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FOLIAGE PLANTS AND SNAPS

VAUGHAN'S PLANT SERVICE SAVES US TIME AND MONEY, SAY THESE LEADING GROWERS

Mr. "Bud" Vasatka (at left), owner of Chicago Avenue Floral Company, Minneapolis, Minn. At right is his grower, Mr. Don Strickland looking over a bench of their Pothos.



Mr. Edgar Keefer and son Ned, owners of Keefer Greenhouses, Andrews, Ind., in one of their foliage Plant Houses.



Mr. John R. Johnson, owner of Greenhouse in Minneapolis, and pretty daughter Lynn talk with Bob Marks of Vaughan's.



Vaughan's seed company

Vaughan's Snapdragon Manual

The production of Snapdragons has assumed an important position and is now one of the leading basic crops for both retailer and wholesaler. New varieties and improved methods of culture make it practical and possible to produce Snaps on a year round basis.

With this manual, we have attempted to equip the grower with cultural detail and suggested growing methods that will insure top quality Snapdragons at all times.

To further assist in setting up your Year Round Growing program, we have included a sample schedule (based on Middle West and North growing conditions) that shows varieties and suggested planting dates as well as cutting information. Our SNAPDRAGON PLANNING SERVICE is prepared to assist you, should you have other questions, and Your Vaughan Salesman, too, will be most happy to work with you.

Growing Methods

A number of Snapdragon growing methods are being practiced but the ones most generally used are pinched crop or single stem on either ground or raised benches. With varieties now available, the use of ground benches and growing by the pinched crop method represents but a small percentage of the total production space devoted to this crop.

There are many different ways of handling seedlings, namely: direct benching, transplanting into flats and later into the bench, clay pots, plant bands and peat pots. With the different requirements of each grower and varying local conditions, an appraisal of each method will be necessary to determine the one best suited to his needs.

Regardless of the method used, seedlings are ready to transplant three to five weeks after sowing. This transplanting should be done as soon as seedlings are large enough to handle. Transplanting loss being less when seedlings are small. Foresight in watering or feeding will also result in fewer losses if the soil is allowed to become on the dry side at time of transplanting. Seedlings separate with less injury to the root system when soil is on the dry side and not allowed to become too moist.

Many retail growers, and some wholesalers, grow by the pinched method. When this procedure is followed the plants of most varieties are grown to approximately six or eight inches in height; the top is pinched out and three or four breaks allowed to develop. Among the advantages of this type of growing are fewer plants required per square foot of growing space, lower seed cost and a reduction in labor costs. There is the disadvantage, however, of the length of time plants remain in the bench from planting to flowering coupled with the uneven maturing of the crop and a smaller percentage of top quality flowers. This method is preferred by most retail growers, it gives a cut over a longer period of time.

When growing by this method provision should be made to replace any plants which do not grow after benching. This is important since the square feet of space occupied per plant is nearly four times that required under the single stem method, thus any missing plants will result in a reduction in flowers cut in an alarming amount.

The direct benching single stem method has gained favor with many growers. When so handled, there is less loss from transplanting, a saving in labor and better plant growth.

Clay potting of seedlings has now been largely discontinued. Plant Bands made of various materials such as wood veneer, impregnated papers, etc., gained some prominence but is not as popular as before.

Val-Peat Pot Growing

The Peat Pot is the latest introduction into this phase of growing. These pots are made of paper and wood pulp and peat moulded with nutrients in the bonding materials. Peat Pots seem to approach the ultimate for this type of growing. For Snap culture, the 1¾ inch square size can be used to the best advantage, not only from the cost angle but the space required. 70 of this size and shape can be placed in a flat 14 x 22 inches as compared to 50 of the larger 2¼ inch. Space can become a very critical factor when a large number of plants are produced or bench space is limited. Growing plants in flats will greatly facilitate moving to the benching area. During winter months, from November through March, seedlings can be grown for approximately five weeks without feeding or checking. In summer months this period is less, about three weeks,

and each grower must determine the proper time element by experience.

Very uniform growth can be obtained by careful checking for watering, even though spot watering will be required at times. At no time should the seedlings be allowed to dry to the degree of flopping during this period of growth.

Another point in favor of the Peat Pot is the time saved from benching to flowering. During the period of greatest production, the Snapdragon crop occupies the bench for approximately 5½ months. Plants benching in the conventional 3 x 6 inch space occupy 18 square inches whereas a plant in the Peat Pot will occupy slightly over 3 square inches. Bench space not suitable for cutflower culture can be used for the growing-on area.

Valuable bench space time can be saved by growing seedlings in a less valuable growing-on area. During this period of growth seedlings are not checked and do not suffer from crowding. In fact, better plants are produced at the end of this period in peat pots than if direct benching. When grown as a pinched crop, this saving is even greater.

At the transplanting stage, it is difficult to distinguish the weak from the strong seedlings. After 6 or 8 weeks in the Peat Pots seedlings either do or do not grow and are easily detected and discarded. In this way the grower benches only selected plants which produce high quantity and quality of flowers at cutoff time. The use of the Peat Pot will permit the selection of a greater number of desirable seedlings. We recommend an over planting of approximately 10% above normal requirements to insure a better selection at benching time. A higher percentage of top quality flowers is the result of this selection.

At cut-off time there are situations when it becomes desirable to clear a bench even though all flowers are not ready for cut. Planted in Peat Pots these can be held a few additional days, a salvage made of all salable material and neither quality or flowering schedule is affected.

The absence of schedule delay in peat potted plants greatly facilitates the flexibility of work load caused by days off at weekends and holidays and those ever present unavoidable delays experienced in the best operated ranges.

From sowings of several thousand each, it has been determined that with reasonable care the number of seedlings lost after transplanting into Peat Pots does not exceed 10%, from all causes, and that is a satisfactory figure to use in scheduling your requirements.



WAR ADMIRAL—(see page 13).

Val-Peat Pot Growing—Continued

A Year Round Schedule of growing Snaps, single stem culture, evolves around the use of Val-Peat pots for "squeezing" in that extra crop otherwise unavailable under direct bench method. A cut of between 75% and 80% of average salable flowers is secured by most growers of direct bench crops, while this percentage will be increased to some 90% by the use of Val-Peat pots. For example:

Sow Seed	Val-Peat Pot	Bench	Flower	Number days Sowing to Flower
January 1	January 24	February 21	May 1	120
March 21	April 14	May 15	July 15	104
June 1	June 15	July 24	September 10	97
August 1	August 15	September 21	December 15	135

As in any growing method, there are some disadvantages to the use of Peat Pots, such as cost of pots which must be added to the total cost of the crop, additional labor required for potting seedlings as compared to direct benching, and loss of bench space used as a growing-on area which could be used to produce some income.

It becomes apparent, however, that the advantages of peat pot growing far exceed the disadvantages. An important point being the grower can with reasonable planning produce 3 crops a year in benches with a night temperature of 50 degrees while with former methods under these same conditions only 2 or at best 2½ crops could be produced. If desirable to speed up operation in the growing-on area the use of lights for three weeks will save two weeks in flowering. This is done in the darkest of winter months, single stem culture. This scheduling is based on raised benches only in the latitude of Chicago.

By using Peat Pots and the growing-on area, a program can be worked out to flower on a 10 day interval using 9 production units.

From October 15th to April 15th a period of approximately two weeks should be allowed from flowering date to re-benching. During the remainder of the year approximately three weeks is ample.

When growing by the pinched method from bands or pots, it is better not to pinch until after the plants are benched and have become established in the soil. This seems to produce a greater number of strong breaks.

Seed Sowing

Seed sowing and the successful growing of seedlings to the transplanting stage represents one of the most important phases in the Snapdragon growing operation. All growers must master it in order to keep plant cost in its respective position and insure a steady production of flowers at all times. A breakdown in this phase of operation often accounts for the failure to meet production schedules.

A number of soil mixtures have been used for sowing Snapdragon seeds and many have proven successful. One of the best, and one that can be used several times when sterilized between each usage, is a mixture by volume of ⅓ soil, ⅓ coarse sand and ⅓ commercial or neutral peat. Mix thoroughly and pass through a fine screen before placing in the seed flat. Seed flat should contain adequate holes in the bottom or space between the bottom boards to permit watering and feeding. If feeding from the bottom be sure this is followed with additional waterings from the top between feedings. For additional bottom heat during the winter months, use of a Heat Cable covered with pea gravel is recommended. Sterilize seed flat and soil mixtures prior to mixing and filling. When seed flat is filled and then sterilized the soil mixture is inclined to become low in the center and have a hard surface. Better germination results when soil is kept level in the flat and the physical condition of the soil light and airy. Many growers have steam boxes connected to their boilers which enables sterilization of seed flats and soil mixtures as needed. Others place them under the steam cover during their regular sterilization operation. Either gives satisfactory results. The latter method, however, requires considerable planning in advance to insure an adequate supply on hand when needed. Under no circumstances should seed be sown in a soil mixture or flat that has not been sterilized. This is one of the principal sources of damp-off conditions which results in poor germination or loss of seedlings.

Another cause for poor germination is lack of sufficient moisture in the soil mixture when seeds are sown. The soil mixture should be thoroughly moistened before sowing. This is especially true with a peat and sand mixture where two or three waterings are required the day previous to sowing. Depending on the size of operation, for the last watering use a solution of Captan or Panodrench. Watering the soil mixture with a fine rose at low pressure or by misting is better than to moisten from the bottom. A soil mixture having sufficient moisture should require no additional water for several days after seeds have germinated.



PINK FLARE IMPROVED (see page 14).

Seed Sowing—Continued

During hot weather only, a top layer of ¼ inch Nodampoff Sphagnum Moss to cover or sow into works very well and seed seems to germinate satisfactorily. Peat can be used but is more inclined to become hard and form a surface crust when allowed to become dry.

The media into which seed is sown should be within ½ inch of the top of the flat.

Some growers prefer sowing seed in shallow trenches rather than broadcast on the theory should damp-off conditions occur it is less likely to spread. Also, the soil surface around seedlings can be kept on the dry side and still provide water to the roots when sub-watered, while seedlings in rows permit a better movement of air. Both methods are being used with equal success. Whichever gives you the best results is the one you should follow.

Seed may be sown from the packet, metal seeder or vibra seeder, whichever is available. Considering the small physical size of Snapdragon seed, use of a vibra seeder results in more uniform distribution in the seed flat. As a general rule growers prefer to sow one trade packet of seed in a flat approximately 14 x 22 inches and avoid overcrowding of seedlings.

Seed should be watered in with a fine spray or mist to firmly imbed in the moist soil, which also provides a thin covering of muddy water. No additional covering should be required.

Each seed flat should be provided with an identifying label showing variety, sowing date (to facilitate record keeping) and any additional information the grower may desire.

The seeded flat is now ready to be placed in a location where nearly constant temperature can be maintained for 24 hours a day. If temperature fluctuations are avoided, better germination results. A careful search for the right location will more than justify the effort in a higher number of seedlings produced per trade packet of seed.

After placing seed flat in the germination location it should be covered with glass or a plastic sleeve which in turn is covered with paper. Handled in this manner the soil surface is protected from sun spots and air currents which tend to dry it out and prevent or retard germination. This added protection is not needed if you are using one of the modern misting systems. With a maintained temperature of 68 to 70 degrees, seed germinates in approximately 5 days, although during warmer weather with higher temperatures this may be somewhat less.

Watch seed flats carefully. Once germination starts remove the paper or plastic sleeve and elevate glass approximately ½ inch above side of flat. Some growers find it can be removed completely during Summer months. This will permit a movement of air and help prevent damping off or undue stretching of seedlings. When a large percentage of seed has germinated, remove glass and move flat to a shaded location maintaining a temperature of approximately 60 degrees. Seedlings kept in darkness at high temperatures become tall and weak within a very few hours.

Vaughan's SNAPDRAGONS



TWENTY GRAND—(see page 14).

Seed Sowing—Continued

Within a day or two after all seed has germinated, the seedlings should be gradually exposed to full sun. Increase the sun time by two hours each day until the full sun day is reached. Full sun and a reduction in temperature produces strong stocky seedlings. A rack or bench covered with unbleached muslin suspended 3 to 4 feet above the seed flat provides excellent protection from sun, permits circulation of air and sufficient light until seedlings are ready for full sun. Fastened in a curtain-like manner, the muslin can be pushed back or removed for short periods to facilitate exposure to full sun without moving flats several times daily.

In Spring and Fall months it is good practice to feed the seedlings with a liquid plant food diluted to one-half normal strength. This is done after the first leaves are about $\frac{1}{8}$ inch in diameter. We do not recommend this in the hot summer months. Such a feeding produces better growth and helps condition seedling for the transplanting shock.

When feeding or sub-watering take care to remove flat from tank as soon as moist spots appear on soil surface. Place flat so excess food solution or water can drain back into the tank. Baffles on the bottom of the tank, on which to rest seed flat will facilitate rate of flow into flat. Avoid flooding—practice will determine when flat should be removed from tank. Frequently the soil surface appears dry and in need of water. This could be a false condition—actually the soil below surface is moist. Test weight of flat—this will determine if watering is necessary.

Damp-off, stem rot or other diseases which sometime attack the seedlings, can be controlled by applying Fermate, Terraclor, Panodrench or a similar commercial fungicide. Steam sterilizing of seed flat and soil mixture is by far the most effective control.

Grasshoppers, spiders, mice and birds will attack Snapdragon seedlings and completely destroy an unprotected flat over night. If this is your problem, cover flat with cheese cloth—it gives excellent protection.

A trade packet of quality seed, sown under normal conditions and grown by average methods, can be expected to produce approximately 900 seedlings, a figure that can safely be used for production planning.

Carelessness at any step in this portion of the program could result in serious loss of effort, increased cost and set back your production schedule. Without question, this is one of the most important steps in the entire culture program.

Soil Management

Few growers plant in soil without steam sterilizing at least once a year and many have adopted the practice of steaming between each crop. There is some feeling among growers that steaming too often when the amount of humus in the soil is low results in it becoming extremely fine and packing after a few waterings. This packing prevents proper drainage or retards the rate of drainage to the extent soil acts as a filter and filters out the salts during drainage. Poor or improper drainage results in a build-up of salts which cause restricted or uneven growth and damage to the root system. For the reasons indicated above, you should steam sterilize your ground benches as often as you do the raised bench.

It is recommended that soil test readings be taken several times during the life of the crop. A time consuming operation which few perform as recommended. A close check by visual observation of the condition of foliage and rate of plant growth, supplemented by an occasional soil test reading will in most cases produce satisfactory results. Those having organic matter in the soil should watch for high ammonia content. If present the tiny root system will burn, especially true on direct benched seedlings.

Soil in the bench should be leveled before planting to remove all high and low spots and prevent excess runoff or ponds after watering. A water filled roller is excellent for this purpose.

If soil is struck level with the top of the bench sideboards after it has been prepared for planting, it will settle approximately 1 inch after plants are watered in. This is about the correct amount of freeboard to prevent overwash during watering and still provide maximum soil depth for growing. Excessive watering is required when the soil depth is allowed to become too shallow.

To steam sterilize your soil, bring the temperature to 180 degrees and maintain that temperature for $\frac{1}{2}$ hour at the coldest spot in the bench.

