

# Garden Mum Production Program

## Media

Different soilless mixes can be used, including mixtures of peat, perlite, bark and sand. The media should provide enough porosity and be well drained. However during outdoor production, the media should be heavy enough to withstand wind and not topple over. It should be able to retain enough moisture outside between irrigations to provide good nutrition. The pH of the media should be between 5.5 and 6, and the EC should be 1.5 mS.

## Fertilization

### Growing

Garden mums are heavy feeders. They require fertilizer immediately upon planting rooted cuttings. Depending on water quality, various fertilizer programs may be followed.

Garden mum fertilization, as with all crops, is dependent upon the quality of the irrigation water being used. High concentration of carbonates and bicarbonates will cause the pH of the media to rise during plant production. Water sources should be tested prior to deciding which fertilizer to apply. Options are available for various alkalinity levels. Acid injection (usually sulfuric acid) is used when the alkalinity level is above 250 ppm  $\text{CaCO}_3$  for growers who want a consistent feed program. Plant-Prod can provide water tests to determine your alkalinity level and general water nutrient levels.

Based on your water analysis, we can determine which fertilizer schedule would work for you. When acid injection is used, **Plantex® Solutions 17-5-17 Complete** could be used as a the general feed. Where calcium and magnesium is low, use **Plantex® 12-2-14 Cal Mag + P** every third time.

If acid injection is not an alternative, rotation between acidic blends and a Cal Mag is suggested. The fertilizer analysis suggested would be determined by the water sample results but in general the following guidelines apply:

#### Water alkalinity between 75-100 ppm $\text{CaCO}_3$ with low Ca/Mg levels:

Use **Plantex Solutions 17-5-17** at 200-250 ppm N as a constant feed. Every third time use **Plantex 12-2-14**. Should the plants not size up enough due to climatic conditions, rotate with **Plantex 20-10-20 All Purpose High Nitrate** then return to **Plantex Solutions 17-5-17**. If EC levels drop below 2.5 mS, increase the feed to 300 ppm N. Monitor EC and pH.

#### Water alkalinity between 150-200 ppm $\text{CaCO}_3$ with low Ca/Mg levels:

**Option 1** - If acid injection is not being used and the Ca/Mg levels are low, use **Plantex Solutions 19-8-13 Complete Plus**. Every third time, fertilize with **Plantex 12-2-14**. If Ca/Mg levels are adequate, use **Plantex 20-10-20** at 200-250 ppm N on a constant basis. If EC levels drop below 2.5 mS, increase the feed to 300 ppm N. Monitor EC and pH.

**Option 2** - If acid injection is being used and the Ca/Mg levels are low, use **Plantex Solutions 17-5-17** on a constant basis at 200-250 ppm N. Every third time, fertilize with **Plantex 12-2-14**. If Ca/Mg levels are adequate, then use **Plantex 20-10-20**. If EC levels drop below 2.5 mS, increase the feed to 300 ppm N. Monitor EC and pH.



### Water alkalinity greater than 250 ppm CaCO<sub>3</sub>:

**Option 1** - If acid injection is not being used and the Ca/Mg levels are low, use **Plantex Solutions 18-9-18 pH Reducer** at 200-250 ppm N constant feed. Every third time, fertilize with **Plantex 12-2-14**. If Ca/Mg levels are adequate, use **Plantex Solutions 18-9-18** at 200-250 ppm N on a constant basis. If EC levels drop below 2.5 mS, increase the feed to 300 ppm N. Monitor EC and pH.

**Option 2** - If acid injection is being used and the Ca/Mg levels are low, use **Plantex Solutions 19-8-13** at 200-250 ppm N constant feed. Every third time, fertilize with **Plantex 12-2-14**. If Ca/Mg levels are adequate, use **Plantex 20-10-20** at 200-250 ppm N constant feed. If EC levels drop below 2.5 mS, increase the feed to 300 ppm N. Monitor EC and pH.

## Finishing

In order to maintain plant quality during shipping and sale, fertilizer rates may be reduced 3 weeks prior to shipping, or when the buds are pea sized. **Plantex Solutions 15-0-20 No-Stretch**® should be used at 150-200 ppm N in order to strengthen the stems and to provide supplemental micronutrients to keep the finished plants greener.

### Plantex® Solutions 17-5-17 Complete

Contains 3% calcium and 1% magnesium and is an all-in-one formula. Over 70% of N is in nitrate form. Contains a full micronutrient package.

### Plantex® 12-2-14 Cal Mag + P

Contains 6% calcium and 3% magnesium, as well as a complete micronutrient package.

### Plantex® Solutions 19-8-13 Total Plus

Contains 2.5% calcium and 1% magnesium. This modification of 17-5-17 provides a greater acidic potential. Contains an enhanced and complete micronutrient package with 3 chelating agents.

### Plantex® Solutions 18-9-18 pH Reducer

Contains high nitrate, and is urea free. Decreases media pH levels while providing enhanced micronutrients with 3 chelating agents.

### Plantex® 20-10-20 All Purpose High Nitrate

An all season fertilizer with a high potential acidity and a complete micronutrient package.

### Plantex® Solutions 15-0-20 No Stretch®

Works to harden plant structure and prevents leggy growth. Contains a complete and enhanced micronutrient package with 3 chelating agents to improve the availability of iron and other micronutrients.



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