

Nature's Source® Professional 10-4-3 Grower's Guide

**Effective.
Economical.
Easy.**

Professional Plant Food

10-4-3 GUARANTEED ANALYSIS

Total Nitrogen (N)	10%
3.70% Ammoniacal Nitrogen	
1.90% Nitrate Nitrogen	
3.65% Urea Nitrogen	
0.75% Other Water Soluble Nitrogen	
Available Phosphate (P₂O₅)	4%
Soluble Potash (K₂O)	3%
Calcium (Ca)	0.01%
Magnesium (Mg)	0.05%
0.05% Water Soluble Magnesium (Mg)	
Sulfur (S)	0.02%
0.02% Combined Sulfur (S)	
Boron (B)	0.002%
Copper (Cu)	0.001%
0.001% Water Soluble Copper (Cu)	
Iron (Fe)	0.01%
0.01% Water Soluble Iron (Fe)	
Manganese (Mn)	0.005%
0.005% Water Soluble Manganese (Mn)	
Molybdenum (Mo)	0.0001%
Zinc (Zn)	0.004%
0.004% Water Soluble Zinc (Zn)	

Derived From: Fermented Oilseed Extract, Monopotassium Phosphate, Potassium Sulfate, Ammonium Phosphate, Sulfate of Ammonia, Ammonium Nitrate, Urea.

Potential Acidity: 361 lbs. Calcium Carbonate equivalent per ton.
10 lbs. per gallon at 68°F

Pathogen Free - Heavy Metals Free - GMO Free

Available Sizes:	4.7 GAL. Box	55 GAL. Drum	275 GAL. Tote	BULK DELIVERY Truck & Rail
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Nitrogen Comparison

Nature's Source is a **liquid** plant food. It contains oilseed extract, a natural source of plant nutrition. When comparing the amount of nitrogen in Nature's Source 10-4-3 to a water-soluble fertilizer, one must make the comparison based on weight. Example:

Nature's Source 10-4-3

- 5 gallons = 50 lbs.
- 10% Nitrogen
- Provides 5 lbs. of N

Dry 20-10-20 bag

- One bag = 25 lbs.
- 20% Nitrogen
- Provides 5 lbs. of N

Although Nature's Source is 10% nitrogen, it is twice the weight. Therefore, one container of Nature's Source will yield the same amount of nitrogen when compared to one bag of water-soluble 20% nitrogen fertilizer.

Other Nutrients

Nature's Source is an all-purpose plant food providing essential Nitrogen (Water soluble & insoluble), Phosphoric Acid and Potash, calcium, magnesium, plus micronutrients and sustainable nutrition derived from oilseed extract (see label). Research done by Dr. Paul Nelson at North Carolina State University concluded that Nature's Source is "adequate to meet the requirements" for most bedding crops when compared to conventional fertilizers.

SUSTAINABLE NUTRITION:

Nature's Source is a liquid plant food that contains oilseed extract, a natural source of plant nutrition. Plus, this sustainable alternative to synthetic plant food is GMO-Free. It is normal for Nature's Source concentrate to have color variation. Each batch is tested for formulation accuracy.

NATURE'S SOURCE®

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Conductivity

Nature's Source has a lower EC (electrical conductivity) relative to other commonly used fertilizers.* Lower EC levels can reduce the likelihood of salt burn and decrease the need to leach.

*See chart below for Nature's Source 10-4-3 EC levels compared to water soluble formulations at various ppm rates.

LOWER EC:

- Reduces chance of salt burn
- Reduces buildup of salt in the growing media

Conductivity Chart

This chart is provided as a reference to verify the accuracy of fertilizer injectors PPM Nitrogen. EC variance +/- 10%. Concentration-Conductivity in Millimhos (mmhos) or MilliSiemens (mS)

Formulation		50 ppm	100 ppm	150 ppm	200 ppm	250 ppm	300 ppm	400 ppm	500 ppm	600 ppm
Nature's Source 10-4-3	EC	0.19	0.38	0.57	0.76	0.95	1.14	1.52	1.85	2.28
Generic 20-10-20	EC	0.31	0.62	0.93	1.24	1.55	1.86	2.48	3.10	3.72
Generic 15-5-15	EC	0.35	0.69	1.05	1.38	1.74	2.07	2.76	3.45	4.14

Use with Acids

When mixed as directed, Nature's Source is compatible with most acids used by professional growers.

- **Sulfuric Acid:** Nature's Source may be mixed with acid in the same stock tank as long as the acid has been diluted with water prior to adding Nature's Source. DO NOT mix concentrated acid with concentrated Nature's Source Plant Food. Sulfuric acid is an extremely strong oxidizer and can denature the organic compounds in Nature's Source if mixed in concentrated form.
- **Phosphoric Acid:** Although not as strong, it is still recommended to be diluted with water prior to adding Nature's Source. Both Sulfuric Acid and Phosphoric Acid may be used with Nature's Source with separate injection lines.
- **Organic Acids/Citric Acid:** Refrain from using citric acid or other organic acids with Nature's Source 10-4-3. Mixing an organic acid with Nature's Source can result in increased microbial growth.

Recommendation: Direct from Container

Pulling directly from the Nature's Source container is a convenient method of application for the 10-4-3 formula, as it maximizes shelf life and ease of use by eliminating the need to create a stock tank solution. See chart for injector settings and corresponding parts per million Nature's Source.

