148.1	22.2	17.4	11.1	7.4	1.24
250	118.5	17.8	13.9	8.9	5.9	1.55
300	98.8	14.8	11.6	7.4	***	1.86
350	84.7	12.7	9.9	6.3	***	2.17
400	74.1	11.1	8.7	***	***	2.48
450	65.8	9.9	7.7	***	***	2.79
500	59.3	8.9	6.9	***	***	3.10
600	49.4	7.4	***	***	***	3.72

\*\*\* Exceeds maximum solubility.

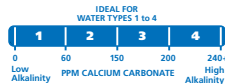


# Peters® Professional



SKU# E99220\*

## PRODUCT ANALYSIS AND RATES



**PEAT-LITE® FLOWERING CROP SPECIAL**

Proven high-nitrate, low-phosphate formula for poinsettias and many other flowering crops that are sensitive to boron.

- B (Base) formulation can be used alone or rotated with a C (Customizing) component
- Effective for all Water Types
- Contains extra magnesium plus a full range of essential micronutrients

\* Available in Canada SKU # E99223

### GUARANTEED ANALYSIS 15-5-25

Total nitrogen (N) . . . . .	15%
4.3% ammoniacal nitrogen	
10.7% nitrate nitrogen	
Available phosphate (P <sub>2</sub> O <sub>5</sub> ) . . . . .	5%
Soluble potash (K <sub>2</sub> O) . . . . .	25%
Magnesium (Mg) . . . . .	2.5%
2.5% water soluble magnesium (Mg)	
Sulfur (S) . . . . .	1.0%
1.0% combined sulfur (S)	
Boron (B) . . . . .	0.0068%
Copper (Cu) . . . . .	0.0187%
0.0187% chelated copper (Cu)	
Iron (Fe) . . . . .	0.075%
0.075% chelated iron (Fe)	
Manganese (Mn) . . . . .	0.0375%
0.0375% chelated manganese (Mn)	
Molybdenum (Mo) . . . . .	0.075%
Zinc (Zn) . . . . .	0.0375%
0.0375% chelated zinc (Zn)	

**Derived from:** Ammonium Phosphate, Ammonium Nitrate, Potassium Nitrate, Magnesium Sulfate, Boric Acid, Copper EDTA, Iron EDTA, Manganese EDTA, Ammonium Molybdate, Zinc EDTA

MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS)		
Amount of Fertilizer* +	Amount of Water (gallons)	Approx. ppm N
1 tsp	1	225
1 tbsp	2	338
1 cup	25	433

\*level measurements

1 pound of fertilizer + 100 gallons of water = 179.8 ppm N

PRODUCT PROPERTIES	
Potential Acidity . . . . .	48 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N . . . . .	0.77 mmhos/cm
Maximum Solubility . . . . .	2.5 lbs/gal

WEIGHT (IN OUNCES) OF PRODUCT NEEDED TO MIX ONE GALLON OF CONCENTRATE						
Target Fertilizer Concentration (N/ppm) After Dilution	Common Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	0.3	2.3	2.9	4.5	6.8	0.19
50	0.7	4.5	5.8	9.0	13.5	0.39
75	1.0	6.8	8.6	13.5	20.3	0.58
100	1.4	9.0	11.5	18.0	27.0	0.77
125	1.7	11.3	14.4	22.5	33.8	0.96
150	2.0	13.5	17.3	27.0	***	1.16
175	2.4	15.8	20.2	31.5	***	1.35
200	2.7	18.0	23.0	36.0	***	1.54
250	3.4	22.5	28.8	***	***	1.93
300	4.1	27.0	34.6	***	***	2.31
350	4.7	31.5	***	***	***	2.70
400	5.4	36.0	***	***	***	3.08
450	6.1	***	***	***	***	3.47
500	6.8	***	***	***	***	3.85
600	8.1	***	***	***	***	4.62

\*\*\* Exceeds maximum solubility.

GALLONS OF WATER REQUIRED TO DISSOLVE ONE 25 LB BAG OF FERTILIZER						
Target Fertilizer Concentration (N/ppm) After Dilution	Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	1185.2	177.8	138.9	88.9	59.3	0.19
50	592.6	88.9	69.4	44.4	29.6	0.39
75	395.1	59.3	46.3	29.6	19.8	0.58
100	296.3	44.4	34.7	22.2	14.8	0.77
125	237.0	35.6	27.8	17.8	11.9	0.96
150	197.5	29.6	23.1	14.8	***	1.16
175	169.3	25.4	19.8	12.7	***	1.35
200	148.1	22.2	17.4	11.1	***	1.54
250	118.5	17.8	13.9	***	***	1.93
300	98.8	14.8	11.6	***	***	2.31
350	84.7	12.7	***	***	***	2.70
400	74.1	11.1	***	***	***	3.08
450	65.8	***	***	***	***	3.47
500	59.3	***	***	***	***	3.85
600	49.4	***	***	***	***	4.62

\*\*\* Exceeds maximum solubility.

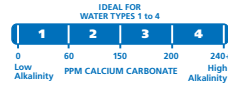


# Peters<sup>®</sup> Professional



SKU# E99320

## PRODUCT ANALYSIS AND RATES



**PEAT-LITE<sup>®</sup> FLOWERING CROP SPECIAL PLUS IRON**

New extra-iron formula for crops like vegetative petunias that thrive in growing media with lower pH.

- B (Base) formulation can be used alone or rotated with a C (Customizing) component
- Effective for all Water Types
- Contains extra magnesium plus a full range of essential micronutrients

### GUARANTEED ANALYSIS **15-3-25**

Total nitrogen (N) . . . . .	15%
4.0% ammoniacal nitrogen	
11.0% nitrate nitrogen	
Available phosphate (P <sub>2</sub> O <sub>5</sub> ) . . . . .	3%
Soluble potash (K <sub>2</sub> O) . . . . .	25%
Magnesium (Mg) . . . . .	2.5%
2.50% water soluble magnesium (Mg)	
Sulfur (S) . . . . .	1.0%
1.0% combined sulfur (S)	
Boron (B) . . . . .	0.0187%
Copper (Cu) . . . . .	0.0187%
0.0187% chelated copper (Cu)	
Iron (Fe) . . . . .	0.15%
0.15% chelated iron (Fe)	
Manganese (Mn) . . . . .	0.0375%
0.0375% chelated manganese (Mn)	
Molybdenum (Mo) . . . . .	0.075%
Zinc (Zn) . . . . .	0.0375%
0.0375% chelated zinc (Zn)	

**Derived From:** Ammonium Nitrate, Ammonium Phosphate, Potassium Nitrate, Potassium Phosphate, Magnesium Sulfate, Boric Acid, Copper EDTA, Iron EDTA, Manganese EDTA, Ammonium Molybdate, Zinc EDTA

MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS)		
Amount of Fertilizer* +	Amount of Water (gallons)	Approx. ppm N
1 tsp	1	232
1 tbs	2	347
1 cup	25	445

\*level measurements

1 pound of fertilizer + 100 gallons of water = 179.8 ppm N

PRODUCT PROPERTIES	
Potential Acidity . . . . .	13 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N . . . . .	0.79 mmhos/cm
Maximum Solubility . . . . .	2.5 lbs/gal

WEIGHT (IN OUNCES) OF PRODUCT NEEDED TO MIX ONE GALLON OF CONCENTRATE						
Target Fertilizer Concentration (N/ppm) After Dilution	Common Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	0.3	2.3	2.9	4.5	6.8	0.20
50	0.7	4.5	5.8	9.0	13.5	0.40
75	1.0	6.8	8.6	13.5	20.3	0.59
100	1.4	9.0	11.5	18.0	27.0	0.79
125	1.7	11.3	14.4	22.5	33.8	0.99
150	2.0	13.5	17.3	27.0	***	1.19
175	2.4	15.8	20.2	31.5	***	1.38
200	2.7	18.0	23.0	36.0	***	1.58
250	3.4	22.5	28.8	***	***	1.98
300	4.1	27.0	34.6	***	***	2.37
350	4.7	31.5	***	***	***	2.77
400	5.4	36.0	***	***	***	3.16
450	6.1	***	***	***	***	3.56
500	6.8	***	***	***	***	3.95
600	8.1	***	***	***	***	4.74

\*\*\* Exceeds maximum solubility.