While a rototiller can be used to prepare soil for benching, there are a number of disadvantages to its use. Some being the inability to till soil at the ends and close to the sides of the bench and the inability to till the bottom inch or so of soil to prevent hitting the tiller blades. In this bottom inch of soil is often present an excessive root



CRYSTAL WHITE VAUGHAN STRAIN—(see page 14).



COLORADO—(see page 11).



MAINE—(see page 11).



WISCONSIN—(see page 12).

Soil Management—Continued

mass which must be broken up and mixed with the soil to insure proper drainage. The excess weight of the tiller on some wooden benches makes its use prohibitive while the tiller wheels are inclined to pack the soil and cause hard spots.

A spading fork, although it requires more time and effort, is excellent to use for this operation and will correct the above mentioned objections. This is especially true if a sand and peat mixture is used.

Soil should now be sterilized as well as all tools you intend to use. If you prefer, your tools may be dipped in clorox and not be placed in your steam sterilizer.

Spacing

The production and quality of Snapdragons are related closely to the amount and intensity of sunlight. During the darker periods, from October 1st to April 1st a greater amount of space is required than is needed during the long warm and high light period. For pinched crops a spacing of 8 x 8 inches and 6 x 4 inches is usually used. For single stem crops we recommend 3 x 6 inches and 3 x 5 inches. Some prefer to use 4 x 5 and even 4 x 4 inch spacing. The planting of two plants per hill for spring and summer crops, while it increases production, there is a reduction in quality except in the isolated case and is not practical for the wholesale grower.

Wiring and Stringing

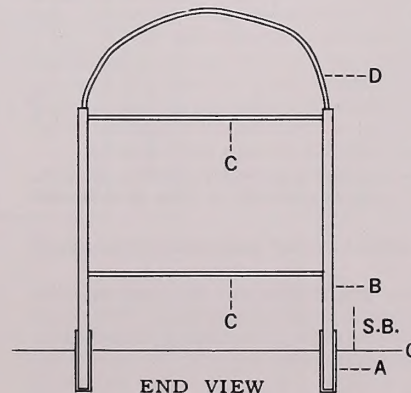
There are many ways of doing this part of the growing operation. However, the one that keeps the plant straight and in the respective row is the one to use. Since some methods are more practical than others, this operation will warrant some investigation from a standpoint of labor saving and the increased number of straight flower stems at cut-off time.

A convenient method and one that greatly facilitates raising the wires as the plants grow is as follows: mount a $\frac{3}{8}$ inch smooth steel rod approximately every 10 feet along each side of the bench on the inside of the side boards and directly opposite each other. These rods should extend approximately 4 ft. above the soil level. Cut and drill $\frac{1}{2}$ inch holes in wood cross members of 1 x 2 or similar lumber of such length to slide freely up and down on the steel rods. This cross member should extend approximately 1 inch beyond the rod but not project over the bench side board. This will require care in mounting the rods vertically and drilling the holes correctly. Due to slight variations in the inside width of the bench, it may be necessary to measure and drill each cross member separately. By placing a spring type clothes pin under the cross member on each rod, it will be found that the wire and string can be raised to any desired height with very

Wiring and Stringing—Continued

little effort. Distances greater than 10 ft. between rods results in difficulty in raising wires when foliage becomes heavy and the outside wires are more likely to bend toward the center of the bench when the cross strings are attached. In single stem growing. One row of wire is adequate for two rows of plants and will provide sufficient support. Pinch crop requires one wire for each row of plants. Care should also be used in mounting end poles to keep them vertical and well braced in order to maintain proper tension in the wire. Many prefer a heavier gauge wire for the two outside wires. While it has advantages, it certainly is not necessary. Though the initial cost is greater, cable cord type of string will be found much stronger and lasts for several crops proving more economical than the cotton string. A string tied to each outside wire and half hitched, not looped, over each wire between each cross row of plants is sufficient. The half hitch prevents string from sliding on the wire. Two sets of wires and strings raised as the plants grow will maintain straight plants. A small amount of time and effort in policing plants along the outside rows under the wires will help increase the number of straight stems at flowering time and provide better passage between benches.

Using this rod and clothes pin method, wires can be raised to the top of rod after crop has been cut and they are out of the way for sterilizing and preparing the bench for the next crop. Labor of removing and replacing wire and string between each crop is thus eliminated.



- A**— $1\frac{1}{4}$ pipe in ground outside of bench
 - B**—1" pipe slide inside A for support of wires lengthwise of bench
 - C**—1" wooden or $\frac{1}{4}$ " steel cross supports
 - D**— $\frac{1}{4}$ " steel arch for support of shade cloth (if benches are used for poms)
 - S.B.**—Side boards
- Do not extend C more than $\frac{1}{2}$ inch on either side of upright support. This can be slid up as snapdragon plants grow.

There are many commercial means for mounting wires with pipe fittings, clamps, etc., but this one has been found both practical and economical.

After preparing bench for planting, the lower set of wires and strings set in the lowest position can be used as a guide for planting. A saving in the marking and spacing operations.

Vaughan's SNAPDRAGONS



CITATION—(see page 14).



NEVADA—(see page 12).



ALBION—(see page 14).

Watering

The technique of watering is one of the most difficult phases of snapdragon culture and one of the hardest to teach operators.

During cold dark months a single watering in a soil containing sufficient humus is adequate for from 10 to 14 days. In warmer weather and when plants are in the adult stage of growth, this interval will be less. At any period of the year the amount of water should be of a quantity to completely soak the entire soil depth and drain out the bottom and sides of benches.

Wooden benches should be examined to determine if, during construction, space was provided between the bottom boards to allow proper drainage. If this was not done or the space has closed, suggest drilling holes $\frac{1}{2}$ inch in diameter on 8 inch centers to permit needed drainage. Users of transite or concrete type benches are finding it advantageous to provide this additional drainage. Lack of proper drainage is often the cause of a build-up of excessive salts.

When seedlings are direct benched or potted, a fine rose or breaker with low pressure should be used until plants have become established and growth started.

Leaves or plants that have become covered with muddy water should be lifted with a pencil or pointed stick to effect a substantial saving in the number of plants which would otherwise be lost. When benching with Val-Peat Pots, this is not necessary. Plants in these are well established. The amount of water given seedlings that have been either potted or direct benched should be sufficient to reach below the deepest roots. During hot weather or in extremely dry soil, this could mean several waterings in a single day.

Many growers prefer to run Snapdragons on the dry side, on the theory better quality and harder stems are produced at flowering. Too much water during the early life of the plant can usually do more damage than lack of it. Flagging or drooping of foliage for short periods of time does not seem to result in serious plant damage.

Yellowing of foliage and roots growing on soil surface is an indication of too much water and generally results in little or retarded growth.

Snapdragon plants will use water in direct proportion to the size of plant and amount of sunlight.

Due to increased costs it may pay the grower to investigate the various automatic and semi-automatic watering systems. Also, ones source of water supply and pressure should be carefully checked by an engineer before this investment is made.

Fertilizing

Better quality results when the level of nitrates, phosphates and potassium is not too high. Plants require food in direct relation to the amount of water used. It follows that insufficient fertilizer affects quality. 25-30 ppm nitrates, 5-10 ppm phosphates and 25-30 ppm potassium (Spurway readings) seem to give best results.

Fertilizing—Continued

Available are materials, and instructions for their use, that will help you maintain recommended food levels. These include the dry and liquid fertilizers that require several applications, and the newer one-shot fertilizer. Trial alone will prove which is best for you. It might be worthwhile to consider installing a liquid feeding system to be fed through your watering line. A word of caution is in order when this type of feeding is used. BE SURE your water lines are thoroughly flushed after each feeding.

Temperature and Ventilation

Considered a 50 degree crop and so handled, good production and quality will result. A favorable point since not many flower crops respond at this temperature and under these conditions. A night temperature of 46-48 degrees is recommended, especially for the newer and hybrid varieties. Higher temperatures before benching move plants along faster with no appreciable effect on quality at flowering. Temperatures above this after benching result in weak stems and short flower spikes while lower temperatures result in heavier stems and longer flower spike. However, it is questionable whether the returns are sufficient to justify the increased production cost resulting from length of time and schedule delay while crops occupy the bench. At bud development time it is important to maintain minimum temperatures at night to prevent spikes and blooms from being malformed. Summer varieties at low temperatures remain vegetative, often going blind during winter months. A day temperature of 65-70 degrees will produce good quality. As the warm high sunlight period approaches it is well to supplement air movement in the greenhouse with fans in the ends of the house or install one of the new automatic air cooling systems.

Insects, Diseases and Their Control

Insects attacking Snapdragons may be divided into two categories—chewing and sucking—of which the sucking are the most harmful. In this group are

Aphids or Plant Lice, sucking insects that break through surface of stem or leaf and extract juice from within. Plant becomes sickly and stunted, leaves curl inward and when flower terminal becomes infested the bloom becomes deformed.

CONTROL. Nicofume Fumigation is an easy method of controlling the black aphid but does little to the green or straw colored aphid. For this is recommended Lindane or Parathion. Plantfume 103 smoke generators, Fulex Parathion Fumigators are simple to use, also Vapotone, which is equally effective. Malathion is good for control of the spider-mite as well as aphid and Dithion Aerosol Bombs are being used by many. Dithio is much safer than other insecticides when used on flowers. Alternating the insecticides will often give better control.



KANSAS—(see page 11).



NASHUA—(see page 14).



WHITE KNIGHT—(see page 14).

Control of Insects & Disease—Continued

Botrytis, causes flower spike to wilt. Is recognized by the tan areas on the stem near the lowest flowers or base of the shoot. Areas enlarge rapidly, girdling the stem and cause death of spike. Occurs most rapidly in greenhouses where humidity is excessive.

CONTROL. Remove infected flowers and leaves. Reduce humidity by controlling heat and ventilation; avoid splashing water and provide abundant air circulation.

Symphylids, small white creatures about $\frac{1}{8}$ to $\frac{3}{16}$ inches long. Their complete life cycle being from 40 to 60 days. Destroying the fine root hairs and small rootlets stunts the plant, often killing outright.

CONTROL. Lindane will give complete control, applied to the surface as a dust or used as a wettable powder in a convenient amount of water. Best results are obtained, however, when worked into soil prior to planting, although it may be applied when plants are in the bed. Use Lindane 25W at the rate of 1 oz. in 30 gallon water to 100 sq. ft., or 1% Lindane Dust at the rate of 10 lbs. per 1000 sq. ft.

Stem Rot, easily recognized when the stem just at soil level shows dark colorings and gradually becomes girdled. Plants eventually turn yellow and then die.

CONTROL. Plant only in sterilized soil. To check spread remove all diseased plants and flood soil with Ferbam, Zineb, Thiram or Semesan at the rate of 1 lb. in 50 gallons of water (1 tablespoon per gallon).

Mildew, a whitish powdery growth on upper surface of leaves.

CONTROL. Mildex or Karathan, 3 to 4 ounces in 100 gallons of water plus spreader. Spray or dust young plants with sulphur or sulphur-zineb for protection. If young plants are treated regularly until foliage is dense, neither rust or mildew should appear later. Sulphur alone will give good control if level of infection is low.

Thrips, most troublesome in Fall and Spring. The growing tips show evidence of injury by deforming.

CONTROL. Suggest you consult with your local Experiment Station for their Spray Control Chart.

Rust, particularly evident when growing conditions are such that moisture condenses on under surface of leaves.

CONTROL. Correct improper growing conditions. This condition is particularly true in plastic-covered growing structures.

Foliar Dieback, a physiological condition brought about by dark days followed by bright days causing the cells at the tip or edge of the leaves to collapse. The dying back follows to the stem of the plant resulting in death unless conditions arrest the die-back. The Fall and Spring are time when plants are most susceptible.

CONTROL. This condition is most prevalent in the Middle West. Proper ventilation and control of moisture will help eliminate it. Breeding work is being done with varieties to increase resistance to Dieback.

Grading

There is much controversy and difference of opinion on this subject. It is generally agreed a method of grading should be established but training of those involved is extremely difficult. Admitted, too, is the point that grading should be consistent regardless of how many grades are used. All bunches or dozens should be of the same quality. Avoid the temptation to include a few low grade spikes in a bunch of better grade material. Your overall return will be better and your reputation as a quality grower established when this is avoided.

Sanitation

A clean, orderly operated greenhouse (inside and out) is indicative of good production and quality produced at a high rate of efficiency.

Weeds and unwanted plants are easily destroyed by using the weed burner. However, this type of equipment should be used when vents can be kept open for maximum ventilation. Exercise care and avoid fires. Due to drifting, use spray type weed killers with extreme caution.

A regular schedule for bombing and spraying will keep insects and diseases under control. Use the method best fitting your needs and for which you are best equipped. Remember, it is easier to keep conditions under control rather than clear up infestation once it has become established.

Planning and Scheduling

It is reliably reported in excess of 60% of all business failures are due to lack of or poor management. Time spent on planning and scheduling can be the most profitable outlay in your entire operation.

Without proper planning and scheduling it is impossible to keep bench space producing at all times or operate on any semblance of flowering schedule. Bench space out of production or too long a time lapse between crops can spell the difference between profit or loss at the end of the production year. Fixed operating costs continue whether bench space is in constant operation or allowed to stand idle.

Vaughan's SNAPDRAGONS



APOLLO—(see page 14).

Planning and Scheduling—Continued

With careful planning and scheduling crops can be produced during the more attractive market periods or when demands and needs are greatest. Conditions vary with locations making it necessary for you, the grower, to carefully plan your own schedule. Improper planning will result in either too many or too few flowers at the wrong time and your inability to produce more than two crops each year. Under present conditions, it is questionable whether a greenhouse can profitably be operated on a two crop a year basis.

Because a crop of Mums or Snapdragons is produced in Fall, followed by Snapdragons or Stocks in late Winter and bedding plants or a similar crop in Spring or early Summer, the grower feels he has produced three crops. If he will carefully check each square foot of bench space, this will be found not true—that while he produced three crops, only two were produced physically in most of the production space.

Variety response and growing conditions vary with each greenhouse. All this makes it necessary for the grower to plan a flowering schedule to meet his own needs. Your Vaughan salesman will be glad to work with you in setting up such a schedule, or contact direct our Snap Planning Service.

Well planned schedules will provide for three crops a year with ample time for each to clear between flowering and replanting. Scheduling should be done at least 12 months in advance, while 18 months is not too far. Flowering schedules shown in our manual will help in setting up your program. We also have a mimeographed schedule that is available on request. Establish your own growing and flowering schedule, eliminate confusion and effect an immediate saving in labor. The resulting increase in production is very important, labor being one of the highest of the fixed overhead expenses.

Production Analysis

The Production Analysis is made from the work sheet of each bench. Assign a number to each bench. Compute and record the square footage of production for each bench. Keep in mind in every greenhouse distance between benches, main walks, distances to benches and ends of houses, will vary with location. Thus the percentage of production space in relation to the total area covered with glass will vary with each installation.

