A COLOR PROGRAM FOR PLANTS ADAPTED TO THE U.S. SOUTHWEST

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Lone Star Growers is a container nursery with approximately 200 acres in production. We carry woody ornamentals from 1-gal., 2-gal., 5-gal. material up to 24-in. box trees. We have several specialized production areas within the nursery that set us apart from most other container operations. One is a full-scale native department, introducing and producing Southwestern and Mexican native plant material. The other is a comprehensive color department, which is the focus of this paper. I will explain the reasons Lone Star decided to include a color department from a marketing standpoint, the factors that make a color program different from container material and cultural techniques we employ to produce a quality product in the extreme climatic conditions of south Texas.

Definition of "Color". What is meant by the term "Color"? To us it includes most of the flowering annuals and perennials such as begonias, geraniums, lantanas and plumbagoes. It also includes specific crops that are not necessarily known for color but which fit into our program better than into our container production due to perishability. Santolina and ajuga are examples. We also do seasonal color specialties such as poinsettias and kalanchoe.

Marketing. What prompted a large container operation like Lone Star to start a color program? Obviously the market demands for color or blooming plants has increased dramatically and we are responding to that demand. In recent years there has been a glut of container material on the market and we have shifted our efforts into more specialty items or items that make us unique in relation to other container operations. We want to provide one-stop shopping for our customers, where they can buy 5-gal. Burford hollies as well as 4-in. pansies. A strong sales force with good market penetration already has helped make it an easy step into selling color material. As our program has evolved, we have found that color has had a very positive effect in helping sell container material. Conversely, container material has helped sell color. Very few operations can offer the diversity of plant material we have available.

Who are our customers? The majority of our customers for color are landscapers, the rest retailers, both chain stores and independents. Our product is tailored for customers who want immediate landscape impact. In this way we differ from a bedding-plant producer. We sell material of a finished size, budded or blooming as opposed to a bedding-plant operation, which sells

material that will grow into that state of maturity. Because of this we produce only 4-in. pots, 6-in. pots, 1-gal. containers and hanging baskets. Many annuals such as dianthus and vinca that are typically sold as packs we grow in both 4-in. and 1-gal. sizes. This again emphasizes the point that our customers want a finished item and are not willing to wait for a small plant to grow to that level of maturity.

Varietal Selection. Varietal selection is one of the most important considerations in adapting a color program suited to the temperature extremes of the Southwest. In selecting cultivars we look for sales appeal, heat tolerance, uniform growth, and maximum plant size. The plant size should match the size of pot it is sold in. Generally, the crops that perform well for us as a grower are going to perform well for landscape or retail customers.

Heat tolerance is a big factor as there are great variations from cultivar to cultivar. An example of this is pansy selections for fall sales. Pansies are our number one seller in 4-in. size. Many of the older lines such as King Size and Swiss Giants do not perform nearly as well as Majestic Giants or Universals in late summer and early fall heat. We look for cultivars that are going to maintain uniformity and compactness, giving us the longest sales period. For example, petunias are an extremely fast grower that can get quite "leggy" in excessive heat. For this reason we use the Ultra cultivars that provide a uniform growth rate and compactness as opposed to the Cascades, which tend to bolt and "leg out" quite rapidly.

Matching size of pot to plant height is an important consideration in selecting a cultivar. Many geranium cultivars such as 'Red Elite' or the Fischer cultivars, are strictly suited to 4-in. pots. They remain too short to fill out a 6-in. pot so other cultivars, such as 'Sincerity' or 'Yours Truly', which are cutting geraniums, are better suited.

I have discussed mostly herbaceous annuals up to this point. We are also particularly excited about the potential for native color. *Salvia greggii* is an outstanding plant that is adaptable to most areas of the Southwest. It has few insect or disease problems, gets better with each shearing, and blooms profusely from March to October. We are seeing it specified more and more in mass quantities throughout Texas. We believe there will be a definite trend to natives, such as this plant, as water availability becomes a greater concern throughout the Southwest.

Cultural Techniques. What kind of cultural techniques do we use to produce a quality plant adapted for the Southwest? Our climate is one of extremes in south central Texas. High night temperature is one of the biggest problems we deal with during spring and fall. These temperatures cause rampant growth resulting in legginess and often delayed bud formation. On crops that are responsive, we use the growth regulators B-Nine and Cycocel quite

heavily. This helps not only to control growth rate but provides uniformity and compactness. Examples of crops most responsive to B-Nine and Cycocel are petunia, impatiens, vinca, dianthus, and geranium.

I will briefly outline the steps that lead to our finished product. First, we are great believers in plugs as a starting point for our production. They establish in the pot faster, and we have less transplant losses, particularly under extreme heat. They shorten crop timing considerably and offer a big labor-savings advantage. A raw seedling with no self-contained root ball takes a skilled planter to handle. Generally, an unskilled laborer can learn to plant a plug efficiently within hours. This allows us to use less specialized personnel that are available to do a variety of tasks. We presently purchase all our plugs. However, we are considering several seed planters for plug production that are on the market now. Most of our perennial 4-in. production is direct stuck, lantanas, for example. Our 1-gal. material is produced from a transplanted liner, either from a cutting or seedling. Most of our crops are started either under poly or saran and then moved outside or uncovered for finishing. Much of our material is started in small quonset houses under saran. Rather than move plant material out, we remove the saran to another empty quonset and continue planting under it. This is an important factor in providing a product that will withstand the adverse weather patterns of this area. It must be finished and hardened off or it will not have good shelf life or survivability in the landscape. Material finished inside a greenhouse tends to be rather soft and will not have as good a weather tolerance as material finished in an outside growing area.

Crop Timing. One final word on crop timing. Timing is critical to any nursery operation but more so in a color program. Sales windows are extremely short with many annuals and perennials, sometimes as short as one week. Staggered planting programs need to be followed very carefully in order to prevent having too much material available all at once. Our container production is projected by quarters or within three-month periods. Color projections are done by the week. This is a major distinguishing feature between color crops and woody ornamentals. This is the main reason our nursery opted to create an entirely separate department with a different production scheduling program to adapt to the fast cycles of color crops.