GALLONS OF WATER REQUIRED TO DISSOLVE ONE 25 LB BAG OF FERTILIZER						
Target Fertilizer Concentration (N/ppm) After Dilution	Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	1185.2	177.8	138.9	88.9	59.3	0.20
50	592.6	88.9	69.4	44.4	29.6	0.40
75	395.1	59.3	46.3	29.6	19.8	0.59
100	296.3	44.4	34.7	22.2	14.8	0.79
125	237.0	35.6	27.8	17.8	11.9	0.99
150	197.5	29.6	23.1	14.8	***	1.19
175	169.3	25.4	19.8	12.7	***	1.38
200	148.1	22.2	17.4	11.1	***	1.58
250	118.5	17.8	13.9	***	***	1.98
300	98.8	14.8	11.6	***	***	2.37
350	84.7	12.7	***	***	***	2.77
400	74.1	11.1	***	***	***	3.16
450	65.8	***	***	***	***	3.56
500	59.3	***	***	***	***	3.95
600	49.4	***	***	***	***	4.74

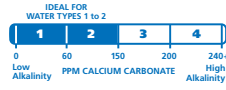
\*\*\* Exceeds maximum solubility.

# Peters<sup>®</sup> Professional



SKU# E99260\*

## PRODUCT ANALYSIS AND RATES



**PEAT-LITE<sup>®</sup> DARK WEATHER FEED**

Classic high-nitrate formula for bulbs or any crop that needs extra calcium and magnesium, lower phosphate and slightly higher growing media pH.

- C (Customizing) component
- Ideal for Water Types 1 and 2
- Provides a full range of micronutrients

\* Available in Canada SKU # E99263

### GUARANTEED ANALYSIS **15-0-15**

Total nitrogen (N) . . . . .	15%
2.0% ammoniacal nitrogen	
13.0% nitrate nitrogen	
Soluble potash (K <sub>2</sub> O) . . . . .	15%
Calcium (Ca) . . . . .	5.0%
Magnesium (Mg) . . . . .	2.0%
2.0% water soluble magnesium (Mg)	
Boron (B) . . . . .	0.0187%
Copper (Cu) . . . . .	0.0187%
0.0187% chelated copper (Cu)	
Iron (Fe) . . . . .	0.075%
0.075% chelated iron (Fe)	
Manganese (Mn) . . . . .	0.0375%
0.0375% chelated manganese (Mn)	
Molybdenum (Mo) . . . . .	0.0075%
Zinc (Zn) . . . . .	0.0375%
0.0375% chelated zinc (Zn)	

**Derived From:** Ammonium Nitrate, Potassium Nitrate, Calcium Nitrate, Magnesium Nitrate, Boric Acid, Copper EDTA, Iron EDTA, Manganese EDTA, Ammonium Molybdate, Zinc EDTA

MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS)		
Amount of Fertilizer*	+ Amount of Water (gallons)	= Approx. ppm N
1 tsp	1	188
1 tbsp	2	282
1 cup	25	360

\*level measurements

1 pound of fertilizer + 100 gallons of water = 179.8 ppm N

PRODUCT PROPERTIES	
Potential Basicity . . . . .	221 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N . . . . .	0.71 mmhos/cm
Maximum Solubility . . . . .	5 lbs/gal

Target Fertilizer Concentration (N/ppm) After Dilution	Common Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	0.3	2.3	2.9	4.5	6.8	0.18
50	0.7	4.5	5.8	9.0	13.5	0.36
75	1.0	6.8	8.6	13.5	20.3	0.53
100	1.4	9.0	11.5	18.0	27.0	0.71
125	1.7	11.3	14.4	22.5	33.8	0.89
150	2.0	13.5	17.3	27.0	40.5	1.07
175	2.4	15.8	20.2	31.5	47.3	1.24
200	2.7	18.0	23.0	36.0	54.0	1.42
250	3.4	22.5	28.8	45.0	67.5	1.78
300	4.1	27.0	34.6	54.0	***	2.13
350	4.7	31.5	40.3	63.0	***	2.49
400	5.4	36.0	46.1	72.0	***	2.84
450	6.1	40.5	51.8	***	***	3.20
500	6.8	45.0	57.6	***	***	3.55
600	8.1	54.0	69.1	***	***	4.26

\*\*\* Exceeds maximum solubility.

Target Fertilizer Concentration (N/ppm) After Dilution	Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	1185.2	177.8	138.9	88.9	59.3	0.18
50	592.6	88.9	69.4	44.4	29.6	0.36
75	395.1	59.3	46.3	29.6	19.8	0.53
100	296.3	44.4	34.7	22.2	14.8	0.71
125	237.0	35.6	27.8	17.8	11.9	0.89
150	197.5	29.6	23.1	14.8	9.9	1.07
175	169.3	25.4	19.8	12.7	8.5	1.24
200	148.1	22.2	17.4	11.1	7.4	1.42
250	118.5	17.8	13.9	8.9	5.9	1.78
300	98.8	14.8	11.6	7.4	***	2.13
350	84.7	12.7	9.9	6.3	***	2.49
400	74.1	11.1	8.7	5.6	***	2.84
450	65.8	9.9	7.7	***	***	3.20
500	59.3	8.9	6.9	***	***	3.55
600	49.4	7.4	5.8	***	***	4.26

\*\*\* Exceeds maximum solubility.

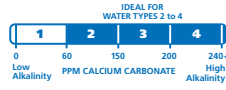


# Peters® Professional



SKU# E99350\*

## PRODUCT ANALYSIS AND RATES



**PEAT-LITE®  
PLANT STARTER**

Useful when transplanting, before bloom initiation or whenever more phosphate is required.

- B (Base) formulation can be used alone or rotated with a C (Customizing) component
- Appropriate for Water Types 2, 3 and 4
- Contains a full range of essential micronutrients

\* Available in Canada SKU # E99353

### GUARANTEED ANALYSIS 10-30-20

Total nitrogen (N) . . . . .	10%
5.0% ammoniacal nitrogen	
5.0% nitrate nitrogen	
Available phosphate (P <sub>2</sub> O <sub>5</sub> ) . . . . .	30%
Soluble potash (K <sub>2</sub> O) . . . . .	20%
Magnesium (Mg) . . . . .	1.3%
1.3% water soluble magnesium (Mg)	
Boron (B) . . . . .	0.0125%
Copper (Cu) . . . . .	0.0125%
0.0125% chelated copper (Cu)	
Iron (Fe) . . . . .	0.05%
0.05% chelated iron (Fe)	
Manganese (Mn) . . . . .	0.025%
0.025% chelated manganese (Mn)	
Molybdenum (Mo) . . . . .	0.005%
Zinc (Zn) . . . . .	0.025%
0.025% water soluble zinc (Zn)	

**Derived from:** Ammonium Phosphate, Potassium Nitrate, Potassium Phosphate, Magnesium Sulfate, Boric Acid, Copper EDTA, Iron EDTA, Manganese EDTA, Ammonium Molybdate, Zinc EDTA

MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS)		
Amount of Fertilizer* +	Amount of Water (gallons)	Approx. ppm N
1 tsp	1	129
1 tbs	2	194
1 cup	25	248

\*level measurements

1 pound of fertilizer + 100 gallons of water = 119.8 ppm N

PRODUCT PROPERTIES	
Potential Acidity . . . . .	365 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N . . . . .	0.86 mmhos/cm
Maximum Solubility . . . . .	3.25 lbs/gal

WEIGHT (IN OUNCES) OF PRODUCT NEEDED TO MIX ONE GALLON OF CONCENTRATE						
Target Fertilizer Concentration (N/ppm) After Dilution	Common Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	0.5	3.4	4.3	6.8	10.1	0.22
50	1.0	6.8	8.6	13.5	20.3	0.43
75	1.5	10.1	13.0	20.3	30.4	0.65
100	2.0	13.5	17.3	27.0	40.5	0.86
125	2.5	16.9	21.6	33.8	50.6	1.08
150	3.0	20.3	25.9	40.5	***	1.29
175	3.5	23.6	30.2	47.3	***	1.51
200	4.1	27.0	34.6	***	***	1.72
250	5.1	33.8	43.2	***	***	2.15
300	6.1	40.5	51.8	***	***	2.58
350	7.1	47.3	***	***	***	3.01
400	8.1	***	***	***	***	3.44
450	9.1	***	***	***	***	3.87
500	10.1	***	***	***	***	4.30
600	12.2	***	***	***	***	5.16

\*\*\* Exceeds maximum solubility.

GALLONS OF WATER REQUIRED TO DISSOLVE ONE 25 LB BAG OF FERTILIZER						
Target Fertilizer Concentration (N/ppm) After Dilution	Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	790.1	118.5	92.6	59.3	39.5	0.22
50	395.1	59.3	46.3	29.6	19.8	0.43
75	263.4	39.5	30.9	19.8	13.2	0.65
100	197.5	29.6	23.1	14.8	9.9	0.86
125	158.0	23.7	18.5	11.9	7.9	1.08
150	131.7	19.8	15.4	9.9	***	1.29
175	112.9	16.9	13.2	8.5	***	1.51
200	98.8	14.8	11.6	***	***	1.72
250	79.0	11.9	9.3	***	***	2.15
300	65.8	9.9	7.7	***	***	2.58
350	56.4	8.5	***	***	***	3.01
400	49.4	***	***	***	***	3.44
450	43.9	***	***	***	***	3.87
500	39.5	***	***	***	***	4.30
600	32.9	***	***	***	***	5.16

\*\*\* Exceeds maximum solubility.



# Peters<sup>®</sup> Professional



## 30-10-10

HI NITRO FOLIAR FEED

SKU# E99710\*

Ideal for in-ground field use, this classic formula provides extra nitrogen for bedding plants, containerized woody plants, flowering pot crops, potted foliage and landscape applications, plus plugs of all types.

- General-purpose fertilizer contains high nitrogen ration plus Everris' exclusive M-77<sup>®</sup> micronutrient system
- Acidifying action can help combat excessively high soil pH
- Can be used as a foliar feed

\* Available in Canada SKU # E99713

### GUARANTEED ANALYSIS **30-10-10**

Total nitrogen (N) . . . . .	30%
2.1% ammoniacal nitrogen	
3.1% nitrate nitrogen	
24.8% urea nitrogen	
Available phosphate (P <sub>2</sub> O <sub>5</sub> ) . . . . .	10%
Soluble potash (K <sub>2</sub> O) . . . . .	10%
Boron (B) . . . . .	0.02%
Copper (Cu) . . . . .	0.05%
0.05% chelated copper (Cu)	
Iron (Fe) . . . . .	0.1%
0.1% chelated iron (Fe)	
Manganese (Mn) . . . . .	0.05%
0.05% chelated manganese (Mn)	
Molybdenum (Mo) . . . . .	0.0005%
Zinc (Zn) . . . . .	0.05%
0.05% chelated zinc (Zn)	

**Derived from:** Potassium Nitrate, Urea, Ammonium Phosphate, Boric Acid, Copper EDTA, Iron EDTA, Manganese EDTA, Ammonium Molybdate, Zinc EDTA

MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS)		
Amount of Fertilizer*	+ Amount of Water (gallons)	= Approx. ppm N
1 tsp	1	300
1 tbs	2	451
1 cup	25	577
2 cups	50	577
3 cups	75	577
4 cups	100	577

\*level measurements

1 pound of fertilizer + 100 gallons of water = 359.5 ppm N

PRODUCT PROPERTIES	
Potential Acidity . . . . .	1043 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N . . . . .	0.18 mmhos/cm
Maximum Solubility . . . . .	4.25 lbs/gal

WEIGHT (IN OUNCES) OF PRODUCT NEEDED TO MIX ONE GALLON OF CONCENTRATE						
Target Fertilizer Concentration (N/ppm) After Dilution	Common Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	0.2	1.1	1.4	2.3	3.4	0.05
50	0.3	2.3	2.9	4.5	6.8	0.09
75	0.5	3.4	4.3	6.8	10.1	0.14
100	0.7	4.5	5.8	9.0	13.5	0.18
125	0.8	5.6	7.2	11.3	16.9	0.23
150	1.0	6.8	8.6	13.5	20.3	0.27
175	1.2	7.9	10.1	15.8	23.6	0.32
200	1.4	9.0	11.5	18.0	27.0	0.36
250	1.7	11.3	14.4	22.5	33.8	0.45
300	2.0	13.5	17.3	27.0	40.5	0.54
350	2.4	15.8	20.2	31.5	47.3	0.63
400	2.7	18.0	23.0	36.0	54.0	0.72
450	3.0	20.3	25.9	40.5	60.8	0.81
500	3.4	22.5	28.8	45.0	67.5	0.90
600	4.1	27.0	34.6	54.0	***	1.08

\*\*\* Exceeds maximum solubility.

GALLONS OF WATER REQUIRED TO DISSOLVE ONE 25 LB BAG OF FERTILIZER						
Target Fertilizer Concentration (N/ppm) After Dilution	Injector Ratios					EC (mmhos/cm) of Target Feed Rate After Dilution
	1:15	1:100	1:128	1:200	1:300	
25	2370.4	355.6	277.8	177.8	118.5	0.05
50	1185.2	177.8	138.9	88.9	59.3	0.09
75	790.1	118.5	92.6	59.3	39.5	0.14
100	592.6	88.9	69.4	44.4	29.6	0.18
125	474.1	71.1	55.6	35.6	23.7	0.23
150	395.1	59.3	46.3	29.6	19.8	0.27
175	338.6	50.8	39.7	25.4	16.9	0.32
200	296.3	44.4	34.7	22.2	14.8	0.36
250	237.0	35.6	27.8	17.8	11.9	0.45
300	197.5	29.6	23.1	14.8	9.9	0.54
350	169.3	25.4	19.8	12.7	8.5	0.63
400	148.1	22.2	17.4	11.1	7.4	0.72
450	131.7	19.8	15.4	9.9	6.6	0.81
500	118.5	17.8	13.9	8.9	5.9	0.90
600	98.8	14.8	11.6	7.4	***	1.08

\*\*\* Exceeds maximum solubility.

**Foliar Feeding** – Trial a small plot before spraying the entire area. Suggested starting concentrations are between 1 to 3 lbs of 30-10-10 per 100 gallons of water (360 to 1078 ppm N). Avoid spraying plants that are heat or drought stressed and the addition of a compatible foliar surfactant spreader may increase both safety and effectiveness.