Taking into consideration the square footage of bench space for a given bench, knowing the number of plants benched and the number of flowers cut, one can easily obtain the cut per square for that bench. Some growers prefer to obtain this production analysis per variety as well as per bench. Certainly the more detailed the information the more valuable it is in making positive conclusions. By using the average return per dozen from the sales analysis sheets, the return per square foot for a given bench or variety can be determined. While desirable, it is not necessary to transfer this information to individual bench and variety sheets. We give you an excellent ex-

Production Analysis—Continued

ample of a Production Analysis schedule as used by one of the leading Snapdragon growers.

Flower Date	Bench No.	No. of plants	Sq. Ft.	Total Cut
Jan 3	6 C	3600 (300)	450	230
Percent Cut	Cut per Sq. Ft.	Ave. Return	Total Return	Return Per Sq. Ft.
.765	.665	.955	\$219.55	.487

Figures used are not from any actual growing crops but merely illustrate how forms and tables are used. This is true of all examples used.

From information available, a cut of between 75% and 80% of salable flowers is average for most growers of direct benched crops. With results now available on Peat Pot methods, this percentage of cut can be increased to approximately 90%. While these percentage figures will be the subject to considerable controversy by growers, it is surprising to learn how many draw their conclusions from visual observation or memory rather than physical records.

Cost Analysis

Probably the most important part in the management phase of the florist industry is the analysis of cost and this can only be made if correct records have been kept and an accurate production analysis performed. To keep abreast of present economic and business conditions, the grower will need to devote considerable time and effort in the making of this analysis and we suggest using the operating statement as prepared for income tax purposes as the basis. While some growers prefer to compute the cost analysis on a monthly basis, it has been proven that a yearly analysis is more accurate.

Included in this statement are all fixed operating costs such as labor, water, fuel, power, gas and oil, repairs, telephone and telegraph, taxes, interest, etc. Your amortization schedule is another item that might be considered in this operating cost. With a fixed cost on an annual basis and the square feet of production space, the cost per square foot per year can be determined.

By checking the planning schedule, ascertaining the number of crops to be produced during a fiscal year, you can pro-rate the fixed cost over the number of yearly crops and a fixed yearly cost per square foot established.

If purchased, the cost of seeds or plants, and the cost of peat pots, if used, should be pro-rated for each crop in the individual bench. This figure varies unless only one crop is produced in the entire greenhouse for a full year. Cost of seed, plants, bulbs or cuttings, too, will vary for each bench for each crop.

By adding the fixed cost and the variable cost, the total cost per square foot may be computed for any crop and bench at any period of the year.

A comparison of the total cost per square foot with the return per square foot will show whether a given crop in a given bench has been profitable at a specific period of the year. It does not follow that when a loss is apparent in a particular bench or crop that it should be discontinued. Such loss should result in a change to more improved growing conditions and an adjustment in production to more favorable market conditions. A bench or crop showing exceptional return should be studied carefully and an attempt made to duplicate it in other benches.

It is usually the grower who maintains and studies his various analysis and charts who produces the greatest volume per square foot and receives the highest return.

Care of Cutflowers

Although increasing the keeping qualities of the Snapdragon has no direct effect on the grower, an increase in usefulness and popularity on the part of the consumer is reflected in the demands made on the grower and price.

Use a metal stripper to remove excess leaves and foliage, thus permitting more water to be drawn into the stem, and more quickly, than if this process is done by hand.

After bunching the Snapdragons should be placed in water and allowed to remain at room temperature for three or four hours. By absorbing water in this manner flowers will last longer than if you place them directly in the cooler after cutting. After the bunched Snapdragon has been placed in water care should be taken that at no time is it exposed to a side light, either natural or artificial. If this is done the flower spike will naturally turn to the light and the tip become crooked.

Keep your refrigerator for the storage of flowers alone, otherwise you may run into the problem of ethylene gas which causes flower drop.

Suggested Flowering Program and Schedule For Year Round Snapdragons

The recommendations made in our schedule are the result of continued trialing and the development of newer varieties for flowering at specified times. We have incorporated this information in our descriptive listing, as well, to make selection easier.

As explained in the Snapdragon Manual, conditions vary with localities and your own carefully kept growing records will be found invaluable when it comes to making variety selections.

Sowing Temperature, 65 degree minimum

Single stem, direct planting, raised benches
minimum winter temperature—48-50 degrees

PROGRAM	WINTER AND EARLY SPRING VARIETIES					SCHEDULE		
Variety	Jan.	Feb.	Mar.	Apr.	Dec.	Sow	Bench	Flower
Albion , paper white	XX	XX	XX	XX	XX	Aug. 10	Aug. 31	Jan. 1-15
Citation , ivory white	XX	XX	XX	XX	XX			
Ohio , white	XX	XX	XX	XX	XX			
White Knight , paper white	XX	XX	XX	XX	XX	Aug. 17	Sept. 7	Jan. 16-31
Anne Marie , medium pink	XX	XX	XX	XX				
Chevy Chase Pink , pastel	XX	XX	XX	XX				
Christina , light rose pink	XX	XX	XX	XX	XX	Aug. 24	Sept. 14	Feb. 1-15
Mary Ellen , light rose pink	XX	XX	XX	XX	XX			
Maryland Flamingo , bright salmon-rose	XX	XX	XX	XX	XX			
Nashua , light rose pink	XX	XX	XX	XX	XX			
New York , light pink	XX	XX	XX	XX	XX	Sept. 2	Sept. 28	Feb. 16-28
Rebecca , soft rose pink	XX	XX	XX	XX	XX			
Rosebud , soft pastel pink	XX	XX	XX	XX	XX			
Topflight , light rose pink	XX	XX	XX	XX	XX	Sept. 14	Oct. 12	Mar. 1-15
Whirlaway , medium rose pink	XX	XX	XX	XX	XX			
Wintergreen , light rose pink	XX	XX	XX	XX	XX			
Wisconsin , dark pink	XX	XX	XX	XX	XX	Oct. 5	Nov. 2	Mar. 16-31
Patricia , yellow	XX	XX	XX	XX	XX			
Swaps	XX	XX	XX	XX	XX			
Vermont	XX	XX	XX	XX	XX	Oct. 26	Nov. 23	Apr. 1-15
War Admiral , medium yellow	XX	XX	XX	XX	XX			
Barbara , bronze	XX	XX	XX	XX	XX	Nov. 9	Dec. 7	Apr. 16-30
Cavalcade , golden bronze	XX	XX	XX	XX	XX			
Gallant Fox , dark bronze	XX	XX	XX	XX	XX			
Maine , purple	XX	XX	XX	XX	XX	Aug. 4	Aug. 25	Dec. 1-15
Man-O-War , copper red	XX	XX	XX	XX	XX			
Cherokee , Christmas-red	XX	XX	XX	XX	XX	Aug. 8	Aug. 29	Dec. 16-31

PROGRAM	LATE SPRING AND FALL VARIETIES						SCHEDULE		
Variety	Apr.	May	June	Sept.	Oct.	Nov.	Sow	Bench	Flower
Delaware , ivory white	X	XX	XX	X	XX	X	June 27	July 18	Sept. 16-30
Potomac White , white	X	XX	XX	X	XX	X	July 4	July 25	Oct. 1-15
Virginia , paper white	X	XX	XX	X	XX	X	July 11	Aug. 1	Oct. 16-31
Kentucky , appleblossom pink	X	XX	XX	X	XX	X	July 18	Aug. 8	Nov. 1-15
Potomac Pink , medium pink	X	XX	XX	X	XX	X	Oct. 25	Nov. 23	Apr. 16-30
Colorado , yellow	X	XX	XX	X	XX	X	Nov. 30	Dec. 28	May 1-15
Nevada , intense yellow	X	XX	XX	X	XX	X	Dec. 28	Jan. 25	May 16-31
Potomac Yellow , medium yellow	X	XX	XX	X	XX	X	Feb. 1	Feb. 28	June 1-15
Kansas , golden bronze	X	XX	XX	X	XX	X	Mar. 2	Mar. 28	June 16-30

Vaughan's SNAPDRAGONS

PROGRAM

SUMMER VARIETIES

SCHEDULE

Variety	June	July	Aug.	Sept.	Sow	Bench	Flower
Arizona , lavender	X	XX	XX	XX			
Crystal White Vaughan Strain	X	XX	XX	XX	June 13	July 4	Sept. 1-15
June Bride , pure white	XX	XX	XX	XX			
Potomac White , white	XX	XX	XX	XX	June 20	July 11	Sept. 16-30
White Skies , pure white	X	XX	XX	XX			
Florida , light pink	X	XX	XX	XX	Feb. 17	Mar. 14	June 16-30
Potomac Pink , medium pink	XX	XX	XX	XX			
Gay Time , rose pink	X	XX	XX	XX			
Potomac Rose , rose pink	XX	XX	XX	XX	Apr. 4	Apr. 25	July 1-15
Rockwood Pink Supreme , rose pink	XX	XX	XX	XX			
Rockwood Summer Pink , medium pink	XX	XX	XX	XX	Apr. 25	May 16	July 16-31
Summer Jewel , deep pink	X	XX	XX	XX			
Dark Star , clear yellow	X	XX	XX	XX	May 9	May 30	Aug. 1-15
Potomac Yellow , medium yellow	XX	XX	XX	XX			
Rockwood Summer Yellow	XX	XX	XX	XX	May 23	June 13	Aug. 16-31

PROGRAM

LATE WINTER AND SPRING VARIETIES

SCHEDULE

Variety	Feb.	Mar.	Apr.	May	Oct.	Nov.	Sow	Bench	Flower
Apollo , ivory white	X	XX	XX	X	X	XX			
Margaret , ivory white	X	XX	XX	X	X	XX			
Snowman , pure white	X	XX	XX	X	X	XX	Aug. 1	Aug. 22	Nov. 16-30
Spartan White , pure white	X	XX	XX	X	X	XX			
Tommy Armstrong , pure white	X	XX	XX	X	X	XX			
Twenty Grand , ivory white	X	XX	XX	X	X	XX	Aug. 24	Sept. 14	Feb. 16-19
White Flare , pure white	X	XX	XX	X	X	XX			
Bridesmaid , medium rose	X	XX	XX	X	X	XX			
Indiana , light rose pink	X	XX	XX	X	X	XX	Sept. 2	Sept. 28	Mar. 1-15
Libby , dark rose pink	X	XX	XX	X	X	XX			
Maryland Pink Improved , creamy light pink	X	XX	XX	X	X	XX			
Native Dancer , light rose pink	X	XX	XX	X	X	XX	Sept. 21	Oct. 19	Mar. 16-31
New Times , deep Beauty rose	X	XX	XX	X	X	XX			
Pink Flare Improved , medium pink	X	XX	XX	X	X	XX			
Pink Ice , medium rose	X	XX	XX	X	X	XX			
Rosanna , deep rose	X	XX	XX	X	X	XX	Oct. 12	Nov. 9	Apr. 1-15
Rose Flare , medium rose	X	XX	XX	X	X	XX			
Spartan Rose , medium deep rose	X	XX	XX	X	X	XX			
Broker's Tip , deep yellow	X	XX	XX	X	X	XX	Nov. 2	Nov. 30	Apr. 16-30
Gold Rush , jonquil yellow	X	XX	XX	X	X	XX			
Golden Spike , golden yellow	X	XX	XX	X	X	XX			
Yellow Flare , medium yellow	X	XX	XX	X	X	XX	Dec. 14	Jan. 11	May 1-15
Bronze Flare , medium bronze	X	XX	XX	X	X	XX			
Lavender Lady , deep rosy lavender	X	XX	XX	X	X	XX	July 18	Aug. 8	Oct. 16-31
Windmill Lilac , orchid	X	XX	XX	X	X	XX			
Navajo , bright red	X	XX	XX	X	X	XX			
Priscilla Ann , velvety crimson	X	XX	XX	X	X	XX	July 25	Aug. 15	Nov. 1-15

In the **Southern Areas** there is a natural revision of schedule due to seasonal differences. We suggest **For Mid-Winter** flowering (December through February), the use of those varieties suggested for flowering in the North from Early Spring (February 15th through April 1st) and Late Fall (October 15 through December 1). **For Late Spring** (April 1st) through Early Fall (October 15) use varieties suggested for flowering in the North for Early and Mid-Summer use (May 15 through September 1).

A word of caution to northern and middle western growers. Make no attempt to flower at off seasons those Snapdragons recommended for use in Early and Mid-Summer, also Early Fall. These are high temperature strains developed for use under hot weather conditions.



VERMONT

VIRGINIA

NEW YORK

Forcing Snapdragons

THE NEW STATE SERIES

Arizona (Summer). A lavender hybrid which in color resembles the Spring variety Lavender Lady (deep rosy lavender). Vigor is high, spikes are long and gracefully tapered. The large florets, long spikes and vigorous habit contribute to significant improvement over existing varieties. Trade pkt., **\$3.50.**

Colorado (Late Spring and Fall). A large flowered yellow hybrid. Very uniform and vigorous. The color of Broker's Tip and a shade lighter than Potomac Yellow. Shatterproof florets and long spike. Combines well with Virginia (white) for late spring and fall. Trade pkt., **\$3.50.**

Delaware (Spring and Late Fall). An ivory white hybrid that retains and improves on the valuable traits of Citation. Larger floret, heavier stems with very long spikes. Highly shatterproof. August delivery. Trade pkt., **\$3.50.**

Florida (Summer). A vigorous light pink that flowers with Gay Time. A Christina color that is smooth and glistening. Displays superb color retention under high temperature and is highly shatterproof. Spikes are long with compact floret spacing. Trade pkt., **\$3.50.**

Indiana (Late Winter and Spring). Light rose pink—in color closely resembling the old popular favorite Dorcas Jane. Large floret with ruffled hood. Spikes are long and tapered. Uniformity and vigor set new standards in hybrid Snaps. Trade pkt., **\$3.50.**

Kansas (Fall). Brilliant golden bronze with color resembling that of Cavalcade. A vigorous variety with strong stem and long spikes. Florets are large. The color has real merit especially in the Fall months. Trade pkt., **\$3.50.**

Kentucky (Late Spring and Fall). Glorious apple-blossom pink. A vigorous, clean stemmed hybrid with a minimum of shatter. The color is lighter than Potomac Pink and flower spikes are found to be much larger. July delivery. Trade pkt., **\$3.50.**

Maine (Winter and Early Spring). A rich purple. Flowers with Citation and improves Bold Venture in spike, vigor and form. Florets are large and beautifully spaced on strong spike. August delivery. Trade pkt., **\$3.50.**

Vaughan's SNAPDRAGONS



KENTUCKY



TENNESSEE



DELAWARE

Forcing Snapdragons

HYBRIDS AND IMPROVED SELECTIONS FOR YEAR ROUND GROWING

Nevada. (Late Spring and Fall.) An intense yellow hybrid that develops a huge floret on vigorous long spikes. Flowers with Kansas and Tennessee. Color is deeper than Colorado and comes into flower about two weeks early. A fine showy variety to fill an existing gap in the year round Snap programs. Trade pkt., **\$3.50.**

New York. (Winter and Early Spring.) A smooth light pink, displaying tremendous vigor and earliness. Flowers with War Admiral. Spike is large and compact. A very clear pink with a minimum of yellow in the lower lip. Highly shatterproof. Trade pkt., **\$3.50.**

Ohio. (Winter and Early Spring.) Pure paper white. Florets are compactly spaced and shatterproof. Vigor and spike length frequently exceed the standards set by Albion and White Knight. Trade pkt., **\$3.50.**

Tennessee. (Fall.) A real deep red coming in to flower in the Fall, when color is most in demand. Quite shatterproof with good floret spacing on long uniform spikes. Combines well with Kansas for a brilliant Fall coloration. August delivery. Trade pkt., **\$3.50.**

Vermont. (Winter and Early Spring.) Primrose yellow, a new and beautiful pastel color tone. Long, graceful spikes with abundant tip-bud. Stems are hard, clean and uniform. Retail florists agree that its beauty is unmatched and its versatile color will be valuable. Trade pkt., **\$3.50.**

Virginia. (Late Spring and Fall.) A vigorous paper white. Long spikes, hard, clean stem with good large florets that are shatterproof. A significant improvement in vigor, production and beauty over existing strains. August delivery. Trade pkt., **\$3.50.**

Wisconsin. (Winter and Early Spring.) Intense dark pink that in color has a depth and tone closely resembling the rose Better Times. Flowers with Citation, spikes are long and tapering, stems are medium and hard. Trade pkt., **\$3.50.**

Forcing Snapdragons

(2,000 seeds per trade packet.)

