



Technical Bulletin

Group Your Plants by Growing Medium pH Preference

In the past, one standard fertilizer program served well to produce nearly all the plants in the greenhouse. Now, each new season finds growers facing the challenge of producing many different plants species and/or cultivars. While the introduction of new plants helps to stimulate sales, it presents special production challenges. These introductions have diverse cultural requirements. What works well to produce one cultivar may not work well for another.

Begin by Testing

Implementing a testing program is key to ensuring successful crops. An understanding of one's water quality, proper fertilizer selection and nutritional monitoring are essential. Too often, growers wait until they see a problem before they fully consider these factors. The time and expense of a proper testing program is cheaper and less problematic than costly mistakes. Begin with a water test. This is the foundation for building a proper fertilizer program. Call for technical help and recommendations as needed. It is the growers' responsibility to call for technical assistance and to review results

Review Cultural Guidelines

Refer to the cultural guidelines provided by plant suppliers. Read the basic guidelines and modify these recommendations based on individual geographical and environmental factors. Group plants with similar cultural requirements.

Plant Species Groups

Plant species produced for spring sales, in particular, vary greatly in their growing medium pH preferences. To best facilitate micronutrient management, group species by their growing medium pH preferences. Most spring flowering plants can be placed in one of the three following categories. While the following lists are extensive, they are not complete. Be sure to check with your plant supplier since there be differences by cultivar within each species.

LOW pH or PETUNIA GROUP

These plant materials grow best with a lower growing medium pH, approximately 5.4 – 5.8. They are prone to iron, boron, and other micronutrient deficiencies.

Acalypha- Chenille Plant	Bougainvillea	Nemesia	Snapdragon*
Alternanthera	Brachyscome	Osteospermum*	Sutera
Anagallis	Bracteantha*	Pansy	Thunbergia
Bacopa	Browallia	Petunia	Tiarella
Begonia-Dragon Wing	Calibrachoa	Phlox - Intensia	Torenia*
Begonia semperflorens	Diascia	Primula*	Verbena*
Begonia-Tuberous	Lantana*	Ranunculus	Vinca
Bidens*	Lobelia*	Scaevola	Zinnia

*This species has been listed in more than one group by various plant suppliers.

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MODERATE pH or General Group

These plant materials grow best with a moderate growing medium pH, approximately 5.8 – 6.2. They are not particularly prone to micronutrient deficiencies or toxicities.

Angelonia	Dahlia	Mecardoia	Primula*
Ageratum	Euphorbia 'Diamond Frost'	Melapodium	Rudbeckia
Argyranthemum	Fuchsia	Mimulus	Schlumbergera
Begonia	Gaura	Nicotiana	Salvia
Bidens*	Gazania	Oenothera	Sanvitalia
Bracteantha*	Gerbera	Osteospermum*	Schizianthus
Chrysanthemum	Impatiens*	Oxalis	Snapdragon*
Cineraria	Lantana*	Penstemon	Torenia*
Coleus	Lobelia*	Poinsettia	Verbena*

*This species has been listed in more than one group by various plant suppliers

HIGH pH or Geranium Group

These plant materials grow best with a higher growing medium pH, approximately 6.2 -6.8. They are prone to iron, manganese and other micronutrient toxicities.

Abutilon	Celosia	Heliotrope	New Guinea Impatiens
Alocasia	Cleome	Impatiens*	Pentas
Aloe	Cuphea	Ipomoea	Perilla
Anisodontea	Cyclamen	Iresine	Plectranthus
Arctotis	Dianthus*	Lisianthus (Eustoma)	Portulaca
Begonia-Rex	Seed and Zonal Geraniums	Marigold	Salvia
Calendula	Helichrysum	Nierembergia	Sedum
			Streptocarpus

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Follow-up with Lab and In-House Growing Media Tests

A well-designed testing program uses weekly in-house testing of growing medium pH and soluble salts (E.C.) in conjunction with laboratory tests. This allows for correlation of in-house testing equipment with professional lab equipment so that growers can track their crops with the confidence that their testing measurements are understandable. A successful testing program is based on tracking one "model" or test crop (one species or cultivar) in one pot size all the way through the production cycle. Submit samples in a logical and timely manner that suits your production program. Be sure to sample the growing medium at the same interval following a fertilizer application. This will enable you to track the progress of your crop from one test to the other and allow you to proactively change the nutritional course of the crop before problems occur.

Most greenhouse operations produce numerous crops in a wide variety of container sizes. Choose one container size for the test crop. Do not mix growing medium samples from different size containers, even if they are from the same crop. In-house testing does not provide as much detail as lab test samples nor are they likely to result in the same numbers due to preparation and testing differences. However, the test numbers should follow the same general trend and provide valuable comparable data. Use test analyses in conjunction with cultural and environmental records from previous crops so that you can determine where changes may be needed. Prior records should indicate where growing methods or changes produced an exceptional crop so that you have a greater chance to reproduce those results. Additionally, there are wide regional differences in timing or environmental control that may affect the nutritional status of your crops.

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