# Peters® Professional



SKU# E99700



## 20-20-20

**AG & LANDSCAPE SPECIAL**

Classic formula designed for in-ground field use on transplants, strawberries, fruit and nut trees, vining fruit and vegetable crops, row crops including corn and potatoes, grains, forages and landscapes.

- General-purpose fertilizer contains balanced N-P-K and micronutrients for a wide range of plants
- Acidifying action can help combat excessively high soil pH
- Can be used as a foliar feed

### GUARANTEED ANALYSIS **20-20-20**

Total nitrogen (N) . . . . .	20%
3.5% ammoniacal nitrogen	
5.6% nitrate nitrogen	
10.9% urea nitrogen	
Available phosphate (P <sub>2</sub> O <sub>5</sub> ) . . . . .	20%
Soluble potash (K <sub>2</sub> O) . . . . .	20%
Boron (B) . . . . .	0.02%
Copper (Cu) . . . . .	0.05%
0.05% chelated copper (Cu)	
Iron (Fe) . . . . .	0.1%
0.1% chelated iron (Fe)	
Manganese (Mn) . . . . .	0.05%
0.05% chelated manganese (Mn)	
Molybdenum (Mo) . . . . .	0.0005%
Zinc (Zn) . . . . .	0.05%
0.05% chelated zinc (Zn)	

**Derived from:** Urea, potassium nitrate, potassium phosphate, ammonium phosphate, boric acid, copper EDTA, iron EDTA, manganese EDTA, ammonium molybdate and zinc EDTA.

### MIXING FOR WATERING CANS, SPRAY TANKS (NO INJECTORS)

Amount of Fertilizer*	+ Amount of Water (gallons)	= Approx. ppm N
1 tsp	1	242
1 tbsp	2	363
1 cup	25	465

\*level measurements

1 pound of fertilizer + 100 gallons of water = 239.7 ppm N

### PRODUCT PROPERTIES

Potential Acidity . . . . .	572 lbs calcium carbonate equivalent per ton
Conductivity of 100 ppm N . . . . .	0.51 mmhos/cm

CROP	FERTILIZER RECOMMENDATIONS FOR PETERS PROFESSIONAL® 20-20-20 GENERAL AG
Transplants	As a starter solution, use at a concentration of 4-5 lbs per 100 gallons. Apply enough solution to drench entire root system. (1 cup per transplant or 200 to 300 gallons per acre).
Strawberries	Use at the concentration of 5-10 lbs per acre when fruit buds are first visible in the crown of the plant. Make three more applications 7 to 10 days apart.
Fruit and Nut Tree Crops: Apples, Peaches, Pears, Plums, Apricots, Nectarines, Cherries, Citrus, Figs, Avacados, Mangoes, Papaya, Kiwi, Filberts, Chestnuts, Macadamia Nuts, Walnuts, Pecans, Almonds	Use at the concentration of 2 lbs per 100 gallons of water. If low volume sprays are made, use at the concentration of 5 to 10 lbs per acre. Apply early in the season and reapply as necessary (3 to 5 times) during the growing season. Use caution with tree fruits where fruit color and maturity are delayed by additional nitrogen and avoid late season sprays.
Grapes, Blackberries, Raspberries, Blueberries, Cranberries	5-10 lbs per acre early in the season and thereafter as necessary. DO NOT apply within 8 weeks of ripening if fruit color or maturity is delayed by applications of nitrogen.
Tomatoes, Peppers, Cucumbers, Squash, Melons	5-10 lbs per acre with first application made when plants are 3-4 weeks old. Make 5-7 applications at 7-10 day intervals.
Beans, Peas, Sweet Corn, Lentils, Onions	5-10 lbs per acre with first application made when plants are 3-4 weeks old. Make 5-7 applications at 7-10 day intervals.
Celery, Lettuce, Endive, Broccoli, Cabbage, Cauliflower, Brussels Sprouts, Kale, Spinach	Use 5 lbs per 100 gallons at transplant. As a foliar spray, use at a concentration of 5-10 lbs per 100 gallons at 7-10 day intervals beginning 3 weeks after transplanting. Make 3-6 sprays per season.
Carrots, Parsley, Asparagus	Foliar applications of 10-15 lbs per acre are efficient, depending on weather conditions and stage of growth.
Row Crops: Legumes, Corns, Beets, Potatoes, Sweet Potatoes, Pineapples	Use at a concentration of 5-10 lbs per acre. Apply when plants are young and reapply at 7-10 day intervals.
Wheat, Barley, Oats, Rye, Rice, Sunflower, Sugarcane	5-10 lbs per acre through the season, depending on desired growth and vigor. For small grains, apply at tillering or when 10% of heads are visible.
Forage and Hay Crops	Foliar sprays at the concentration of 5-10 lbs per acre improves plant vigor and stimulates growth. Reapply at 7-10 day intervals as needed.
Landscape	Drench trees and shrubs every 7-10 days with a solution made with 1.5-2.0 lbs of Peters 20-20-20 per 100 gallons of water (approx. concentration = 400 to 600 ppm N).



# Selecting and Handling Water Soluble Fertilizers

Water soluble fertilizer (WSF) products have evolved over time to address changing industry practices and conditions including:

- Wide-scale acceptance of soilless peat and/or bark-based growing media.
- Increased attention to nutrient run-off issues (especially nitrates and phosphorus).
- Regulation of fertilizer programs.
- Skyrocketing costs of some fertilizer raw materials.
- The huge proliferation in available new crop plant species and varieties.

WSF formulations have changed from a simple “one size fits all” Peters® 20-20-20 General Purpose fertilizer to a wide variety of higher nitrate, lower Phosphorus (P) and more Calcium (Ca) containing “complete” fertilizers. While there are many more WSF options out there today, there seems to be more confusion regarding proper product selection and usage of them. Newer formulations may require more complex handling. Also, any particular WSF formula may not be suitable for all situations. Growers often call Everris® regarding perceived problems with their fertilizer that are often linked to other factors. Below is a brief discussion of best management practices that will help growers achieve maximum success from their WSF fertilizer programs.

## WSF FORMULA SELECTION

When you choose a particular WSF formula, you are selecting the nutrient diet for your crops. Understand what you are getting and how it fits with your whole growing system:

- Read the guaranteed analysis on the bag label—all claimed nutrients must be listed on the label. There are still predominant misconceptions about particular WSF formulations, e.g. some growers still think 20-20-20 or 20-10-20 contains adequate Ca and Mg for crop needs—this is not so and these products generally need to be modified.
- You need to provide an adequate level of all essential nutrients in your system of water, fertilizer and mix. An annual complete analysis of your irrigation water is essential to managing your crop nutrition.
- Selecting a fertilizer program based on water quality type will ensure you experience the best results from your fertilizer program. The unique Peters® A-B-C

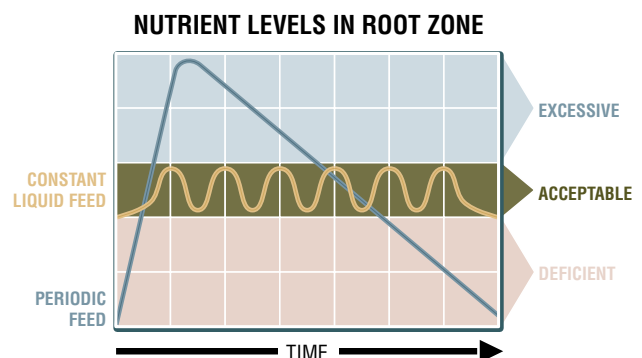
Selection System™ from Everris easily matches your irrigation water type with the correct Everris water soluble fertilizer type.