"Inbred" or self-pollinated sorts are marked; all others are true F-1 hybrids.



YELLOW FLARE



WHITE FLARE

YELLOW

- Broker's Tip.** (Early and Late Spring). Deep yellow, medium sized florets, little or no side growth. Good stems. Trade pkt., **\$3.50.**
- Dark Star.** (Early Summer, Mid-Summer, Early Fall). Clear deep yellow. Uniform, vigorous, clean growth, compact floret spacing. Shows resistance to high temperature burn. August delivery. Trade pkt., **\$3.50.**
- Golden Spike.** (Late Spring). Rich golden yellow. Long stems, tapered flower spike. Trade pkt., **\$3.50;** 1/2 Trade pkt., **\$2.00.**
- Goldrush.** (Early Spring). Deep Jonquil yellow, large flowers. Trade pkt., **\$3.50;** 1/2 Trade pkt., **\$2.00.**
- Patricia.** (Late Spring). Medium sized florets of rich yellow with full deep yellow lower lip. Long spike. Trade pkt., **\$3.50;** 1/2 Trade pkt., **\$2.00.**

Vaughan Introductions

- Pink Flare Improved** (Late Winter and Spring). A clear medium pink about the same color as Christina. Large florets closely set on long tapered spikes. August delivery.
 - White Flare** (Early Spring, Late Spring). Large sized florets of pure white, closely spaced on long tapered spikes.
 - Yellow Flare.** (Early Spring). Medium yellow of good growth, long heavy stem and good sized flower head.
 - Bronze Flare.** (Early Spring). Medium bronze with yellow lip. Compact floret placement; good sized flower spike.
 - Rose Flare** (Late Winter and Spring). A medium rose, deeper in tone than Pink Flare Improved, with the same characteristics—large closely set florets on long tapered spike.
- Each:** Trade pkt., **\$3.50;** 1/2 Trade pkt., **\$2.00.**

*Vaughan Introductions

YELLOW — Continued

- Potomac Yellow.** (Early Summer and Early Fall). A good medium yellow. Trade pkt., **\$3.50;** 1/2 Trade pkt., **\$2.00.**
- Rockwood Summer Yellow.** (Mid-Summer). Inbred. A fairly deep yellow. Trade pkt., **\$3.00;** 1/2 Trade pkt., **\$1.75.**
- Swaps.** (Late Fall, Mid-Winter). Large showy yellow florets, clean hard stems. Earlier than War Admiral and Seabiscuit. Outstanding for its large, compactly spaced showy yellow florets. Trade pkt., **\$3.50.**
- War Admiral.** (Mid-Winter). Medium Yellow. Outstanding in vigor, uniformity and spike formation. Trade pkt., **\$3.50.**
- ★ **Yellow Flare.** (Early Spring). Medium yellow of good growth, long heavy stem, good sized flower head. Trade pkt., **\$3.50;** 1/2 Trade pkt., **\$2.00.**

BRONZE

- Barbara.** (Early Spring). Large florets with bright bronze lip and pink throat. Vigorous grower, long spike. Trade pkt., **\$3.50;** 1/2 Trade pkt., **\$2.00.**
- ★ **Bronze Flare.** (Early Spring). Medium bronze with yellow lip. Stems of good weight. Compact floret placement, flower spike of good size. Trade pkt., **\$3.50;** 1/2 Trade pkt., **\$2.00.**
- Cavalcade.** (Mid-Winter, Early Spring). Lively golden bronze. Uniform long tapered spikes. Trade pkt., **\$3.50.**
- Gallant Fox.** (Early Spring). Deep orange bronze, strong vigorous grower; compact floret placement Trade pkt., **\$3.50.**

RED

- Cherokee.** (Late Fall, Mid-Winter). True "Christmas" scarlet-red. Long, well formed spikes, sturdy stems. Trade pkt., **\$3.50;** 1/2 Trade pkt., **\$2.00.**
- Man-O-War.** (Late Fall, Mid-Winter, Early Spring). Copper-red shade with yellow lip. Clean grower, good flower placement. Trade pkt., **\$3.50.**
- Navajo.** (Early Spring). A bright true red. Trade pkt., **\$3.50;** 1/2 Trade pkt., **\$2.00.**
- Priscilla Ann.** (Early Spring). Velvety crimson. Trade pkt., **\$3.50;** 1/2 Trade pkt., **\$2.00.**

LAVENDER

- Lavender Lady.** (Early Spring). Deep rosy lavender, excellent spike and stem. Trade pkt., **\$3.50;** 1/2 Trade pkt., **\$2.00.**
- Windmiller's Lilac.** (Early Spring). Inbred. A true orchid. Trade pkt., **\$2.00.**

Vaughan's SNAPDRAGONS

Forcing Snapdragons



MARYLAND FLAMINGO

ROSE

- Bridesmaid.** (Early Spring). Clear medium rose. Trade pkt., \$3.50; ½ Trade pkt., \$2.00.
- Gay Time.** (Early and Mid-Summer, Early Fall). Rose-pink of good vigor with hard stem and long spike. Very uniform. 7 to 14 days earlier than Summer Jewel. August delivery. Trade pkt., \$3.50.
- Libby.** (Mid-Winter). Dark rose pink with very strong stem and vigorous growth. Good sized florets set medium to close on long spikes. Trade pkt., \$3.50; ½ Trade pkt., \$2.00.
- Maryland Flamingo.** (Late Fall, Mid-Winter, Early Spring). Bright salmon-rose. A new color in Snapdragons. Shatterproof. Trade pkt., \$3.50; ½ Trade pkt., \$2.00.
- New Times.** (Mid-Winter). Bright deep Beauty-rose, medium long spike, fine strong stem. Trade pkt., \$3.00; ½ Trade pkt., \$1.75.
- Potomac Rose.** (Early Summer, Early Fall.) A good rose pink, coming into flower with Potomase White and Pink. Trade pkt., \$3.50; ½ Trade pkt., \$2.00.
- Rockwood Pink Supreme.** (Early and Mid-Summer, Early Fall). Inbred. A brilliant rose-pink. Trade pkt., \$3.00.
- Rosanna.** (Early Spring). Deep bright rose. Trade pkt., \$3.50; ½ Trade pkt., \$2.00.
- ★**Rose Flare.** (Late Winter and Spring). A medium rose deeper in tone than Pink Flare Improved. Large closely set florets, long tapered spike. Trade pkt., \$3.50; ½ Trade pkt., \$2.00.
- Spartan Rose.** (Late Fall, Mid-Winter, Early Spring). Medium deep rose. Trade pkt., \$3.00; ½ Trade pkt., \$1.75.
- Summer Jewel.** (Early and Mid-Summer, Early Fall). Rich deep pink. Vigorous, uniform grower, stems of great strength and long spike with compact floret spacing make this one of the finest. Will not shatter. Trade pkt., \$3.50.

MEDIUM PINK

- Anne Marie.** (Late Spring, Late Fall). Clear medium pink, medium sized florets closely set on stiff heavy stem. Slightly deeper in color than Christina. Trade pkt., \$3.50; ½ Trade pkt., \$2.00.
- ★**Pink Flare Improved.** (Early Spring, Late Fall.) Clear medium pink. Large florets closely set on long tapered spikes. Trade pkt., \$3.50; ½ Trade pkt., \$2.00.
- Pink Ice.** (Late Fall, Mid-Winter, Early Spring). Medium rose with lighter lip. Trade pkt., \$3.50; ½ Trade pkt., \$2.00.
- Potomac Pink.** (Early Summer, Early Fall). A good medium pink. Trade pkt., \$3.50; ½ Trade pkt., \$2.00.
- Rockwood Summer Pink No. 1.** (Early and Mid-Summer, Early Fall). Inbred. Medium pink. Trade pkt., \$3.00; ½ Trade pkt., \$1.75.
- Wintergreen.** (Winter and Early Spring). A light rose-pink for winter and early spring. Stiff wiry stems, no grassiness, and a compact long spike. Trade pkt., \$3.50.

LIGHT PINK

- Chevy Chase Pink.** (Early Spring). Pastel pink, a shade deeper than Maryland Pink Improved. Trade pkt., \$3.50; ½ Trade pkt., \$2.00.
- Christina.** (Early Spring). Light rose pink, large florets. Vigorous grower, almost no side growth. Trade pkt., \$3.50; ½ Trade pkt., \$2.00.
- Mary Ellen.** (Early Spring). Light rose pink, a shade lighter than Christina. Trade pkt., \$2.50; ½ Trade pkt., \$1.50.
- Maryland Pink Improved.** (Early Spring). A creamy light pink. Trade pkt., \$3.50; ½ Trade pkt., \$2.00.
- Nashua.** (Mid-Winter). Light rose pink, large ruffled florets compactly borne on hard clean stems. Shatterproof. Trade pkt., \$3.50.
- Native Dancer.** (Late Fall, Mid-Winter). Light rose pink. Extreme vigor, exceptionally long spikes. Compact placement of large florets. Trade pkt., \$3.50.
- Rebecca.** (Mid-Winter, Early Spring). Soft rose pink, clean strong stem almost no side growth, large florets closely set on stiff heavy stem. Trade pkt., \$3.50.
- Rosebud.** (Late Spring). A soft pastel pink. Trade pkt., \$3.50.
- Topflight.** (Late Fall). Light rose pink. Trade pkt., \$3.50.
- Whirlaway.** (Mid-Winter). Large florets, close spacing, long spike. A bit deeper than Mary Ellen. Trade pkt., \$3.50.

PAPER WHITE and IVORY WHITE

- Albion.** (Late Fall, Mid-Winter, Early and Late Spring). Pure paper white, clean growth, uniform long spikes. When benched with White Knight, maintains a good continuity of paper white by flowering 10 to 14 days later. Trade pkt., \$3.50.
- Apollo.** (Late Fall, Mid-Winter, Late Spring). Ivory white. More vigorous than Margaret. Trade pkt., \$3.50.
- Citation.** (Mid-Winter, Early Spring). Large ruffled ivory white. Compact spacing, long spike. Trade pkt., \$3.50.
- ★**Crystal White, Vaughan Strain.** (Early Fall, Early and Mid-Summer). Inbred. Pure paper white, uniform habit, compact floret spacing, will not shatter. Trade pkt., \$3.50; ½ Trade pkt., \$2.00.
- June Bride.** (Early Fall and Early Summer). Pure white. It has hard clean stems and is shatterproof. Trade pkt., \$3.50; ½ Trade pkt., \$2.00.
- Margaret.** (Early Spring). Inbred. Ivory white. Exceptionally stiff stem, almost no side growth. Medium sized floret, long lasting. Trade pkt., \$2.00.
- Potomac White.** (Early Fall and Early Summer). A good white. Trade pkt., \$3.50; ½ Trade pkt., \$2.00.
- Snowman.** (Early Spring). Pure white. Trade pkt., \$3.50; ½ Trade pkt., \$2.00.
- Spartan White.** (Mid-Winter, Early and Late Spring). Pure white, shatter resistant. Trade pkt., \$3.00; ½ Trade pkt., \$1.75.
- Tommy Armstrong.** (Early Spring). Inbred. Good white, closely spaced florets. Trade pkt., \$3.00.
- Twenty Grand.** (Mid-Winter, Late Spring). Ivory white. Ruffled, upright, compact florets. Long, gracefully tapered spike. Trade pkt., \$3.50.
- ★**White Flare.** (Early and Late Spring.) Large florets of purest white, closely spaced on long tapered spikes. Trade pkt., \$3.50; ½ Trade pkt., \$2.00.
- White Knight.** (Early Spring). Pure paper white, well placed florets on compact spike. Combines earliness, vigor, purity of color and long spikes to excellent advantage. Trade pkt., \$3.50.
- White Skies.** (Early Fall, Early and Mid-Summer). Pure white. Quite tall and vigorous. Highly shatterproof. Trade pkt., \$3.50.
- Greenhouse Varieties, Vaughan's Special Mixture.** With pinks predominating. Our own **Formula-blend** that includes the more popular open pollinated and F-1 Hybrid varieties. Trade pkt., \$1.25.

Cultural Information

(Reprinted from Ohio Florist Association Bulletin)

SOIL MIXTURES. The majority of tropical foliage plants grow on the floor of jungle areas where they are shaded by large trees and where the soil is composed almost entirely of moist leaves and other organic matter. The soil used to produce these plants should therefore be highly organic.

The soil mixture used must be one which is not only extremely well drained, but one that has sufficient water holding capacity to prevent rapid drying out. For these reasons an ideal mixture for growing these plants commercially is one half coarse acid sphagnum peat and one half coarse sand. In many areas, such as Texas, such sand is comparatively unobtainable and perlite is substituted for it. When peat other than coarse sphagnum peat is used the percentage of sand or perlite should be increased somewhat. In general, the use of soil containing any clay whatsoever should be avoided. Regardless of the media used, the mixture should be one which will not pack solidly, especially with repeated waterings. The most important consideration in growing good foliage plants is that they make rapid and unhampered root growth throughout the entire growing medium.

In potting foliage plants from rooted cuttings it is a good practice to pot the cuttings in this mixture when it has a high amount of moisture in it, and then not to water after planting until the medium begins to dry slightly rather than water heavily immediately after potting.

When shifting small foliage plants to larger pots or transplanting them to larger containers such as ceramic or metal planters for sale, it is advisable to use moist peat as a potting medium instead of a soil mixture of any kind. This will allow sufficient aeration for rapid root development, will keep the old ball of soil uniformly moist and prevent it from drying out too rapidly. Unfortunately all of our foliage plants cannot be handled in exactly the same manner, nor can all be combined in the same container when planted up for sale.

Exceptions to the above practices are such plants as peperomias, Pothos, most succulents and cacti. For this group of plants a soil mixture such as $\frac{1}{2}$ peat and $\frac{1}{2}$ coarse sand or perlite should always be used and even in potting cuttings, the medium should be moist when the plants are potted and additional water should not be applied until active roots have begun to develop, after potting. As with any other crop the medium used should be steam sterilized before it is used. This is especially true if peat from local sources or purchased in bags is used, or when sand is employed in the mixture.