DIRECT FROM CONTAINER:

- Eliminates mixing stock solutions
- Maximizes shelf life

Injecting Directly from the Nature's Source Container

	250 ppm	300 ppm	400 ppm	500 ppm	600 ppm
Injector Ratio	1:500	1:400	1:300	1:250	1:200

IMPORTANT:

Dilute acids before combining with Nature's Source.

Stock Tank/Injector Ratios

Three factors must be known when determining how much Nature's Source to add to the stock tank:

- Desired application rate (ppm)
- Injector ratio
- Size of the stock tank

Once determined, refer to the Nature's Source Injector Ratio Chart (right). This chart is also located on the back label of each product container. The chart shows how many ounces of Nature's Source should be added per gallon of the stock tank at various injector ratio/ppm combinations.

Multiply the number of ounces per gallon times the gallon size of the stock tank to get the total ounces of Nature's Source needed to prepare the stock solution.

Example: A grower wants to fertilize using Nature's Source at a rate of 200 ppm, an injector ratio of 1:100, and a 50-gallon stock tank.

The chart at right reflects this example, showing that the grower will need 21.3 oz. of Nature's Source to make 1 gallon of stock solution. So:

21.3 oz. per gallon x 50 (stock tank size) = 1080 oz. of Nature's Source needed to make 50 gallons of stock solution at a 1:100 ratio with 200 ppm out the end of the hose.

STOCK TANK TIPS:

- When mixing, add Nature's Source to the tank first, then fill with water to appropriate level.
- The more diluted the stock tank solution, the sooner it should be used to ensure optimal performance.

Nature's Source Injector Ratio Chart

Fluid Ounces of Nature's Source To Make 1 Gallon (128 oz.) of Stock Solution

Injector Ratio	ppm of N in final solution					
	100 ppm	150 ppm	200 ppm	250 ppm	300 ppm	400 ppm
1:10	1.1	1.6	2.1	2.7	3.2	4.3
1:16	1.8	2.6	3.4	4.3	5.1	6.9
1:100	10.7	16.0	21.3	26.7	32.0	42.7
1:128	13.4	20.0	26.6	33.4	40.0	53.4
1:200	21.4	32.0	42.6	53.4	64.0	85.4
1:300	32.1	48.0	63.9	80.1	96.0	128.0
1:400	42.8	64.0	85.2	106.8	128.0	
1:500	53.5	80.0	106.5	128.0		
1:600	64.2	96.0	128.0			

Tank Mixing

Nature's Source can be used without an injector by tank mixing. The size of the tank and desired ppm are needed to determine the oz. of Nature's Source per gallon of water. The Tank Mix Chart (below) shows the ounces of Nature's Source needed for different ppm rates and tank sizes.

Nature's Source can be added to other spray applications, e.g., fungicides and insecticides, after first conducting a jar compatibility test.

Nature's Source Tank Mix Chart

Desired ppm of N	oz. of Nature's Source	
	per gallon	per 50 gallon
100	0.11	5.5
300	0.32	16.0
500	0.54	27.0
600	0.64	32.0

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Line Sanitation Practices:

Common Factors

Line sanitation is important to prevent biofilm and emitter clogging. Recent research at the University of Florida showed increased clogging when fertilizer was used in irrigation lines, regardless of fertilizer type. Good water line sanitation practices will reduce the risk of biofilm buildup and emitter clogging.

We recommend an algae biofilm and pathogen suppression/control program using sustainable products such as BioSafe System's ZeroTol and SaniDate 12.0.

MORE INFO:

Visit the Water Education Alliance for Horticulture website at www.watereducationalliance.org for more info on line sanitation practices and managing irrigation water.

Irrigation Water

It is important to know the water source quality before applying any fertilizer. Do the following to better understand the factors:

- **Determine the source of irrigation water.** Having knowledge of where the water comes from provides insight into possible factors.
- **Test water pH.** Anything above 8.0 lowers the solubility of minerals, increasing their tendency to precipitate.
- **Conduct a water analysis test.** Tests completed at different times of the year can reveal possible variations of pH and other chemical levels.

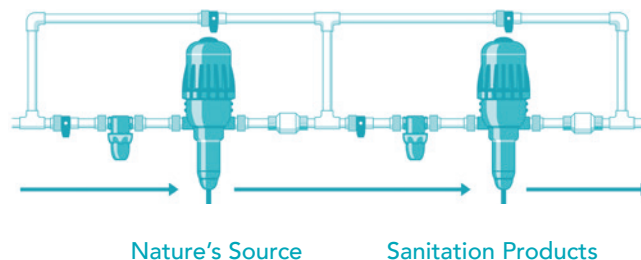
WATER & ITS SOURCE:

Understanding the water source and water quality will help identify possible factors that cause emitter clogging.

Separate Tank

Mixing Nature's Source with any line cleaning product in the same stock tank is not recommended, as it may decrease the effectiveness of Nature's Source. It is recommended to use two injectors pulling from separate tanks (see diagram below).

The preceding paragraph serves only as a suggestion. For professional assistance with line configuration, contact your preferred injector manufacturer.



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Visit NaturesSourcePlantFood.com for current Terms & Conditions of Sale.

For a complete company directory, visit <http://ns-pf.com/ContactUs/>

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