- Peters “A” All-Purpose formulations are your best choice since they will provide all the nutrients lacking in your growing systems in the convenience of one bag.
- Lower P contents can help minimize plant stretch.
- Potential acidity/ammonium levels can impact growing media pH.
- Crop specific WSF formulations generally contain some slight modification to standard formulations—e.g. a higher level of specific micronutrients. Unless you are a mono-culture grower or have systems that allow for different feed programs to different growing zones, it may be better to stick with your standard feed program and make prescriptive treatments to a particular crop.
- Your fertilizer company should offer you free consultation on fitting fertilizers to your irrigation water to optimize the nutrient delivery program.

## WSF CONCENTRATION SELECTION

Once you choose the correct WSF formulation(s), it is important to deliver the proper amount of nutrients in a timely manner.

- Constant liquid feed is always better than periodic feeding (where fertilizer is only applied on 7 to 10 day intervals). Periodic feeding can lead to “feast and famine” conditions especially if you are rotating fertilizers types over time—invariably some nutrients will be lacking or too high with this imprecise application method. The best practice to optimize plant nutrition is to constantly provide all necessary nutrients at required levels with each irrigation as illustrated in the graph below.



*By feeding small quantities of fertilizer constantly you are able to avoid great fluctuations in growing media that occur when feeding is done on a periodic basis.*

- There has been a trend toward lower feed rates from historical recommendations. While older recommendations probably resulted in luxurious consumption of some nutrients, it is a fact that plants need sufficient nutrients for optimal growth. It is foolish to save a few dollars on fertilizer only to grow a sub-optimal crop.
- Even in low feed crops (short term bedding plants), a few WSF feedings right after planting will equalize nutritional status across the crop.
- Other factors that will impact how you target WSF concentrations include: specific crops needs, sub-irrigation versus top-watering, leaching fraction and presence of controlled release fertilizer.
- Clear watering will not only reduce salts in the growing media, but also will wash out essential nutrients in the root zone and contribute to nutrient stress. Use clear water only when salt levels are extremely high in the soil.

### MIXING FERTILIZERS

WSF products are designed to readily dissolve so they can easily be applied in liquid form through injectors, sprinklers, drip tubes, etc. However there are some steps you can take to make this process more friendly:

- Companies publish maximum solubility values for each WSF formula. This value is the best-case scenario and a grower in the real world using bucket chemistry, coffee cans, guesstimated volumes and variable irrigation water can expect less than perfect results.
- Concentrations are weight-to-volume measurements and (at least once) determine exactly how much weight of fertilizer you are adding to a given volume of water in your stock tank.
- Sometimes at high proportioning ratios (1:200 and above), the grower may be pushing the limits of solubility, especially if more than one component is being added to the tank.
- Dissolving WSFs is an endothermic reaction (it uses up thermal energy in the stock tank water). To demonstrate this, add a pound of fertilizer to a 1/2 gallon of water and you will quickly feel the solution get very cool. This cooling can slow down the dissolving reaction and this is why we suggest growers use hot water and agitation to speed up the dissolving reaction of the fertilizer concentrate.
- Make sure stock tanks are cleaned out prior to mixing up a fertilizer batch—tank residues from previous stock solutions can cause incompatibilities.

- Irrigation water quality can dramatically impact solubility. High levels of Calcium (Ca) in the irrigation water can precipitate out phosphates or sulfates in the concentrate tank.
- Granularity of the fertilizer – While grinding will speed up the time it takes the fertilizer to dissolve, it contributes to caking. Prilled or coarse granular fertilizer made up of water soluble components will dissolve; it just takes longer for these particles to do so.

### STORAGE/MONITORING OF WSF

WSF products can be harder to use if not stored properly and the effectiveness of your feed program can definitely be improved with an effective monitoring program.

- WSF products absorb water over time. This can impact the solubility as product becomes hard over time. Also dye color can be affected as products become soupy. Store WSF products in a temperature-controlled, dry storage area for best results. We have found that plastic packaging has helped prevent products from becoming too moist during storage. If you do not use an entire bag, reseal it tightly to prevent the uptake of atmosphere moisture into the WSF bag.
- Injector monitoring and maintenance will help ensure that you are feeding at optimal levels. Weekly on-site measurements of fertilizer solution and crop EC and pH can be a valuable tool in managing your crop.
- Soluble salts or electrical conductivity (EC) is a general measure of salts dissolved in solutions. EC is especially useful for monitoring the functionality of an injector system and to make sure the fertilizer recipe is at the expected concentration. Ideally, injectors should be checked weekly and this can easily be done by first capturing some fertilizer-injected water out of the hose or drip tubes, and then measuring the EC with a conductivity meter. See Everris® water soluble product sheets for information on EC tied to specific concentrations (ppm N).
- A follow-up program of complete media analysis (and tissue in a problem-solving situation) should be initiated to optimize your nutritional program. Your fertilizer company should be able to provide you with support in this area.

## Incompatibility of Water Soluble Fertilizer

Water soluble fertilizers are designed to be completely soluble when mixed at appropriate concentrations. Since fertilizer takes significant heat energy to dissolve, products will take longer to dissolve in cold water. However, since professional growers use concentrated solutions in large stock tanks, care must be taken to avoid mixing incompatible materials. When such incompatible products are mixed together in a stock tank, insoluble precipitates will form that can clog injectors, filters and spray equipment. To ascertain if a combination of fertilizer products are compatible, it is suggested that you first mix up a small quantity in a jar, agitate it, let it sit, then look for precipitate once the sample has heated up to room temperature.

### COMPATIBILITY RULES OF THUMB

*(See Same Tank Mix Incompatibilities chart on page 42)*

- Generally, don't mix calcium-containing products with products containing phosphates or sulfate; they are incompatible.
- Calcium-containing fertilizers include: calcium nitrate, Peters Professional® 15-0-15, 13-2-13, 17-3-17 and Peters Excel® 15-5-15, 15-2-20, 13-2-13. Some irrigation waters contain high levels of calcium.
- Phosphate-containing fertilizers include most Peters Excel and Peters Professional fertilizers. Phosphoric acid also contains a high percentage of phosphorus.
- Sulfate-containing fertilizers include ammonium sulfate and fertilizers such as Peters Professional® 21-7-7 or S.T.E.M. Epsom salts contain a high level of sulfates and sulfuric acid also contains a high percentage of sulfur.
- Peters Excel products are an exception. Because of the patented Excel technology, all Excel products can be blended with each other without resulting in precipitate in the stock tank.
- Peters Excel® 10-0-0 Magnitrate can be blended with all Peters products to provide extra Magnesium (Mg).
- If you want to add calcium to a Peters fertilizer containing phosphates (such as 20-10-20 Peat-Lite), you need to use a twin-headed injector or rotate between two fertilizer stock tanks (e.g. two applications 20-10-20 Peat-Lite alternated with one application of Peters Professional 15-0-15).

## Physical Characteristics of Water Soluble Fertilizer

The Peters brands of professional water soluble fertilizers are made from the best raw materials available. However, some products contain raw materials that when mixed together at certain ratios result in chemical reactions that affect the physical appearance of the product. Below are some recommended solutions to help minimize these physical characteristics. The factors outlined below should have no effect on plant safety.

**DYE CONSISTENCY** – All raw material sources have different degrees of surface porosity and result in dye absorption at different levels. There are some formulas that are more prone to a gray or light purple color when the material is dry. However, when the material is dissolved in the stock tank, the blue color will provide the trace indicator in the growers' water source. A jar test should be performed to validate dye presence prior to documenting a complaint.