FERTILIZATION PRACTICES. Fertilizer practices usually followed in the production of other florist crops may often be detrimental to the majority of foliage plants. Most of the plants grown today do best in definitely acid soils having a pH from 5.0 to 6.0. This is another reason why peat and sand makes an ideal growing medium. The only common foliage plants that do not do well in acid soil of this degree are dieffenbachias. These do best in a pH from 6 to 6.5 and succulents and cacti which are not well adapted to any of the soil mixtures with a high peat content.

Most greenhouse growers today use high grade soluble fertilizers for general feeding programs. The most common analysis being a 15-30-15. Many also make up soluble fertilizers using ammonium phosphate in various forms. Such mixtures high in phosphorous content can be detrimental in many cases when used for foliage plants.

Because the majority of these plants do require acid soil for proper and rapid development the use of a complete fertilizer with a 2-1-2 ratio is much better. Materials used to supply the nitrogen needed should be those in the nitrate form rather than various ammonium forms.

Most southern foliage plant growers use a soluble liquid fertilizer made from materials with an analysis of 10-5-10 or 8-4-8. In many areas today alkaline water sources can cause trouble in growing good foliage plants. When this type water must be used the calcium contents of the soil should be carefully watched and kept at a level of 100 to 150 parts per million by addition of calcium sulphate or gypsum. Applications of 12% iron chelates at the rate of one ounce to 25 gallons of water every 5 weeks is also beneficial under these conditions.

TEMPERATURE. The foliage plant bench is perhaps the greatest cause of failure, when growers of miscellaneous crops are attempting to grow foliage plants successfully. The various requirements of certain foliage plants when compared with others, makes it difficult to grow several kinds in the same house, let alone trying to produce



SCHEFFLERA IN BLOOM IN FLORIDA

many kinds all on one bench in a house where other crops are being grown. A common error in growing foliage plants is failure to provide a suitable temperature for maximum growth and rapid development. To grow these plants successfully a night temperature from 75 to 85 degrees F. is essential. Day temperatures should be maintained as close to 85 degrees as possible.

When plants are grown to the stage at which they are ready for sale or are being held in the greenhouse for only a week or two for resale, a 60 degree night temperature may be satisfactory for hardening them off. It very definitely is not satisfactory for successfully producing these plants.

RELATIVE HUMIDITY. As has been pointed out, the majority of our foliage plants are native to areas having a constantly high relative humidity. Most of the plants must therefore be grown in a greenhouse where the relative humidity can be maintained at 75 percent or higher. The most efficient and effective method of providing this condition up to the present time is through the use of a misting system. This system must provide a very fine mist to prevent over-watering and leaching. For the same reason, it is almost impossible to do this job successfully by hand syringing.

There are several exceptions to this high humidity requirement. Several groups of foliage plants will not tolerate overly moist soil and are quite susceptible to disease infestations in conditions of high humidity. The common examples in this group are sansevierias, peperomias, dieffenbachias, pothos, cordylines and dracaenas.

LIGHT. Light intensity is perhaps the least understood of all the requirements for growing good foliage plants. While it is rather generally understood that they are shade loving the shading of these plants is usually overdone. Again the foliage plant bench will just not get the job done. Most of the more widely grown foliage plants such as philodendrons, pothos, syngoniums, and other broad leaved plants (except dieffenbachias) will do best in a light intensity of about 1500 foot-candles. Chinese Evergreens require only about 600 to 700 foot-candles.

The plants which require lower humidity and drier soil conditions such as peperomias, cordylines, dracaenas, sansevierias, and highly colored plants such as crotons and pandanus do best in about 2000 foot-candles. Dieffenbachias require about 1000 foot-candles to prevent stretching and soft tip growth.

The greatest mistake made by most growers is to guess about the proper light intensity. This is not only difficult but almost impossible to accomplish. The light should be measured with a light meter at least until the requirements become familiar. We have found under southern conditions, that it is almost impossible to secure the proper light requirements by using shading compound on the exterior of the greenhouse. Regulation of light intensity is best accomplished

Vaughan's FOLIAGE PLANTS

by stretching muslin or saran cloth from eave to eave inside the house. When this cloth is placed on wires so that it can be moved from side to side or end to end, it should be even more adaptable in northern greenhouses, where it could be removed on dark days and replaced on bright days during the winter months.

DISEASE AND INSECT PROBLEMS. The major diseases encountered with foliage plants are usually difficult to control when they occur, because of the high temperatures and humidity requirements, necessary to grow these plants successfully. Constant spraying or dusting is required to keep these troubles in check, if and when they do occur. Perhaps the ones most often found are the various root and stem rots. Fortunately, Terraclor has proved to be a good general control for these troubles. Captan is a good general spray material for the control of diseases on these plants as a preventative program. Parzate is usually effective for most leaf spots.

In the past two or three years the number of bacterial disease problems on foliage plants have increased and these are difficult to control. The dieffenbachias and some of the newer large leaved philodendrons are susceptible to these diseases. In controlling these, all diseased foliage should be removed and repeated sprayings and Agrimycin at three day intervals for at least 3 to 4 applications is sometimes effective in controlling some of these bacterial troubles.

The most troublesome insects on foliage plants are mealybug, scale, red spider, thrips, and asphids. Malathion and parathion bombs will adequately control these pests.

However some foliage plants are easily injured by parathion and malathion, and lindane or other sprays may have to be used to control these insects. Regular dusting programs are also effective to prevent insect infestations.

These listings of foliage plant sources are made for your convenience to eliminate several shipments of one order, as no one source grows a complete listing. Please indicate source when ordering.

All Ficus Decora are 5c per plant extra for packing. Most growers will charge 50c per carton for packing. 25 at 100 rate. 250 at 1000 rate.



4" Hanging Vine 2 1/4"
PHILODENDRON CORDATUM (X)

SOURCE A—FOB CALIFORNIA

ROOTED CUTTINGS

	100	1000
ARALIA SIEBOLDI.....	\$7.50	\$65.00
BUXUS Japonica (Boxwood).....	7.00	60.00
CISSUS Anartica, large tropical looking leaves.....	7.50	65.00
EUONYMUS MEDIO PICTA (Gold Spot) small leaves bright yellow with green border.....	8.50	75.00
FATSHEDERA Lizei.....	9.00	80.00
IVY Algerian. Large dark green leaves.....	4.50	40.00
California. Compact small green fan shaped leaves.....	6.00	50.00
English. Medium sized leaves.....	4.00	35.00
Glacier. Small ivory and green variegated.....	8.50	75.00
Gold Dust. Small golden yellow and green leaves.....	7.00	60.00
Hahn's Branching. Small green leaves.....	4.00	35.00
Ripple. Compact, small dark green leaves.....	5.50	50.00
Shamrock. Small leaves and growth like a Shamrock.....	9.00	80.00
Sweetheart. Small heart shaped leaves.....	8.50	75.00
Variegated. Medium sized leaves ivory and green.....	5.00	40.00
PITOSPORUM TOBIRA.....	7.00	60.00
SARCOCOCA RUSCIFOLIA. Very dark green, glossy leaves. Stands up very well inside—good for pots or planters.....	7.50	65.00
RHOMBIFOLIA. (Grape Ivy).....	7.00	60.00

Shipments can be made to common points as St. Paul, Minneapolis, Austin, Minn., Milwaukee, Chicago, Detroit, Toledo, Jacksonville, Ill., Indianapolis, Springfield, Ill., South Bend, Elkhart, Ind., Fort Wayne, Louisville, Nashville, Atlanta, Ga., Cleveland, Akron, Canton, Youngstown, Alliance, Pittsburgh, Washington, Pa., Wheeling, W. Va., Charleston, W. Va., Boston, Mass., Providence, R.I., New York City, Albany, N.Y., Buffalo, N.Y., Rochester, Syracuse, and Utica, N.Y., Jersey City, N.J., Philadelphia, Baltimore, Richmond, Va., Hartford, Conn., and other adjacent common points via tropical plant truck carriers resulting in large transportation savings over express.

REQUIREMENTS OF FOLIAGE PLANTS

1. Plants should be watered thoroughly but infrequently.
2. Should not be placed in direct sunlight.
3. Kept in temperatures of 60 degrees or above.
4. Fertilize lightly only once every 6 months.
5. Air conditioning isn't detrimental to foliage plants when properly hardened off before they are sold.

DIAGNOSING TROUBLES

Listed below are some of the symptoms of common foliage plant troubles which may arise under interior conditions and some of the conditions which usually cause these symptoms.

1. Lower leaves turn yellow and drop off at the slightest touch—usually overwatering.
2. Burned margins or brown tips on leaves—allowed to become too dry for a short period, too much fertilizer, low temperatures.
3. Yellowing and dropping of leaves at various levels on plant—gas fumes, chilling, overwatering, poor drainage, and aeration.
4. Small leaves—poorly drained soil, tight soil mixture, soil too dry over long periods.
5. Weak growth, light green or yellow foliage—too much light, root rot, poor root system.
6. Yellow, wilted, soft growth—too high temperatures, root injury.
7. Small leaves, long internodes—lack of sufficient light, high temperatures.
8. Parathion injury on susceptible plants. Dieffenbachias, philodendron selloum and wendlandi injured by parathion aerosols. Chinese evergreen, Pothos, crassula, and syngoniums injured by parathion sprays.

SOURCE B—FOB FLORIDA

ROOTED CUTTINGS

	100
DRACAENA Sanderiana.....	\$8.00
FICUS DECORA. M.R.L.....	60.00
NEANTHE BELLA Palm Seedlings.....	4.00
Transplants. Medium, 6-8".....	7.50
PHILODENDRON Cordatum. 2-4 lvs.....	5.00
SANSEVIERIA,	
Compacta. 3-5 lvs., 8-10".....	12.00
Hahnii. Small (PAT. No. 470).....	6.00
Hahnii. Medium (PAT. No. 470).....	8.50
Hahnii. Large (PAT. No. 470).....	12.50
Laurentii. 3-5 lvs., 8-12".....	10.00
Laurentii. 3-5 lvs., 12-15".....	12.50
Zeylanica. 2 lvs., 8-12".....	6.00
SCHEFFLERA Seedlings.....	5.00
Transplants.....	7.50

2 1/4" PLASTIC POTS

	50 per case	Plants per pot	100
NEANTHE Bella Palm.....	2	2	\$15.00
PHILODENDRON Cordatum.....	2	2	18.75
PILEA (Alum. Plant).....	2	2	15.00
PITTSBURGH IVY.....	1	1	15.00
POTHOS Orange Queen.....	2	2	18.75
SANSEVIERIA Hahnii (Rosette).....	1	1	15.00
SCHEFFLERA.....	1	1	15.00



PHILODENDRON Florida on bark (C)



PHILO. Cordatum on bark (C)



**PHILODENDRON
EMERALD QUEEN (D)**

**CRYPTANTHUS
TRICOLOR—ZONATUS (D)**

SOURCE B—Continued

3" PLASTIC POTS

50 per case Plants per pot 100

CHINESE EVERGREEN	1	\$32.50
<i>Variegated</i>	1	32.50
DRACAENA Sanderiana	1	18.75
<i>Godseffiana</i>	2	25.00
NEANTHE Bella Palm	3	18.75
NEPHTHYTIS Emerald Gem	3	22.50
<i>Green Gold</i>	3	22.50
PEPEROMIA Green	2	18.75
PHILODENDRON Cordatum	3-4	25.00
<i>Dubia</i>	1	45.00
<i>Panduraeforme</i>	2	25.00
<i>Trifolium</i>	2	25.00
PILEA (Alum. Plant)	3	18.75
POTHOS Orange Queen	3-4	25.00
<i>Marble Queen</i>	3	32.50
SANSEVIERIA Hahnii	1	18.75
<i>Laurentii 6/10"</i>	1	18.75

4" PLASTIC POTS

25 to case Plants per pot 100

NOLINA BEUCARNEA Pony tail palm	1	\$40.00
NEANTHE Bella Palm	5	95.00
PHILODENDRON Cordatum	5-6	45.00
<i>Dubia</i>	2	95.00
<i>Hastatum</i>	2	95.00
<i>Mandianum</i>	2	95.00
<i>Panduraeforme</i>	3	95.00
<i>Pertussum</i>	1	95.00
<i>Pertussum</i>	2	145.00
<i>Trifolium</i>	2	95.00
POTHOS Marble Queen	5-6	45.00
<i>Orange Queen</i>	5-6	65.00

SPECIMEN PLANTS IN 6" PLASTIC POTS

6 to Case Each

FICUS Decora (7 per case)	1	\$1.25
PHILODENDRON Dubia	3	1.90
<i>Hastatum</i>	3	1.90
<i>Pertussum</i>	3	2.25
POTHOS LARGE LEAF	2-3	1.90

(Assorted cases accepted)

TOTEM PLANTS ON FERNWOOD AND BARK

	Size	Pot	Plants Per Case	Price Each
PHILO. Cordatum	12" Fernwood	4" sq.	25	\$.75
Cordatum	18" Fernwood	5" rd.	16	1.25
Hastatum	18" Bark	5" rd.	16	1.25
Mandianum	18" Bark	5" rd.	16	1.25
Panduraeforme	18" Bark	5" rd.	16	1.25
Trifolium	18" Bark	5" rd.	16	1.25
PHILO. Hastatum	24" Bark	6" rd.	6	2.25
Panduraeforme	24" Bark	6" rd.	6	2.25
Pertussum	24" Bark	6" rd.	6	2.25
PHILODENDRON Cordatum	24" Fernwood	6" rd.	6	2.25
PHILO. Hastatum	30" Bark	7" rd.	6	3.50
Panduraeforme	30" Bark	7" rd.	6	3.50
Pertussum	30" Bark	7" rd.	6	3.50
PHILO. Cordatum	30" Fernwood	7" rd.	6	3.50
PHILO. Hastatum	36" Bark	8" rd.	4	3.50
Pertussum	36" Bark	8" rd.	4	3.50
PHILO. Cordatum	36" Fernwood	8" rd.	4	3.50

SOURCE C—FOB FLORIDA

PHILODENDRON TOTEM POLES (case lots only)

	Size	Pot	Per Case	Each	
Cordatum	30" round on fernwood	6"	10 out of pots	\$2.00	
"	40" " " "	6"			8 out of pots
"	" " "	7"			8 out of pots
"	" " "	7"			6 in pots
Florida	30" one side on bark	7"	8 out of pots	\$3.50	
Hastatum	30" " " " "	7"			6 in pots
Lacineatum	30" " " " "	7"			
Pertussum	30" " " " "	7"			
Florida	36" one side on bark	8"	6 out of pots	\$5.00	
Hastatum	36" " " " "	8"			4 in pots
Lacineatum	36" " " " "	8"			
Pertussum	36" " " " "	8"			
Florida	40" one side on bark	9"	4 out of pots	\$6.50	
Hastatum	40" " " " "	9"			3 in pots
Lacineatum	40" " " " "	9"			
Pertussum	40" " " " "	9"			
Florida	40" both sides on bark	9"	4 out of pots	\$7.50	
Hastatum	40" " " " "	9"			3 in pots
Lacineatum	40" " " " "	9"			
Pertussum	40" " " " "	9"			



PHILO. PERTUSSUM (B-E-F-H-M)



STAGHORN FERN (D)

SOURCE D—(Minimum order \$20.00) FOB FLORIDA

PHILODENDRONS	BR for 2 1/2"	3"	4"	6"
Burgundy —New hybrid highly resistant to cold, "shot-gun fungus," and bacterial soft rot. Excellent for totems or pots.....	.25	.75	1.25	2.00
Cannifolium.....	.25	.60	1.00	1.50
Emerald Queen —New hybrid Medium-sized hastatum-shaped leaves, very dark green, resistant to "shot-gun" spotting and bacteria. Excellent totem-pole item.....	.25	.60	1.00	...
X Florida.....	.25	2pp .50	.75	...
X Florida Compacta.....	.25	.50	.75	1.50
Lacineatum.....	.25	2pp .50	.75	...
Pittieri.....	...	2pp .50	.75	2pp
Selloum Type.....	.15	.40	.75	...
Trifolium	Gal. Tin .75—Gal. plastic .85—Egg can 2.50	2pp .50	.75	2pp

PHILODENDRONS—B.R. Seedlings: Large leaf varieties for dish gardens, one or more varieties, our choice, 250 minimum order—\$150/1,000.

