

Bedding Plant Production Program

With hundreds of varieties of bedding plants, finding the right fertilizer program can be challenging. Aim for a general fertilizer program, and look to indicator plants for adjustments. Monitoring pH and EC is important, especially where a wide range of crops with different nutritional needs are grown.

High pH Indicators	Low pH Indicators	High EC Indicators	Low EC Indicators
petunias, pansy, snaps, vinca	geraniums, impatiens, marigold	pansy, snaps, vinca	petunia, pansy

Media

A commonly used soilless mix includes peat, perlite, vermiculite, starter charge and wetting agent. The media should provide enough porosity and drainage. The pH of the media should be between 5.8 - 6 for good nutrient availability. The EC should be maintained between 0.8- 1.2 mS/cm. The media should be moist when filling planting containers and care should be taken not to compact the soil.

Fertilization

Bedding plant fertilization is dependent upon the quality of the irrigation water being used. High concentrations 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. Plant Products can provide water tests to determine your alkalinity and water nutrient levels, as well as an ideal fertilizer program. Acid injection (usually sulfuric or nitric acid) is used when the bicarbonate level is above 250 ppm for growers who want a consistent feed program. When acid injection is used, **Plant-Prod® Solutions 17-5-17 Complete** or **Fusion** can be used as the general feed immediately upon planting rooted cuttings. Where Ca/Mg is low (Ca < 80ppm, Mg < 30ppm), use **Plant-Prod® 12-2-14 Optimum** every third time.

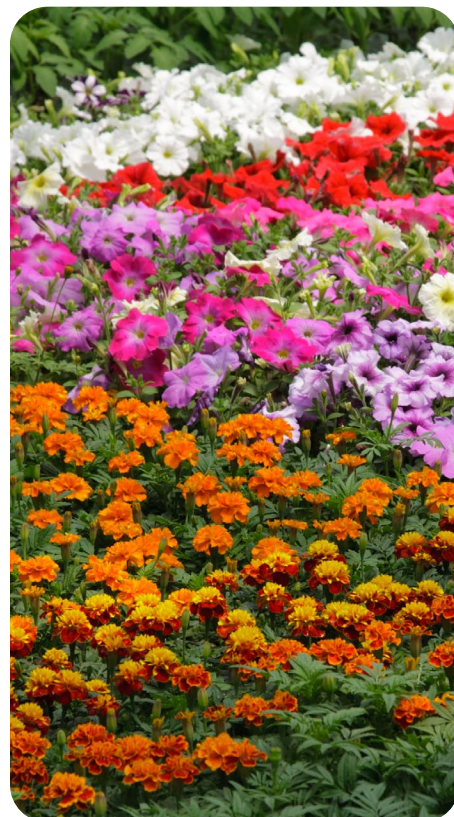
If acid injection is not an alternative, rotation between acidic blends and a Cal Mag formulation is suggested. The fertilizer analysis suggested would be determined by the water sample results, but in general the following guidelines apply:

Water alkalinity between 75-150 ppm CaCO_3 with low Ca/Mg levels:

Use **Plant-Prod Solutions 17-5-17** at 150-200 ppm N as a constant feed. Alternatively, use **Plant-Prod 20-8-20 All Purpose High Nitrate** at 150-200 ppm N as a constant feed. Every second or third time use **Plant-Prod 14-0-14 Balance**. Monitor EC and pH during the crop.

Water alkalinity between 150-200 ppm CaCO_3 :

Option 1 - If acid injection is not being used and the Ca/Mg levels are low, use **Plant-Prod Solutions 19-8-13 Total Plus**. Every third time, fertilize with **Plant-Prod 12-2-14**. If Ca/Mg levels are adequate, use **Plant-Prod Solutions 18-9-18 pH Reducer** or **Plant-Prod 20-8-20**. Monitor EC and pH during the crop.



Option 2 - If acid injection is being used and the Ca/Mg levels are low, use **Plant-Prod Solutions 17-5-17** on a constant basis at 150-200 ppm N. Every third time, fertilize with **Plant-Prod 12-2-14**. If Ca/Mg levels are adequate, then use **Plant-Prod 20-8-20**. Monitor EC and pH during the crop.

Water alkalinity greater than 250 ppm CaCO₃:

Option 1 - If acid injection is not being used and the Ca/Mg levels are low, use **Plant-Prod Solutions 18-9-18** at 150-200 ppm N constant feed. Every third time, fertilize with **Plant-Prod 12-2-14**. If Ca/Mg levels are adequate, use **Plant-Prod Solutions 18-9-18** at 150-200 ppm N on a constant basis. Monitor EC and pH during the crop.

Option 2 - If acid injection is being used and the Ca/Mg levels are low, use **Plant-Prod Solutions 19-8-13** at 150-200 ppm N constant feed. Every second time, fertilize with **Plant-Prod 12-2-14**. If Ca/Mg levels are adequate, use **Plant-Prod 20-8-20** at 150-200 ppm N constant feed. Monitor EC and pH.

Finishing

In order to maintain plant quality during shipping and sale, fertilizer rates may be reduced 2 weeks prior to shipping, or when the buds are pea sized. **Plant-Prod Solutions 15-0-20 No-Stretch®** should be used at 100-150 ppm N in order to strengthen the stems and to provide supplemental micronutrients to keep the finished plants greener. If younger plants are in the same greenhouse, use **Plant-Prod Solutions 15-0-20** as a part of the rotation with your regular feed program.

Plant-Prod® Solutions 17-5-17 Complete | Plant-Prod® Solutions 17-5-17 Fusion

Both contain 3% calcium and 1% magnesium and are all-in-one formulas. Over 70% of N is in nitrate form. **Fusion** contains a full micronutrient package. **Complete** contains an elevated, complete micronutrient package with 3 chelating agents.

Plant-Prod® 12-2-14 Optimum

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

Plant-Prod® 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.

Plant-Prod® 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.

Plant-Prod® 20-8-20 All Purpose High Nitrate

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



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