**PARTICLE UNIFORMITY** – Raw materials are available in many different sizes. Some formulas have a wide range of particle sizes and may not appear to be as uniform as other formulations. All products manufactured are tested to ensure that what's claimed on the package is what's inside the bag.

**OXIDIZER PLACARDS** – Any fertilizers that contain nitrates must be tested and labeled based on strict transportation guidelines. Everris® utilizes a reputable testing lab and adheres to the strictest of standards. Other companies may have similar formulations that are not labeled as oxidizers, but this is an area where we are extremely conservative. We want to be sure to comply with all regulatory requirements and feel that safety in transporting all materials should always come first.  
*(Continued on next page)*

**CLUMPS OR CAKED PRODUCTS**– Formulas clump or cake for a few primary reasons: 1) Raw materials are exposed to humid, moist conditions; 2) Raw materials that are mixed together at certain ratios that are chemically incompatible; 3) Pressure is applied to the mixed product; and 4) The length of time between manufacture and grower use.

While these products that clump or cake are still effective to use, there are some measures that can be taken that will help minimize this inconvenience:

- For best results, use the entire bag. If using a partial bag, be sure to reseal tightly. Keep in mind that products begin to absorb moisture as soon as the bag is opened.

- Utilize your fertilizer inventory with a “first in, first out” approach to prevent clumping that can come from long storage times.
- If you buy full pallets of product, avoid stacking any other material on top of the pallet to prevent compression.

**SOLUBILITY** – All Peters products are completely soluble as long as compatible materials are added to the stock tanks. If the stock tank solution is made with cold water, a longer mixing time is required. Be patient and keep agitating the solution, all material will go into solution. Additional adjuvants are added to Everris products to aid in reducing caking or improving nutrient availability. These may result in a slight skim layer at the top of the concentrate tank, but this should not impact solubility or injection functionality.

## Adjusting Excess Alkalinity Through Acid Injection

BEFORE ADOPTING ANY WATER TREATMENT FOR ALKALINITY, DETERMINE YOUR CROP NEEDS BY:

- Having water tested to verify alkalinity.
- Comparing The Everris Testing Lab’s guidelines for acceptable alkalinity versus container sizes used.
- Examining past media analyses to assess the degree of pH increase throughout crop life.

ADDITIONAL POINTS TO CONSIDER BEFORE ADJUSTING ALKALINITY WITH MINERAL ACIDS:

- Moderately excessive alkalinity may be neutralized by using the appropriate Peters Excel® fertilizers.
- Make sure that your injector is designed for handling acids.
- Determine the type of acid needed to adjust your water alkalinity. High alkalinity (> 250 ppm CaCO<sub>3</sub>) may necessitate using sulfuric acid versus the weaker phosphoric acid.
- Estimate the amount of acid you may need based on crop timing and pot size. (As a general rule, higher alkalinities have more impact on smaller pots and on crops with longer growth cycles.
- Sulfuric acid should *not* be mixed in a concentrate or stock solution with ANY calcium-containing fertilizer such as Peters® 17-3-17, 15-0-15, 13-2-13 and Peters Excel® 15-5-15, 15-2-20 and 13-2-13.

- Acid injection could corrode metal pipes and release toxic levels of iron or zinc. Plastic pipes are preferred.
- Do not use water treated with phosphoric acid for overhead misting of poinsettias. Hardened growth and deformed foliage may result.

FOR PROPER APPLICATION AND HANDLING OF ACIDS:

- Remember that these mineral acids are extremely corrosive.
- Read and follow all product labels and MSDS sheets before mixing.
- Use caution when measuring, mixing and storing acids.
- Always wear protective eyewear, clothing, respirator (if needed) and gloves when measuring and mixing acids. The injection area should be equipped with an emergency shower and an eye wash station.
- Always add acid to water. A violent reaction could occur if water is added to acid.
- Add acid to water before fertilizer is added. If desired, fertilizer could be dissolved in another container before adding to the acidified water to avoid splashing.
- Verify the proper amount of acid added by testing final alkalinity of acidified water without fertilizer added. You may use on-site alkalinity tests or submit acidified water to The Everris Testing Lab.

## Neutralizing Excess Alkalinity

Excessive water alkalinity can be neutralized with acid. Use the table below to determine the amount of acid needed to reduce alkalinity to a desired level.

**Example:** Your alkalinity is 225 ppm  $\text{CaCO}_3$ . You want to reduce the alkalinity to 125.

$225 - 125 = 100$  ppm  $\text{CaCO}_3$  to neutralize. (Find 100 ppm in the far left column.)

From the table you can choose to use 0.744 ounces of 93% sulfuric acid or 2.096 ounces 33% sulfuric acid or 1.748 ounces 85% phosphoric acid or 2.120 ounces 75% phosphoric acid or 3.120 ounces of nitric acid *PER 100 GALLONS OF WATER* to reduce your alkalinity.

Fluid Ounces of Acid/100 Gallons of Water to Neutralize (ppm $\text{CaCO}_3$ *)					
ppm $\text{CaCO}_3$ to Neutralize	Sulfuric Acid 93%	Sulfuric Acid 33% or Battery	Phosphoric Acid 85%	Phosphoric Acid 75%	Nitric Acid 61%
10	0.074	0.210	0.175	0.212	0.312
25	0.186	0.524	0.437	0.530	0.780
50	0.372	1.048	0.874	1.060	1.560
75	0.558	1.572	1.311	1.590	2.340
100	0.744	2.096	1.748	2.120	3.120
125	0.930	2.620	2.185	**	3.900
150	1.116	3.144	**	**	4.680
175	1.302	3.668	**	**	5.460
200	1.488	4.192	**	**	6.240
225	1.674	4.716	**	**	7.020
250	1.860	5.240	**	**	7.800

\*Use as a guideline only. Follow up adjustments with testing to verify alkalinity and pH changes.  
 \*\*Phosphoric Acid is relatively ineffective at these higher rates.

### MINERAL ACID NUTRITIONAL CONTRIBUTIONS TO FERTILIZER SOLUTIONS:

One fluid ounce of acid per 100 gallons of water will contribute the following nutrients:

93% Sulfuric acid . . . . .	42 ppm Sulfur
33% Sulfuric acid . . . . .	15 ppm Sulfur
85% Phosphoric acid . . . . .	35.5 ppm Phosphorus
75% Phosphoric acid . . . . .	29.3 ppm Phosphorus
61% Nitric acid . . . . .	14 ppm Nitrogen