PHILODENDRONS—Totem-Poles: Includes Florida, Lacineatum, Pertussum, Hastatum hybrids, and a brand new much improved Mandaianum hybrid. A few misc. varieties in limited numbers.
5" plastic, 15" slab—1.00 6", 30" slab—2.00

PHILODENDRON COLLECTIONS:

- #1—20 plants out of 4" pots—8 or more species & hybrids..... **\$20.00**
- #2—35 plants out of 3" pots—8 or more species & hybrids..... **20.00**
- #3— 9 totems in 5" plastic, 15" slabs—our selection..... **10.00**
- Aglaonema Treubii**—Fine for dark locations—R.C. 6" to 8" .25; 8" to 12" .35; 3" pots .60; 6" pots 2.00
- Anthurium Andreanum**—3" .75; 4" 1.25; 6" 2.50
- Anthurium Crystallinum**—2 1/2" .35; 4" 1.00
- Calathea Insignis**—3" .60
- Cryptanthus Tricolor**—R.C. .25 to .35
- Cryptanthus Zebrina**—2 1/4" .35; 4" 1.00
- Dieffenbachia Exotica**—3" .60; 4" 1.00
- Dracaena Florida Beauty**—2 1/2" plastic .35
- Hoya Carnosa Variegata**—2 1/4" .25
- Ptycyerium**—(Staghorn Fern)—3" 1.50 (50 or more at 1.25 ea.); 6" 3.25
- Spathiphyllum Floribundum**—B.R. for 2 1/2" .25; 3" .60
- Thanksgiving Cactus**—2 1/4" sgls. runner .35; branched .50
- Tradescantia Fuscata**—3" .60
- Trichosporum Pulegium**—R.C. .07 1/2; 6" 2.00
- Trichosporum Splendens**—2 1/2" .50
- Vereisa Splendens (Flaming Sword)**—2 1/4" 1.00

Vaughan's FOLIAGE PLANTS

SOURCE E—FOB FLORIDA

AGLAONEMA Commutatum , 2 1/4", 4-8 lvs.	100	\$25.00
Simplex (Chinese Evergreen)		
3-5", 3-5 lvs., R.C.	8.75	
4-6", 4-6 lvs., R.C.	11.25	
5-7", 4-7 lvs., R.C.	15.00	
6-8", 5-7 lvs., R.C.	18.75	
8-10", 6-8 lvs., R.C.	25.00	
10-12", 6-9 lvs., R.C.	30.00	
12-15", 6-9 lvs., R.C.	35.00	
U.R.C., 6-8", 5-7 lvs.	10.00	
U.R.C., 8-10", 5-8 lvs.	12.00	
2 1/4", 3-6 lvs.	15.00	
DIEFFENBACHIA Exotica , 3", 4-6 lvs.	50.00	
4", 5-7 lvs.	75.00	
Picta R.C., 4-7 lvs.	28.00	
3" 4-8 lvs.	35.00	
4" 5-7 lvs.	75.00	
Roehrsii , 3", 4-8 lvs.	40.00	
4", 5-7 lvs.	75.00	
DRACAENA Godseffiana , R.C., 2 tiers.	10.00	
2 1/4", 4-6 lvs.	15.00	
Sanderiana , R.C., 5-8 lvs.	15.00	
2 1/4", 5-8 lvs.	20.00	
MARANTA Kerchoveana , R.C., 3-7 lvs.	7.50	
2 1/4", 4-8 lvs.	15.00	
NEPHTHYTIS Emerald Gem , R.C., 3-5 lvs.	6.00	
2 1/4", 4-7 lvs.	10.00	
Green Gold , R.C., 3-5 lvs.	6.00	
R.C., 3-5 lvs. (orders 500 & up)	5.50	
2 1/4", 4-7 lvs.	15.00	
Imperial White , R.C., 2-3 lvs.	6.00	
R.C., 3-5 lvs.	8.00	
2 1/4", 4-6 lvs.	15.00	
PALM Neanthe Bella Seedling , 1 lv., minimum order 1000 @ 10.00 per 1000		
PALM Neanthe Bella Seedling , 2 lvs.	3.50	
2 lvs., minimum order 1000 @ 20.00 per 1000		
Seedling, 3-5 lvs.	5.00	
Transplants, 5-8 lvs.	8.00	
2 1/4", 4-6 lvs.	15.00	
PEPEROMIA Variegata , R.C., 3-5 lvs.	10.00	
2 1/4" 5-8 lvs.	15.00	
PEPEROMIA Obtusifolia , R.C., 3-5 lvs.	6.00	
2 1/4", 5-8 lvs.	10.00	
PHILODENDRON Cordatum		
R.C., 3-5 lvs.	6.00	
R.C., 3-5 lvs. (orders 500 & up)	5.50	
R.C., 2-3 lvs.	4.00	
2 1/4", 3-4 plts.	16.00	
Florida , 3", 2 plts.	60.00	
4", 2 plts.	75.00	
Hastatum , 3", 3-5 lvs.	50.00	
4", 4-6 lvs.	75.00	
Monstera , large tips 3-5 lvs.	150.00	
med. tips 3-5 lvs.	100.00	
Panduriforme , 3", 6-8" lvs.	50.00	
4", 8-12 lvs.	75.00	
aerial tips 3-5 lvs.	15.00	
Pertussum , 3", 4-5 lvs.	50.00	
4", 4-6 lvs.	75.00	
4" doubles, 6-8 lvs.	100.00	
PILEA Cadiereri , R.C., 4-7 lvs.	5.00	
2 1/4", 5-8 lvs.	15.00	
U.R. Tips, 4-6 lvs.	3.00	
POTHOS Wilcoxii , R.C., 3-5 lvs.	6.00	
2 1/4", 4-6 lvs.	10.00	
3", 3 plts.	35.00	
SANSEVIERIA Laurentii , 4-6", 3-5 lvs.	12.50	
6-8", 3-5 lvs.	12.50	
6-15", 2 lvs.	7.00	
Zeylanica , 4-6", 3-5 lvs.	7.00	
6-8", 3-5 lvs.	7.00	
8-12", 3-5 lvs.	7.00	
12-15", 3-5 lvs.	7.00	
6-12", 2 lvs.	6.00	
SCHEFFLERA Seedling , 2-4 lvs.	2.50	
transplants, 4-6 lvs.	5.00	
3" plastic 4 pp.	20.00	
3" " " (orders 250 & up)	18.00	



SELLOUM (D)



TRICHOSPORUM
SPLENDENS (D)

SOURCE F—FOB FLORIDA

MARANTA Kerchoveana , U.R.C.	100	1000
R.C.	\$ 5.50	\$50.00
NEPHTHYTIS Emerald Gem , 2-3 lvs.	8.00	73.00
3-5 lvs.	5.00	45.00
2 1/4"	5.50	50.00
Green Gold , 2-3 lvs.	17.50	
3-5 lvs.	5.50	50.00
2 1/4"	6.00	55.00
Imperial White , 3-5 lvs., R.C.	17.50	
PEPEROMIA Green , U.R. Tips, 3-5 lvs.	6.50	60.00
R.C., 3-5 lvs.	4.00	32.50
Variegated , R.C., 3-5 lvs.	6.00	53.00
PILEA Dwarf , R.C.	10.00	87.50
PHILODENDRON Cordatum , R.C., 2-4 lvs.	6.00	50.00
R.C., 3-5 lvs.	5.50	50.00
2 1/4" Pot, 3 plts.	6.00	53.00
3" Pot, 3 plts.	17.50	
PHILODENDRON LARGE LEAF:	18.75	
Dubium , 3" Pot.	45.00	
4" Pot.	57.50	
Floridii , R.C., 2-3 lvs.	17.50	
R.C., 3-5 lvs.	20.00	
3" Pot, 2 ppp.	50.00	
4" Pot, 3 ppp.	75.00	
Hastatum , 3" Pot.	50.00	
4" Pot.	75.00	
Rooted Tips, Medium, 4-5 lvs.	45.00	
Rooted Tips, Large, 4-5 lvs.	62.50	
Monstera , 4"	100.00	
6" Pot, 2 plants.	150.00	
8" Plastic, 2 plts. ea., 3-5 lvs. each	3.25	
Panduraeforme , 3" Pot, 2 plants.	40.00	
4" Pot, 3 plants.	65.00	
4" azalea 2 pp.	50.00	
R.C., Small.	10.00	
Rooted Tip, Medium.	15.00	
Rooted Tip, Large.	20.00	
Pertussum , Rooted Tips, Medium, 4-5 lvs.	50.00	
Rooted Tips, Large, 4-5 lvs.	75.00	
3" Pot.	50.00	
4" Pot.	75.00	
6" Pot single.	100.00	
6" Pot, 2 plants, 24" pole utility.	150.00	
8" Pot, 2 plants, with Cordatum. each	3.25	
PODOCARPUS Maki , 4-6" Seedlings.	4.00	35.00
6-8" Seedlings.	4.50	40.00
2 1/4" Pot, 3 ppp.	16.00	150.00
PALM NEANTHE Bella , Seedlings, 1 1/2-2 lvs.	3.00	25.00
Transplants 2-3 lvs.	4.50	37.50
Transplants 3-5 lvs.	5.50	50.00
3", 3 pp.	18.75	
SANSEVIERIA Laurentii , 2 lvs., all sizes.	8.50	75.00
3-5 lvs., all sizes 4-15"	13.50	125.00
Miniatures, 3-4 lvs.	12.50	112.50
Zeylanica , 3-5 lvs., all sizes.	8.00	70.00

Shipments can be made to common points as St. Paul, Minneapolis, Austin, Minn., Milwaukee, Chicago, Detroit, Toledo, Jacksonville, Ill., Indianapolis, Springfield, Ill., South Bend, Elkhart, Ind., Fort Wayne, Louisville, Nashville, Atlanta, Ga., Cleveland, Akron, Canton, Youngstown, Alliance, Pittsburgh, Washington, Pa., Wheeling, W. Va., Charleston, W. Va., Boston, Mass., Providence, R.I., New York City, Albany, N.Y., Buffalo, N.Y., Rochester, Syracuse, and Utica, N.Y., Jersey City, N.J., Philadelphia, Baltimore, Richmond, Va., Hartford, Conn., and other adjacent common points via tropical plant truck carriers resulting in large transportation savings over express.

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POTHOS SILVER MARBLE (B)



POTHOS WILCOXII (E-M-R)



MONSTERA (F)

SOURCE G—FOB FLORIDA (carton lots only) DRACAENA FLORIDA BEAUTY

This sport of Godseffiana is more highly colored than its parent and a faster grower

	Per 100	Per 1000
ROOTED CUTTINGS (packed 250 & 500 per carton)		
1 carton of 250 or 500.....	\$16.00	\$
1,000 or more.....		150.00
10,000 or more.....		140.00
UNROOTED CUTTINGS (packed 500 per carton)		
1,000 or more.....		120.00
5,000 or more.....		110.00
10,000 or more.....		100.00
2 1/4" plastic pots (packed 70 plants per carton)		
1 to 10 cartons.....	.25c ea.	\$17.50 per carton
20 cartons or more.....	.22c ea.	\$15.40 per carton

SOURCE H—FOB FLORIDA

	10	100
ACUBA Japonica, R.C.		\$ 15.00
2 1/4".....	\$ 3.00	25.00
ACUBA Goldiana, R.C.		25.00
2 1/4".....	4.00	35.00
DRACAENA Fragrans, 4" pots.....	6.00	50.00
6 or 7" pots.....	Each \$2.50	
Massangeana		
U.R.C.....		22.50
Rooted cuttings.....		30.00
3" pots.....	4.75	37.50
4" pots.....	7.00	65.00
6" pots Specimen.....	Each \$2.50	
Warneckii, U.R.C.....		30.00
R.C.....		37.50
3" pots.....	5.50	45.00
4" pots.....	7.00	65.00
FICUS Decora, M.R.L.....	7.00	60.00
4" pots.....	12.50	100.00
Elastica, M.R.L.....	4.00	35.00
4" pots.....	5.50	50.00
Pandurata, M.R.L.....	8.00	75.00
4" Pots.....	12.50	100.00
5" Pots.....	15.00	125.00
8" Pots—Specimen.....	Each \$3.50	
MONSTERA Deliciosa, U.R.C.....	5.50	45.00
4" Pots.....	10.00	95.00
6" Pots—Double.....	22.50	200.00
8" Pots—Double.....	Each \$3.00	
PHILODENDRON Mandianum, U.R.C., medium.....	25.00	
R.C., medium.....		30.00
3" Pots.....	\$ 4.50	40.00
4" Pots, single.....	8.00	75.00
4" Pots, double.....	10.00	95.00
Panduraeforme, R.C., Baby Pandas.....	10.00	
R.C., medium.....		12.50
R.C., large.....		15.00
3" Pots, 2 plants.....	4.50	40.00
4" Pots, 3 plants.....	8.00	75.00
Pertussum, U.R.C.....	50.00	
Rooted Tips.....		75.00
4" Pots, single.....	8.00	75.00
4" Pots, double.....	12.00	110.00
6" Pots, double.....	Each \$2.00	
SPATHIPHYLLUM Kochii.....	10	100
R.C., 3-5 lvs.....		12.50
4" Pots, short.....	8.50	75.00

