

## media/fertilizer

Grower 101:

# Getting the Most Out of Your MIX



Working with your media supplier to make sure you're getting what you asked for.

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A variety of commercially prepared potting mixes are available for today's commercial growers. Selecting the formulation that performs best for your particular situation can be a difficult task, unless you know the specific needs of the crop, your cultural practices and the characteristics of the growing medium. To get the best results for your crop, the key is to work closely with your supplier.

### FUNCTIONS

The "stuff" we use to fill containers is called a medium. When containing proper amounts of water and air, it provides mechanical support and sustenance for cultivation of plants. It functions as a water reservoir, nutrient holding and exchange system, a framework for gaseous exchange and anchorage for root systems and plant support.



*Top: Quality media manufacturers blend ingredients with computer-controlled conveyors and mixers. Bottom: QC coding should be easy to locate and legible for tracking purposes. (Photos courtesy of Premier Horticulture)*

Medium is singular for one type of mixture, whereas several blends are referred to as media. The majority of what is used in greenhouses and nurseries today is made from organic-base materials, such as sphagnum peat moss, bark and/or coir that are blended with aggregates, liming materials and fertilizers. Whether you buy it pre-formulated or blend your own, peat- and peat/bark-based media is the mainstay for the industry.

### MIXING IT UP

There is a wide variety of components and various combinations that can be used to formulate growing media. Popular aggregates, such as perlite, vermiculite and calcined clay, are sometimes incorporated separately or in combination to achieve desired water-holding, aeration and drainage properties. Calcitic and dolomitic limestone are used for buffering, adjusting pH and as a minor calcium source. Calcitic is used for quick pH adjustment compared to dolomitic limestone, which has a longer staying power for pH management. Dolomitic limestone also provides a small amount of magnesium as well as calcium. Gypsum is sometimes used as a calcium and sulfur source, but has no effect on pH. Chemical ingredients, such as fertilizers, wetting agents and/or polymers, are used for nutrition, ease of wetting and water retention, respectfully. Combining different ingredients results in various physical and chemical properties.

### CHOOSING THE RIGHT MIX

Media selection is best determined by the plant species grown, stage of plant development, container size and cultural requirements. In comparison, peat-based media is lightweight, has higher water retention characteristics and is composed of smaller particle fractions. These characteristics are ideal for small containers, propagation of cuttings, seed starting and general greenhouse potting applications. Bark-based media tends to have higher bulk density, lower water retention and larger particle fractions. These characteristics are desirable for improved

container stability, large containers and growing situations that require low water retention. Outdoor nurseries typically use bark-based media, since rainfall is variable, and overhead irrigation systems are often used to deliver large volumes of water over large nursery areas.

### UNDERSTANDING YOUR NEEDS

All media manufacturers blend a variety of formulations for different applications. How do manufacturers know what you need? They should know the crop requirements and match them to the characteristics of the growing medium. If the growing medium is a commercial blend, ask the manufacturer for technical information and speak with the sales representatives. Many companies also employ technical representatives who can assist with specific crop questions. The manufacturer should be able to give you this information readily. If not, consider a different supplier. If you currently blend your own and are thinking of switching to a pre-formulated medium, use a reputable laboratory that is familiar with horticulture testing. Send several samples of your growing medium for analysis of its chemical and physical characteristics. Once you have the lab results, share these with the media manufacturer and discuss with your sales representative and define your requirements. Together you can determine the right product to evaluate.

### CUSTOM BLENDS

Considering the number of manufacturers and the quantity of standard formulations on the market, there is most likely a pre-formulated medium that will meet your growing needs. However, occasionally there is a situation when a specially formulated media may be needed for a unique growing situation. Usually this is due to a water-quality issue (low alkalinity, high alkalinity, high salts, etc.) or a specific crop requirement (nutrient modification, long-term fertilizer, etc.). In addition to lab analysis, give your potential supplier several cubic feet of your growing medium to examine. Actual samples help the manufacturer better understand your requirements, such as size of aggregates, quality of peat/bark used and other visual aspects. The manufacturer should be able to supply you with a sizeable sample for you to evaluate.

### SAMPLE BEFORE YOU BUY

Would you buy a car without taking it for a