# Useful General Information

## HELPFUL WEIGHTS AND MEASURES CHARTS

<p><b>AMERICAN FLUID MEASURE</b>            80 drops = 1 teaspoonful (tsp)            3 teaspoons = 1 tablespoonful (tbsp)            2 tablespoons = 1 fluid ounce (fl oz)            8 fluid ounces = 1 cup (c)            2 cups = 1 pint (pt)            2 pints = 1 quart (qt)            4 quarts = 1 gallon (gal)</p> <p><b>AMERICAN DRY MEASURE</b>            3 teaspoons = 1 tablespoon            16 tablespoons = 1 cup            2 cups = 1 pint            2 pints = 1 quart</p>	<table> <thead> <tr> <th>WHEN YOU KNOW:</th> <th>MULTIPLY BY:</th> <th>TO FIND:</th> </tr> </thead> <tbody> <tr><td>inches</td><td>25</td><td>millimeters</td></tr> <tr><td>feet</td><td>30</td><td>centimeters</td></tr> <tr><td>yards</td><td>0.9</td><td>meters</td></tr> <tr><td>miles</td><td>1.6</td><td>kilometers</td></tr> <tr><td>centimeters</td><td>0.393</td><td>inches</td></tr> <tr><td>meters</td><td>1.1</td><td>yards</td></tr> <tr><td>kilometers</td><td>0.6</td><td>miles</td></tr> <tr><td>ounces/gallon</td><td>7.5</td><td>grams/liter</td></tr> <tr><td>ounces</td><td>28</td><td>grams</td></tr> <tr><td>pounds</td><td>0.45</td><td>kilograms</td></tr> <tr><td>short tons</td><td>0.9</td><td>metric tons</td></tr> <tr><td>grams</td><td>0.035</td><td>ounces</td></tr> <tr><td>kilograms</td><td>2.2</td><td>pounds</td></tr> <tr><td>metric tons</td><td>1.1</td><td>short tons</td></tr> <tr><td>fluid ounces</td><td>30</td><td>milliliters</td></tr> <tr><td>pints, U.S.</td><td>0.47</td><td>liters</td></tr> <tr><td>pints, Imp.</td><td>0.568</td><td>liters</td></tr> <tr><td>quarts, U.S.</td><td>0.95</td><td>liters</td></tr> <tr><td>quarts, Imp.</td><td>1.137</td><td>liters</td></tr> <tr><td>gallons, U.S.</td><td>3.8</td><td>liters</td></tr> <tr><td>gallons, Imp.</td><td>4.546</td><td>liters</td></tr> <tr><td>milliliters</td><td>0.034</td><td>fluid ounces</td></tr> <tr><td>liters</td><td>2.1</td><td>pints, U.S.</td></tr> <tr><td>liters</td><td>1.76</td><td>pints, Imp.</td></tr> <tr><td>liters</td><td>1.06</td><td>quarts, U.S.</td></tr> <tr><td>liters</td><td>0.88</td><td>quarts, Imp.</td></tr> <tr><td>liters</td><td>0.26</td><td>gallons, U.S.</td></tr> <tr><td>liters</td><td>0.22</td><td>gallons, Imp.</td></tr> </tbody> </table>	WHEN YOU KNOW:	MULTIPLY BY:	TO FIND:	inches	25	millimeters	feet	30	centimeters	yards	0.9	meters	miles	1.6	kilometers	centimeters	0.393	inches	meters	1.1	yards	kilometers	0.6	miles	ounces/gallon	7.5	grams/liter	ounces	28	grams	pounds	0.45	kilograms	short tons	0.9	metric tons	grams	0.035	ounces	kilograms	2.2	pounds	metric tons	1.1	short tons	fluid ounces	30	milliliters	pints, U.S.	0.47	liters	pints, Imp.	0.568	liters	quarts, U.S.	0.95	liters	quarts, Imp.	1.137	liters	gallons, U.S.	3.8	liters	gallons, Imp.	4.546	liters	milliliters	0.034	fluid ounces	liters	2.1	pints, U.S.	liters	1.76	pints, Imp.	liters	1.06	quarts, U.S.	liters	0.88	quarts, Imp.	liters	0.26	gallons, U.S.	liters	0.22	gallons, Imp.
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### OUNCES/GRAMS CONVERSION

1 ounce = 28.350 grams	4 ounces = 113.398 grams	7 ounces = 198.447 grams
2 ounces = 56.699 grams	5 ounces = 141.748 grams	8 ounces = 226.796 grams
3 ounces = 85.049 grams	6 ounces = 170.097 grams	9 ounces = 255.146 grams

### GRAMS/OUNCES CONVERSION

1 gram = 0.035 ounces	4 grams = 0.141 ounces	7 grams = 0.247 ounces
2 grams = 0.071 ounces	5 grams = 0.176 ounces	8 grams = 0.282 ounces
3 grams = 0.106 ounces	6 grams = 0.212 ounces	9 grams = 0.317 ounces

### POUNDS/KILOGRAMS CONVERSION

1 pound = 0.454 kilograms	4 pounds = 1.814 kilograms	7 pounds = 3.175 kilograms
2 pounds = 0.907 kilograms	5 pounds = 2.268 kilograms	8 pounds = 3.629 kilograms
3 pounds = 1.361 kilograms	6 pounds = 2.722 kilograms	9 pounds = 4.082 kilograms

### KILOGRAMS/POUNDS CONVERSION

1 kilogram = 2.205 pounds	4 kilograms = 8.819 pounds	7 kilograms = 15.432 pounds
2 kilograms = 4.409 pounds	5 kilograms = 11.023 pounds	8 kilograms = 17.637 pounds
3 kilograms = 6.614 pounds	6 kilograms = 13.226 pounds	9 kilograms = 19.842 pounds