SOURCE H—Continued

SANSEVIERIA	Zeylanica		Laurentii	
	100	1000	100	1000
6-9", 2 lvs.....	\$6.00	\$50.00	\$8.50	\$75.00
6-9", 2-3 lvs.....	7.00	60.00	9.50	85.00
6-9", 3-4 lvs.....	8.50	70.00	11.00	100.00
9-12", 2 lvs.....	6.50	55.00	9.00	80.00
9-12", 2-3 lvs.....	7.50	65.00	10.00	90.00
9-12", 3-4 lvs.....	9.00	75.00	12.00	110.00
12-15", 2 lvs.....	7.00	60.00	12.00	110.00
12-15", 2-3 lvs.....	8.00	70.00	13.00	120.00
12-15", 3-4 lvs.....	9.50	80.00	14.00	130.00
15-18", 2 lvs.....	7.50	65.00	13.00	120.00
15-18", 2-3 lvs.....	8.50	75.00	14.00	130.00
15-18", 3-4 lvs.....	10.00	85.00	15.00	140.00
18-24", 2 lvs.....	8.50	70.00	13.50	125.00
18-24", 2-3 lvs.....	9.50	80.00	15.00	140.00
18-24", 3-4 lvs.....	11.00	90.00	16.50	155.00
24-30", 2 lvs.....	9.50	80.00	14.50	135.00
24-30", 2-3 lvs.....	10.50	90.00	15.50	145.00
24-30", 3-4 lvs.....	12.00	100.00	17.00	160.00



PHILODENDRON 3" Panduraeforme (H) 4" PODOCARPUS (F)

SOURCE I—F.O.B. FLORIDA

(Orders accepted for below units or cartons only)

	Per 1000
NEANTHE BELLA, Palm Transplants, 4 lvs. (1000 per carton).....	\$55.00
NEPHTHYTIS, Green Gold, 3-5 Lvs. (1000 per carton).....	55.00
PHILODENDRON:	
Cordatum, R.C.; 3-5 Lvs. (400 per carton).....	55.00
CORDATUM, R.C. Bench Run—full bench 11,000	
Bench Run { 85% 3-5 Lvs.—1/2 bench 5,500	\$36.00
Grading { 10% 2 Lvs.—1/4 bench 2,750	
5% 1 1/2 Lvs.	
(Orders accepted for 1/4, 1/2, or full benches cordatum only)	
Hastatum, 3" tip in 4" sq. plastic (20 per carton).....	\$56.25
Hastatum, 6", 2 pp., 24" pole with Cordatum (6 per carton)	Each \$1.60
PANDURAEFORME, 3" tip in 4" plastic (20 per carton).....	\$56.25
3" tip in 5" plastic tub, 16" pole (9 per carton).....	81.25
Pertussum, 3" tip in 4" sq. plastic (20 per carton).....	56.25
Pertussum, 6", 2 pp., 24" pole with Cordatum (6 per carton).....	Each \$1.60

SOURCE J—F.O.B. FLORIDA READY NOW

	Each
CASE (6" plantainers—6 per case; gal. cans—6 per case	
LOTS { 2 gal. cans—4 per case; 3 gal. cans—2 per case	
ONLY { Egg cans—2 per case; 50 lb. cans—1 per case	
LEMON—MEYER, 6" plantainer, Bloom & Fruiting.....	\$1.75
PHILODENDRON SELLOUM, Gal. cans.....	1.00
Egg cans.....	2.50
SCHEFFLERA, gal. can, 12-15".....	.75
Gal can, 18-24".....	1.00
2 gal. can, 24-30".....	1.75
3 gal. Lario, 36".....	3.00
STRELITZIA REGINAE, 4".....	.85
Gal. can.....	1.55
2 gal. can—blooming size.....	2.50
Egg can, 1 division plant.....	3.50
Egg can, Multiple division plants—Each additional division \$2.50 Extra	

PHILODENDRON TOTEM POLES—Large leaved	Cypress—1 side.....					
	24"	30"	36"	48"	60"	72"
Each	2.00	3.50	4.50	6.00	9.00	12.00
Each	Fernwood—2 sides.....					
		7.50	11.00			
PHILODENDRON CORDATUM ON POLES	Cypress—2 sides.....					
	24"	30"	36"			
Each	2.00	4.00	5.50			
Each	Fernwood—2 sides.....					
	2.25					

Vaughan's FOLIAGE PLANTS



HASTATUM ON BARK (C)



PHIL. BURGUNDY (D)



FLAMING SWORD (D)



ANTHURIUM CRYSTALLINUM (D)

SOURCE J—Continued



CALAMONDIN ORANGE (J)

FRUITED CITRUS—OCTOBER DELIVERY

	6" Plantainer	3 gal. Lario	50-lb. can
CALAMONDIN ORANGE	\$1.75	\$4.00	\$6.00
GRAPEFRUIT			6.00
MEYER LEMON	1.75	4.00	
OTAHEITE ORANGE	1.75	4.00	6.00
PONDEROSA LEMON	1.75	4.00	
TEMPLE ORANGE			6.00

SOURCE K—F.O.B. CALIFORNIA

**CACTI and SUCCULENTS
MINIATURE FOLIAGE PLANTS**

For Dishgardens and Novelty Planting

Collection No.	100	1000
A ALL-PURPOSE STANDARD. Cacti and Succulents; ten or more standard varieties in uniform good selection for general dish garden work or individual 2 to 2½-in pots.	\$ 5.00	\$45.00
B ALL-PURPOSE SUPERIOR. Cacti and Succulents; includes the better, more durable and showier types of Succulents and Cacti, in 15 or more varieties. This is our most favored all around commercial assortment.	6.00	55.00
C ALL-PURPOSE CHOICE. Cacti and Succulents; limited to the more valuable, hard Succulents and most desirable Cacti, selected for keeping quality, odd shape and beauty.	9.00	80.00
F MINIATURES, Cacti and Succulents for tiny pots and miniature bowls.	4.00	35.00
G MAMMOTH, Cacti and Succulents; the Standard assortment in larger sizes; branched, eared and generally showier plants —for larger arrangements or 2½-3-4 inch pots.	15.00	
H ALL-SUCCULENT ECONOMY, ten or more varieties, useful and showy—an economical and colorful filler.	4.50	40.00
K ALL-SUCCULENT FANCY, the harder, slow-growing and fancy types of Succulents specially selected for best keeping quality, oddity as well as color.	8.00	70.00
M ALL-CACTUS COMMERCIAL, mostly Opuntias and Cereus —pad and column types—for a good showing at a low price.	6.00	55.00
N ALL-CACTUS SELECT, various types of Cacti from cuttings and seedlings; globular, branched, eared, padded and columnar varieties in best selection.	9.00	
P SUNSET COLLECTION for fanciers; fifty named varieties of Cacti and other Succulents such as Euphorbias, Haworthias, Echeverias, etc., and including all leading forms.	9.00	
S SUB-TROPIC DIXIE ASSORTMENT, as favoured in New York, small Foliage plants with compatible Succulents and Sansevierias.	8.50	77.50
T TERRARIUM ASSORTMENT, Miniature Foliage plants with Succulents suited to Glass Gardens.	6.00	
V SMALL FOLIAGE PLANT ASSORTMENT. Usually made up of Billbergias, Variegated Ivy, Philodendron, Peperomia, Boxwood, Cryptanthus, Euonymus or similar plants suitable for Dish Gardens.	9.50	87.50

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SOURCE K—Continued

SMALL FOLIAGE PLANTS

ARALIA SIEBOLDII	100	1000
BOXWOOD (Buxus japonica) bushy.....	\$ 7.50	\$65.00
EUONYMUS Silver Queen, (available summer-fall), rooted cuttings.	7.50	65.00
EUONYMUS albo-marginata (available summer-fall), rooted cuttings.	7.00	60.00
EUONYMUS Jap. aureus, gold center, rooted cuttings.	7.00	60.00
EUONYMUS Assorted	7.00	60.00
FATSHEDERA LIZEI single eye r.c.	7.50	65.00
IVIES:		
Hagenburger's Variegated cuttings.	7.50	65.00
Golddust, yellow variegated, smalleaved.	8.50	75.00
Glacier, highly variegated white, smalleaved.	8.50	75.00
Green California, sturdy branching, smalleaved.	6.00	55.00
Green Fan, hard, spread like a fan.	7.50	65.00
Hahn's Selfbranching, smalleaved green.	5.00	45.00
Ivies. Assorted varieties	7.50	65.00
LIGUSTRUM lucidum, wax leaf, good keeper.	7.50	65.00
MYRSINE africana	7.00	
PEPEROMIA obtusifolia, green.	8.00	
PITOSPORUM tobira, leaves long, shiny green.	7.50	65.00

SOURCE L—F.O.B. FLORIDA

DRACAENA Warneckii 3"	100	1000
4"	\$37.50	\$50.00
CROTON, Gold Dust, R. C. (Apple Leaf—green with yellow spots)	8.00	75.00
Golden Showers, R. C. (Narrow leaf—green with bright yellow spots)	8.00	75.00
SANSEVERIA, Hahnii Rosettes for 2½"	6.00	
2½"	7.50	
3"	10.50	
TRADESCANTIA, Purple Queen, U.R.C. Large leaved variety for outside bedding and house plant, used extensively in the South and now being used by many Northern growers. The individual leaves are about 6" long and about 1½" wide. The plants are a purple color with pink flowers.	4.50	37.50

SOURCE M—FOB FLORIDA

NEANTHE BELLA Palms	10	100	1000
Small transplants.	\$ 6.75	\$62.50	
Transplants, 7-9", 6-8 lvs., early fall.	11.00	100.00	
NEPHTHYTIS Variegated			
R.C., 3-5 lvs.	6.00	55.00	
2½", 3 ppp.	23.50	225.00	
Totem pole 5" plastic on post 4-5 ppp.	82.50		
PHILODENDRON Cordatum			
Leaf & Eye R.C.	5.00	41.00	
Propagating Eyes (Vines)		12.00	
R.C., 2-3 lvs.	5.50	50.00	
R.C., 3-5 lvs.	6.00	55.00	
2½", 3 ppp #1.	22.50	212.50	
2½", 3-4 ppp #2.	17.50	162.50	
3" plastic pot, 4 ppp.	32.50		
Totem pole 5" plastic on post, 4-5 ppp.	82.50		
Florida, R.C., 2-3 lvs.	28.75		
R.C., 3-5 lvs.	35.00		
3" plastic pot, 2 ppp.	60.00		
4" plastic 2 pp.	75.00		
Totem pole 6" pot on bark, 3 ppp.	25.00		
Totem pole 6" pot on bark, 4 ppp.	31.25		



TRADESCANTIA FUSCATA (D)



AGLAONEMA TREUBII (D)
Fine for dark locations



FICUS PANDURIFORMIS (V)

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SOURCE M—Continued

	10	100	1000
Hastatum			
R.C., small.....		31.25	
R.C., medium.....		44.00	
R.C., large.....		56.25	
4" pot, 1 ppp.....		75.00	
4" pot, 2 ppp.....		87.50	
Pandureforme, R.C.			
Dwarf, 6-8".....		13.00	125.00
Small, 8-10".....		16.00	150.00
Medium, 10-12".....		19.00	187.50
Large, 12-15".....		25.00	
3" pot, 3 ppp.....	6.00	56.25	
4" pot, 3 ppp.....	8.25	81.25	
Pertussum			
R.C., 4 lbs., regular.....		56.25	
R.C., 4 lbs., large.....		70.00	
3", 1 ppp, 3-5 lvs.....		50.00	
4" pot, 2 ppp.....		100.00	
4", 1 ppp, 4 lvs., regular.....		75.00	
4", 1 ppp, 4 lvs., large.....		87.50	
4", 1 ppp, 4 lvs., extra-large.....		106.50	
Totem pole 6" pot 30" bark.....		25.00	
PILEA (Aluminum Plant), R.C.		5.50	50.00
POTHOS Wilcoxii, R.C., 2-3 lvs.		5.50	50.00
R.C., 3-5 lvs.....		6.00	55.00
2 1/4", 3 ppp.....		23.50	225.00
Totem pole 5" plastic on post, 4-5 ppp.....		62.50	
SANSEVIERIA Laurentii, 3-5 lvs.			
all sizes.....		13.00	125.00
Zeylanica, 3-5 lvs., all sizes.		7.50	70.00
POTTED Combinations			
2 1/4" Assortment of 4 plants.....		25.00	
3" Assortment of 4 plants.....		32.50	

SOURCE O—FOB URBANA, OHIO

AGLAONEMA Modestum (Chinese Evergreen)	Per 100
2 1/4", 3-5 lvs.....	\$25.00
3", 4-6 lvs.....	35.00
4", 5-7 lvs.....	75.00
Marantifolia, 4"	each \$1.25
ARALIA Sieboldi, 2 1/4"	15.00
BEGONIAS REX 2 1/4" assorted.....	35.00
CISSUS Antartica (Kangaroo Vine), 2 1/4"	20.00
Discolor (Variegated), 2 1/4"	20.00
CRASSULA Arborescens (Jade Plant), 2 1/4"	12.00
CROTON Apple Leaf, 2 1/4"	20.00
Narrow Leaf, 2 1/4"	20.00
DIEFFENBACHIA Picta, 2 1/4"	30.00
3".....	40.00
Rudy Roehrs, 2 1/2"	35.00
3".....	50.00

SOURCE O—Continued

DRACAENA Godsefiana, 2 1/4" , single.....	15.00
2 1/2", two plants.....	25.00
3", three plants.....	35.00
Sanderiana, 2 1/4"	20.00
Mad. Eugene Andre', 3"	each .75
4".....	each 1.25
5".....	each 2.00
EUONYMUS Silver Queen, 2 1/4"	20.00
FARFUGIUM GRANDE 2 1/2" (Leopard Plant).....	75.00
FITTONIA Argyroneura (White Vines), 2 1/4"	20.00
HOYA Carnosa (Green Wax Plant), 2 1/4"	20.00
Carnosa Variegata, 2 1/4"	30.00
IVY Baltica (90.00 per M.) 2 1/4"	10.00
English (\$90.00 per M.) 2 1/4"	10.00
2 1/2" (2 P.).....	15.00
3" (3 P.).....	25.00
Grape (\$110.00 per M.) 2 1/4"	12.00
Ideal, Pixie, Curly, Hahn's Self Branching, Fan, Glacier, Hahn's Small Leaf Variegated	
2 1/4".....	15.00
2 1/2" (2 P.).....	20.00
3".....	30.00
Sylvanian Beauty, Green Ripple, Shamrock, Large Leaf Variegated	
2 1/4".....	20.00
3".....	35.00
LEMON (Ponderosa American Wonder), 2 1/4"	25.00
Two year plants, 3"	50.00
NEPHTHYTIS Liberica, 2 1/4"	15.00
Green Gold, 2 1/4"	15.00
ORANGE Otahaite (dwarf habit), 2 1/4"	35.00
3".....	75.00
PALM, Chamaedorea Elegans, 2 1/4"	15.00
4" (3 plants).....	50.00
5", (3 plants).....	75.00
PEPEROMIA Emerald Ripple, 2 1/4"	20.00
Obtusifolia (green), 2 1/4".....	12.00
Obtusifolia Marble Variegata, 2 1/4".....	15.00
Obtusifolia Miniature, 2 1/4".....	16.00
Obtusifolia Variegata, 2 1/4".....	15.00
Pericattii, 2 1/4".....	15.00
Sandersii, spaced plants, 2 1/4" (Watermelon Begonia).....	20.00
PHILODENDRON Cordatum, 2 1/4"	\$15.00
2 1/2", (2 plants).....	25.00
3", (3 plants).....	35.00
Dubia, 4".....	each \$1.00
5".....	each 1.60
Florida, 5", on bark.....	each 1.60
Hastatum, 4".....	each 1.00
5".....	each 1.60
Micans, 2 1/4".....	25.00
Panduriforme, 4" (2 plants).....	each 1.00
5".....	each 1.60
Sellowm 5".....	each 1.60
Pertussum 3".....	75.00
PILEA Cadierii (Dwf. Aluminum Plant), 2 1/4"	15.00
Involucrata (Pandmigas) 2 1/4"	15.00
POTHOS Marble Queen, 2 1/4"	25.00
3" (2 plants).....	35.00
Wilcoxii, 2 1/4".....	15.00
3".....	40.00
RHOEO Discolor, 2 1/4" (Moses in the Bulrushes).....	25.00
SANSEVIERIA Hahni, Rosettes 2 1/4"	15.00
Laurenti, 2 1/4".....	25.00
3".....	40.00
6".....	each 1.50
Zeylanica, 2 1/4".....	12.00
SCHEFFLERA, 2 1/4"	22.00
SCHISMATAGLOTTIS Robellini, 4"	each 2.00
SYNGONIUM Shotti 2 1/4"	15.00

SOURCE R—F.O.B. TEXAS

Prepaid truck delivery in Texas, Oklahoma, Louisiana & New Mexico only on all invoices totaling \$50.00 or more from this source. Transportation allowance 5% of \$50.00 invoice or more to all other areas.

