

4-18-38 Mixing Instructions

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CHEM-GRO 4-18-38

Fertilizer Mixing Instructions

(Sump Tank Dilution)

To make 100 gallons of (plant usable) working nutrient solution in a holding (sump) tank, the following amounts should be combined by following the instructions.

For 'DUTCH' Tomato Varieties
(Laura, Caruso, Match, Trust, Etc.)

For 'Nitrogen Sensitive Tomato Varieties

SEEDLING PLANTS

- a. 100 gallons of water
- b. 8 ounces (1/2 pound) of CHEM-GRO 4-18-38
- c. 4 ounces (1/4 pound) of Calcium Nitrate
- d. 4 ounces (1/4 pound) of Magnesium Sulfate
- e. Adjust pH to 6.5
- f. Conductivity 1200ppm + source water
(1.60 mhos + source water)

**SECOND FLOWER CLUSTER
TO 4TH FLOWER CLUSTER**

- a. 100 gallons of water
- b. 8 ounces (1/2 pound) of CHEM-GRO 4-18-38
- c. 8 ounces (1/2 pound) of Calcium Nitrate
- d. 4 ounces (1/4 pound) of Magnesium Sulfate
- e. Adjust pH to 6.2
- f. Conductivity 1500ppm + source water
(2.00 mhos + source water)

**AT 4TH CLUSTER OF FLOWERS
AND OLDER PLANTS**

- a. 100 gallons of water
- b. 8 ounces (1/2 pound) of CHEM-GRO 4-18-38
- c. 8 ounces (1/2 pound) of Calcium Nitrate
- d. 5 ounces (.31 pound) of Magnesium Sulfate
- e. Adjust pH to 6.2
- f. Conductivity 1700ppm + source water
(2.27 mhos + source water)

SEEDLING PLANTS

- a. 100 gallons of water
- b. 8 ounces (1/2 pound) of CHEM-GRO 4-18-38
- c. 4 ounces (1/4 pound) of Calcium Nitrate
- d. 4 ounces (1/4 pound) of Magnesium Sulfate
- e. Adjust pH to 6.5
- f. Conductivity 1200ppm + source water
(1.60 mhos + source water)

MATURE SIZE PLANTS (at 4th Flower Cluster)

- a. 100 gallons of water
- b. 8 ounces (.50 pounds) of CHEM-GRO 4-18-38
- c. 8 ounces (.50 pounds) of Calcium Nitrate
- d. 4 ounces (.25 pounds) of Magnesium Sulfate
- e. Adjust pH to 6.2
- f. Conductivity 1500ppm + source water
(2.00 mhos + source water)

**Hydro-Gardens does not recommend using
the same fertilizer solution for "nitrogen sensitive"
Varieties with "Nitrogen tolerant" varieties like
Caruso and Laura. Too high of a nitrogen level will
adversely effect their production.**

Examples:

Quantity of Fertilizer 1/2 lb. Chem-Gro 1/2 lb. Calcium Nitrate 1/4 lb. Magnesium Sulfate	Quantity of Water 100 gallons	Quantity of Fertilizer 5 lbs. Chem-Gro 5 lbs. Calcium Nitrate 2.5lbs. Magnesium Sulfate	Quantity of Water 1,000 gallons
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The best growing temperatures for tomatoes should be measured at the FLOWERING LEVEL of the crop. This means that you will have to adjust your temperature sensing equipment as the plants grow, We recommend the following temperatures:

Germination	<u>DAY</u>	<u>NIGHT</u>
Seedlings	78°F	78°F
Mature Plants	78°F	62°F
	78°F	64°F

NOTE:

If the calcium level of your source water is below 50 PPM, you should add 1 ounce of Calcium Chloride, (or 25% of the weight of Calcium Nitrate that you are adding) per 100 gallons of working solution, in with the calcium

nitrate until you have increased your calcium levels to full strength. This will supplement the calcium levels in your working solution without increasing the amount of nitrogen to your seedling plants.

Adjustments may be necessary to correct minor elements on mature plants. Analysis of plant tissue and nutrient solution should be made on a monthly basis to determine the requirements of the plants through the changing seasons of the year. It is very difficult to diagnose a nutritional problem without lab reports. The nutrient requirements of plants change with the seasons of the year and with available light conditions. Rapid response to these changes will enable you to keep your production at optimum levels.

The formulation of **4-18-38** has been developed from **Hydro-Gardens'** years of experience with hundreds of growers across the country. It has been used on thousands of tomato crops in every type growing system and with every type media available. This fertilizer has a very low salt index. This means you get more usable fertilizer for your money, and healthier plants that have higher yields. **If you don't see the Chem-Gro trademark, you may be getting an inferior substitute.**

Calcium Nitrate and **Magnesium Sulfate** must be added to this formula to obtain a complete nutrient. Recommendations should be based on nutrient and tissue analyses. [Click here to see the labs](#)

4-18-38 is soluble and completely balanced. Use with injectors, NFT or sump tank application. It contains all of the trace minerals needed in the proper amounts for maximum production. It is out most popular formula since it can be used with peat-lite, wood shavings, sand, gravel, soil, rice hulls, perlite, rockwool and NFT.

All products & prices are subject to change at any time.

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