## Everris® Water Soluble Fertilizer Summary Chart

Brand	Product Name	New Stock #	Icon	Ideally Suited for Water Type(s)	Potential Acidity (A) / Basicity (B) (CCE/ton)	Maximum Solubility (lb/gal)	EC per 100 ppm N (mS/cm)	Oz/100 gal to obtain 100 ppm N	1 level tsp/gal = approx. ppm N	Elemental ppm contained in a 100 ppm N solution													
										NH4-N	Urea-N	NO3-N	P	K	Ca	Mg	S	B	Cu	Fe	Mn	Mo	Zn
Peters Excel pHlow	19-11-21 Multi-Purpose	E99001	B	2 to 4*	290 A	4.50	0.75	7.1	283	36.8	0.0	63.2	25.2	92.1	0.0	0.8	1.1	0.105	0.105	0.500	0.237	0.050	0.237
	18-18-18 Multi-Purpose	E99000	B	2 to 4*	578 A	5.50	0.79	7.5	276	41.7	0.0	58.3	43.5	83.3	0.0	0.0	0.0	0.122	0.122	0.500	0.250	0.050	0.250
	15-7-25 High Mag/High K	E99003	A	2 to 4*	33 A	3.50	0.91	9.0	235	27.3	0.0	72.7	20.3	138.9	0.0	16.7	22.0	0.117	0.117	0.467	0.233	0.047	0.233
	14-8-14 Cal-Mag	E99004	A	2 to 4*	47 B	5.50	0.84	9.6	206	18.6	0.0	81.4	24.8	83.3	28.6	14.3	0.0	0.125	0.125	0.500	0.250	0.050	0.250
Peters Excel®	21-5-20 Multi Purpose	E99150	B	2 to 4	390 A	4.00	0.63	6.4	320	34.8	5.2	60.0	10.4	79.4	0.0	0.0	0.0	0.125	0.125	0.500	0.250	0.0500	0.250
	21-5-20 Multi Purpose No Boron	E99152	B	2 to 4	377 A	4.00	0.63	6.4	320	34.3	5.2	60.5	10.4	79.4	0.0	0.0	0.0	0.000	0.125	0.500	0.250	0.0500	0.250
	15-5-15 Cal-Mag Special	E99140	A	2	131 B	3.00	0.69	9.0	194	7.3	14.0	78.7	14.5	83.3	33.3	13.3	0.0	0.125	0.125	0.500	0.250	0.0500	0.250
	15-2-20 Pansy, Salvia & Vinca	E99130	A	1 to 2	234 B	3.50	0.77	9.0	219	18.0	5.3	76.7	5.8	111.1	25.0	13.3	0.0	0.200	0.125	0.667	0.333	0.0500	0.250
Peters Professional®	13-2-13 Plug & Bedding Plant Special	99120	A	1 to 2	335 B	5.00	0.75	10.4	168	0.0	6.9	93.1	6.7	83.3	46.2	23.1	0.0	0.125	0.125	0.500	0.250	0.0500	0.250
	10-0-0 Magnitrate Special	99160	C	1 to 4	357 B	5.00	0.70	13.5	35	0.0	0.0	100.0	0.0	0.0	0.0	90.0	0.0	0.125	0.125	0.500	0.250	0.0500	0.250
	25-5-15 High Efficiency	E99087	B	1 to 4	593 A	5.50	0.57	5.3	355	43.2	0.0	56.8	8.7	50.0	0.0	0.0	0.0	0.156	0.000	0.600	0.300	0.060	0.300
	24-8-16 Foliage Special	E99720	B	1 to 4	726 A	3.00	0.45	5.6	238	29.6	34.2	36.3	14.5	55.6	0.0	1.5	8.3	0.063	0.063	0.250	0.125	0.0250	0.125
Peters Professional®	21-7 Acid Special	E99330	C	3 to 4	1518 A	4.00	0.52	6.4	245	49.5	50.5	0.0	14.5	27.8	0.0	2.9	61.9	0.125	0.125	0.714	0.238	0.0476	0.238
	20-20-20 GP	E99290	B	2 to 4	532 A	3.50	0.41	6.8	238	20.5	52.0	27.5	43.5	83.3	0.0	0.3	0.0	0.063	0.063	0.250	0.125	0.0250	0.125
	20-20-20 GP No Dye	E99291	B	2 to 4	532 A	3.50	0.41	6.8	238	20.5	52.0	27.5	43.5	83.3	0.0	0.3	0.0	0.063	0.063	0.250	0.125	0.0250	0.125
	20-10-20 GP	E99300	B	1 to 4	404 A	3.50	0.62	6.8	305	40.0	0.0	60.0	21.7	83.3	0.0	0.8	0.0	0.063	0.063	0.250	0.125	0.0250	0.125
Peters Professional®	20-3-19 Petunia Special	E99090	B	1 to 4	424 A	5.00	0.54	6.8	305	39.0	0.0	61.0	6.5	79.2	0.0	6.8	12.5	0.100	0.000	1.000	0.250	0.0500	0.250
	13-2-13 Plug & Bedding Plant Special No Minors, No Dye	E99340	B	1 to 2	356 B	3.00	0.74	10.4	160	3.1	0.0	96.9	6.7	83.3	46.2	23.1	0.0	0.000	0.000	0.000	0.000	0.0000	0.000
	5-11-26 Hydroponic Special	E99310	B	1 to 4	215 B	3.00	1.45	27.0	•	0.0	0.0	100.0	95.7	433.3	0.0	62.0	80.0	1.000	0.300	6.000	1.000	0.2000	0.300
	20-10-20 Peat-Lite Special®	E99250	B	1 to 4	415 A	3.00	0.59	6.8	284	40.5	0.0	59.5	21.7	83.3	0.0	0.8	0.0	0.125	0.125	0.500	0.250	0.0500	0.250
Peters Professional®	20-10-20 Peat-Lite Special® No Boron	E99252	B	1 to 4	402 A	3.00	0.59	6.8	284	40.0	0.0	60.0	21.7	83.3	0.0	0.8	0.0	0.000	0.125	0.500	0.250	0.0500	0.250
	20-2-20 Peat-Lite® Low Phos Special	E99270	B	1 to 4	290 A	3.00	0.60	6.8	305	36.0	0.0	64.0	4.3	83.3	0.0	5.5	0.0	0.125	0.125	0.500	0.250	0.0500	0.250
	18-8-17 Peat-Lite® High Mag Special	E99240	B	1 to 4	381 A	3.00	0.65	7.5	267	40.6	0.0	59.4	19.3	78.7	0.0	13.9	5.6	0.125	0.125	0.500	0.250	0.0500	0.250
	17-3-17 Peat-Lite® Neutral Cal-Mag	E99230	A	1 to 2	27 B	5.00	0.65	7.9	216	23.5	0.0	76.5	7.7	83.3	23.5	7.4	0.0	0.125	0.125	0.500	0.250	0.0500	0.250
Peters Professional®	15-16-17 Peat-Lite Special®	E99210	B	2 to 4	202 A	4.25	0.62	9.0	197	20.7	26.7	52.7	46.4	94.4	0.0	0.7	0.0	0.125	0.125	0.500	0.250	0.0500	0.250
	15-5-25 Peat-Lite® Flowering Crop Special	E99220	B	1 to 4	48 A	2.50	0.77	9.0	225	28.7	0.0	71.3	14.5	138.9	0.0	16.7	6.7	0.045	0.125	0.500	0.250	0.5000	0.250
	15-3-25 Peat-Lite® Flowering Crop Special Plus Iron	E99320	B	1 to 4	13 A	2.50	0.79	9.0	232	26.7	0.0	73.3	8.7	138.9	0.0	16.7	6.7	0.125	0.125	1.000	0.250	0.0500	0.250
	15-0-15 Peat-Lite® Dark Weather Feed	E99260	C	1 to 2	221 B	5.00	0.71	9.0	188	13.3	0.0	86.7	0.0	83.3	33.3	13.3	0.0	0.125	0.125	0.500	0.250	0.0500	0.250
Peters Specialty	10-30-20 Peat-Lite® Plant Starter	E99350	B	2 to 4	365 A	3.25	0.86	13.5	129	50.0	0.0	50.0	130.4	166.7	0.0	13.0	0.0	0.125	0.125	0.500	0.250	0.0500	0.250
	30-10-10 Hi Nitro Foliar Feed	E99710	•	•	1043 A	4.25	0.18	4.5	300	7.0	82.7	10.3	14.5	27.8	0.0	0.0	0.0	0.067	0.167	0.333	0.167	0.0017	0.167
	20-20-20 Ag & Landscape Special	E99700	•	•	570 A	3.50	0.51	6.8	247	24.0	49.0	27.0	43.5	83.3	0.0	0.0	0.0	0.100	0.250	0.500	0.250	0.0025	0.250

\*Not recommended for use with water sources containing 100 ppm or less total alkalinity

For more information on Peters Professional® S.T.E.M.™, and Peters Professional® Uni-Mix® 11-5-11, see the Peters Specialty Products section of [www.PetersABC.com](http://www.PetersABC.com).

Driven by innovation  
Inspired by nature



**EFFICIENCY • ECONOMY • ECOLOGY**

Peters® brand water soluble fertilizers available from Everris® reinforce the company's goal to provide products that are not only sustainable from an environmental standpoint, but also contribute to the professional grower's overall profitability.

These three elements of equal standing form the framework that supports the Everris approach to achieving sustainability:

- **EFFICIENCY.** Use all available resources wisely to gain maximum output from as little input as possible. Incorporating Everris fertilizer products into your operation will provide opportunities for you to reduce application rates and application frequency, while maintaining or improving crop yields and crop quality.
- **ECONOMY.** Optimize cost/benefit ratios and return on investment to effectively maximize profitability. Selecting and then incorporating the right Everris products into your operation can help you decrease your input, fuel and labor costs, which in turn will assist in maximizing the return on your fertilizer investment in terms of improved plant quality which translates into increased profitability at retail.
- **ECOLOGY.** Minimize or eliminate wasteful production inputs to lessen the environmental impact. The proven performance of fertilizer technologies from Everris assures consistent and reliable nutrient delivery to your plants at the right rates and at the right time throughout the growth cycle. This trusted performance not only reduces the negative environmental impact caused by volatilization, leaching and runoff, it helps to optimize your fertilizer investment, because more of what you buy is utilized by the plant.

Trust that as Everris continues to introduce and evolve its fertilizer technologies, this approach to sustainability will serve as the foundation. The benefit to your operation is an ever-increasing level of efficiency, profitability and environmental stewardship.



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