AGLAONEMA (Chinese Evergreen) U.R. Tips	\$ 8.50
Rooted Tips.....	10.00
3".....	30.00
Commutatam 3"	35.00
CROTON 4" assorted 25/ctn.....	75.00
6" assorted 5/ctn.....	125.00
DIEFFENBACHIA Amoena	
3" pot (50/carton).....	each .85
4" Pot, 18-24" plant (16/carton).....	each 1.25
6" Pot, 24-30" plant (5/carton).....	each 2.50
DIEFFENBACHIA Picta	
2 1/4" Pot.....	25.00
3" Pot, 6-10" plants.....	35.00
4" Pot, 10-12" plants.....	50.00
6" Pot, 18-24" plants.....	each 1.25
Started Cane, ready for 3" Pot.....	12.50

Vaughan's FOLIAGE PLANTS



DIFFENBACHIA EXOTICA (D-E-S)



Japonica ACUBA (H) Goldiana



**NEPHTHYTIS (E-F)
Green Gold Emerald Gem Imperial White**



CROTONS (S)

SOURCE R—Continued

DRACAENA Marginata	100	1000
4-in. 1 plant/pot, 16/ctn.....	\$75.00	
1 Gal. Plastic Cans, 5/ctn.....	each 2.00	
DRACAENA Massangeana		
8-in. pot, totem pole with giant leaf pothos.....	each 6.50	
1 Gal. Plastic Can, 14-in. pole with pothos, 5 per/ctn.....	each 2.00	
FICUS Decora (Red Leaf Rubber Plant)		
4" Pot.....	each 1.25	
6" Pot.....	each 2.00	
10" Pot, 3 plants 1/ctn.....	each 6.00	
Mossed Tips.....	60.00	
FICUS Elastica (Green Leaf Rubber Plant)		
4" Pot 16/ctn.....	each .75	
Mossed Tips, 4-8 lvs.....	35.00	
NEANTHE BELLA Palm (Indoor Palm)		
2 1/4" Pot, 2-3 plants.....	15.00	
4" Pot, 3 plants.....	75.00	
6" 3 ppp 24" high 5/ctn.....	each 1.50	
Seedlings, 1 leaf	12.00	
NEPHTHYTIS, Green Gold, 2 1/4" Pot, 2 plants	16.00	
3" Pot, 2 plants.....	25.00	
R.C.....	4.50	40.00
PEPEROMIA, Green 2 1/4" 1 ppp	12.00	
PHILODENDRON CORDATUM 2 1/4" 2 ppp 100/ctn	16.00	
3" 4 ppp 50/ctn.....	30.00	
Totem pole 4" 16" pole.....	85.00	
Hastatum, Mex. Started Cane	12.50	
3" 50/ctn.....	40.00	
4" 2 ppp 16/ctn.....	75.00	
6" Pot 5/ctn.....	each 1.25	
Panduriforme, 2 1/4" Pot, 3-6 lvs. 100/ctn	25.00	
3" Pot 50/ctn.....	35.00	
Pertussum (Split Leaf)		
4" Pot, 2 plants 16/ctn.....	each 1.10	
6" Pot, 2 plants 5/ctn.....	each 2.50	
Totem pole 8" Pot, 30" pole 2/ctn.....	each 3.50	
Seedlings, ready for 3" pots	12.50	
Transplants	25.00	
Tips, 3-5 leaf	40.00	
Started cane, 2 & 3 leaf	12.50	
POTHOS, Giant Leaf, 4" Pot, 2 plants 16/ctn	each 1.15	
6" Pot, 4 plants 5/ctn.....	each 2.50	
Totem pole 8" Pot, 36" pole 2/ctn.....	each 5.00	
Unrooted Tips.....	35.00	
Rooted Tips, 3-5 leaf.....	45.00	
Variogated (Devil's Ivy), 2 1/4", 1 ppp	10.00	
2 1/4" 1 ppp (500 & up).....	90.00	
2 1/4", 2 ppp.....	14.00	
3" 2 ppp.....	22.00	
3" 3 ppp.....	28.00	
4", 4 ppp.....	40.00	
Totem pole 4" Pot, 16" pole 25/ctn.....	65.00	
Totem pole 6" Pot, 24" pole 5/ctn.....	each 1.65	
Propagating Vines	12.50	
Started Eyes	25.00	
R.C., 3-4 leaf	45.00	
Rooted Tips, 3-5 leaf	55.00	
SANSEVIERIA Rosette, Bare Root, ready for 2 1/4" pot	7.00	60.00
2 1/4" Pot.....	15.00	
3" Pot.....	25.00	
Laurentii 3" pot 12-18"	25.00	
SCHOFFLERA Digitata		
Transplants 4-6 in.....	45.00	
2 1/4", 1 ppp.....	15.00	
6", 3 ppp.....	each 1.50	

SOURCE S—F.O.B. FLORIDA

CROTONS, Fancy Hybrid, M.R.L. for 6" pot	100	1000
3"—Assorted Colors.....	\$65.00	35.00
DIFFENBACHIA Exotica, U.R.C., 10-12"	35.00	28.00
2 1/2" Pot, 6-8".....		
DRACAEANA Madam Andre, 3" 8-10 lvs	30.00	
FICUS DECORA, M.R.L.	60.00	
NEANTHE BELLA Palm		
(500 or more at 1000 rate) Transplants 4-6".....	5.50	45.00
PHILODENDRON		
Dubia, 3", 1 plant 4-6 lvs	40.00	
4", 2 plants 8-12 lvs.....	75.00	
Hastatum, 3", 1 plant 4-6 lvs	40.00	
4", 2 plants 8-12 lvs.....	75.00	
Pertussum, 4", 2 plants 8-12 lvs	100.00	
Trifolium, 3", 2 plants	40.00	
4", 3 plants 8-12 lvs.....	75.00	
SCHOFFLERA SEEDLINGS (500 or more at M rate)	6.00	50.00

SOURCE T—F.O.B. TEXAS

PHILODENDRON Cordatum R.C. 3/5 lvs., #1 SIZE	1000	\$50.00
(500 to a carton-approx. 32 lbs./ctn.).....		
#2 SIZE R.C. 2/3 lvs.,.....		37.50
(500 to a carton-approx. 28 lbs./ctn.).....		
Minimum shipment 1 carton. Packing charge 50c per carton		

SOURCE V—F.O.B. FLORIDA

FICUS DECORA M.R.L. (25/ctn)	100	\$60.00
PANDURIFORMIS M.R.L. (NEW) 25/ctn Beautifully white veined, close noded, dark green, leathery leaves. Similar to Pandurata, smaller leaves, more graceful and compact plant plus better branches....	100.00	
(\$1.00 per carton packing charge)		

SOURCE X—F.O.B. FLORIDA

	Ctn. Pak	Per 100	Per 1000
DIFFENBACHIA			
Roehrsil, 4"	25	\$75.00	
FICUS Decora, M.R.L., 10-14 lvs	20	60.00	
Doescherii M.R.L.	30	50.00	
4".....	16	75.00	
Pandurata M.R.L.	20	75.00	
6".....	9	125.00	
PHILODENDRON Cordatum, R.C., #1 3-5 lvs	500		\$55.00
R.C., #2 2-3 lvs.....	500		37.50
2 1/2", 3-4 plants per plastic pot.....	100	17.00	
4", 8-9 hanging vines per pot.....	24	60.00	
SELLOUM, 4"	25	85.00	

These listings of foliage plant sources are made for your convenience to eliminate several shipments of one order, as no one source grows a complete listing. Please indicate source when ordering.

All Ficus Decora are 5c per plant extra for packing. Most growers will charge 50c per carton for packing. 25 at 100 rate. 250 at 1000 rate.

The New, the Best and All the Rest Geranium—Rooted Cuttings

GREENHOUSE GROWN

F.O.B. LOCAL SOURCES

Rooted cuttings will be available in August through the Fall and Winter months. Specify approximate delivery date desired.

Book your order early with our salesmen or send to us for his credit to insure delivery date desired.

- | | |
|---|--------------------------------------|
| Better Times —Rose red | Penny Irene —Salmon rose |
| Dark Red Irene —Radio red color | Pink Cloud —Clear pink |
| Enchantress Fiat —Soft salmon pink | Red Fiat —Orange scarlet |
| Gail Landry —Slightly lighter than Genie | Salmon Irene —Rich salmon |
| Genie Irene —Celestial rose color | Springtime-Irene —Salmon pink |
| Irene —Brick red | White |

PRICES ON ABOVE GREENHOUSE CUTTINGS

\$11.00 per 100 — \$100.00 per 1000 (250 of a single variety at thousand rate)
Minimum order 250 cuttings—Not less than 50 of a variety

Geraniums 2 1/4"

RED

	100	1000
Better Times . Rose red	\$16.00	\$150.00
Better Times Irene . Irene sport,		
Better Times color	25.00	225.00
Charlotte (New) Olympic sport,		
vivid scarlet, does not crookneck.	25.00	225.00
Dark Red Irene . Radio red color	17.00	160.00
Imp. Ricard . Brick red color	16.00	150.00
Irene . Brick red color	16.00	150.00
Olympic Red . Brick red color	16.00	150.00
Radio Red . Brilliant red	16.00	150.00

WHITE

Layton's White	16.00	150.00
Madonna	16.00	150.00
Spartan White	16.00	150.00

Minimum order 100 plants. Not less than 50 of a variety
50 at the 100 rate—250 of a single variety at the 1000 rate

PINK

	100	1000
Camellia Fiat . (New) Light pink	\$25.00	\$225.00
Enchantress Fiat . Soft salmon		
pink	17.50	165.00
Genie . Celestial rose color	16.00	150.00
Irrington Beauty . Soft rose	16.00	150.00
Penny . Salmon rose	16.00	150.00
Pink Cloud . Clear pink	17.00	160.00
Springtime . Soft salmon pink	17.00	160.00

SALMON PINK

Mary Angela . Salmon rose	17.00	160.00
Magnificent . Light salmon pink	17.50	165.00
Pink Fiat . Salmon pink	16.00	150.00
Salmon Irene . Rich salmon	17.00	160.00
Salmon Supreme . Dark salmon	16.00	150.00
Susan . (New) Coral pink	17.50	165.00



DARK RED IRENE

Geranium Cuttings—

CALIFORNIA GROWN

PINK

- Apple Blossom**. Salmon pink
- Cal. Beauty**. Light rose-pink
- Enchantress Fiat**. Soft salmon-pink
- Magnificent**. Soft salmon pink
- Pink Cloud**. Clear pink
- Springtime Irene**. Salmon pink

DEEP PINK

- Avalon Beauty**. Sport of Pink Fiat
- Beauty of El Segundo**. Dark pink
- Genie Irene**. Celestial rose color
- Irrington Beauty**. Soft rose
- Penny Irene**. Salmon-rose
- Pink Fiat**. Salmon-pink
- Pink Phenomenal**. Rose-pink
- Pink Sensation**. New pink

SALMON PINK

- Imp. Poitevine**. Soft pinkish salmon
- Madam Landry**. Clear salmon
- Salmon Ideal**. Clear salmon
- Salmon Irene**. Rich salmon
- Salmon Supreme**. Dark salmon

WHITE

- Madam Buchner**. Pure white
- Gregersen's White**
- Madonna**
- Snowball**. Pure white

PRICES ON ABOVE CALIFORNIA CUTTINGS

	100	1000
Unrooted cuttings	\$4.50	\$40.00
Calloused cuttings	7.00	65.00
Rooted cuttings	8.50	80.00

Minimum order 1000. All above prices are F.O.B. California

We recommend that all geranium cuttings from the West Coast be shipped via air transportation to nearest airport in your vicinity. Airport to phone buyer on arrival. Your telephone number must be supplied, also name of Airport

Cultured Stock

CALIFORNIA GROWN UNROOTED CUTTINGS

The following listing has been cultured for Bacterial Stem Rot, the most prevalent of Geranium troubles. These cuttings should ONLY be grown in sterile mediums otherwise they can be reinfected.

Enchantress Fiat	Penny Pink Fiat	Olympic Pink Cloud	Salmon Supreme White
Dark Red Irene	Salmon Irene	Radio Red	
Genie Irene			
	100	1000	100
Above varieties, U.R.C.	\$6.50	\$60.00	\$5.50
			\$50.00

Minimum order 1000. All above prices are F.O.B. California

We recommend that all geranium cuttings from the West Coast be shipped via air transportation to nearest airport in your vicinity. Airport to phone buyer on arrival. Your telephone number must be supplied, also name of Airport.



GENIE



**ENJOY AN OLD-FASHIONED
FRIENDLY OUTING
AT VAUGHAN'S FIELD DAY**

**Wednesday, July 20 at
Col. Robert R. McCormick Gardens,
Wheaton, Ill.**

AN EVENT YOU CAN'T AFFORD TO MISS! Vaughan's Big Field Day will help make Chicago the Horticultural capital of the world. On the 10-acre grounds you'll see the All America entries being judged for 1962. There'll be roses, cannas, gladioli and perennials . . . a priceless gathering of information for you.

Bigger than ever and more valuable, this Field Day is a must for you. It won't be held again till 1962, so be there and profit by it.

IT'S EASY TO GET THERE. Vaughan's transportation will whisk you effortlessly from Midway Airport and Winfield, Ill. railway station right out to the Gardens. Shuttle service will operate to other Field Day operations. Schedule will be announced later in *Florists Review*.

TO GO BY CAR . . . just take Congress Expressway to East-West Tollway to Route 59. Then north to Route 55, east to Winfield Rd. Turn left (north) on Winfield. Robert R. McCormick Gardens are on the right (east) side of road. Double-road entrance leads to 1,000-car parking lot.



See all that's new in Flowers and Vegetables. Stay up to date in your business and have a happy day doing it!



Enjoy a pleasant luncheon with your Vaughan friends. Renew acquaintanceships and exchange valuable information with others in the industry.



Remember, all of us at Vaughan's are anxious to see you, show you around and give you the latest in making bigger sales and more profits.