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"Pillow-Pak Plants"

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"Sausage mums", "baloney mums", "mums by the yard", "pillow pak plants"! These were just a few of the names heard as growers attending the Florists' Short Course examined the new concept of plant growing being shown for the first time at Cornell. Completely contrary to the basic principles of our present day methods of growing, the "pillow pak" presents some exciting possibilities for commercial plant growers.

The idea was first seen by the authors in some experimental greenhouses in England this past summer. Basically we've taken our Cornell peat-lite mixes with all the fertilizer added and placed them in 4" or 6" diameter polyethylene tubes. The ends of the tubes were stapled shut and plants inserted into small holes in the top of the tube.

Rooted cuttings of Princess Anne Mums were planted September 10, 1965 in 4-inch diameter black polyethylene and 6-inch clear polyethylene tubes. Five cuttings were planted in a 30-inch long tube that contained no drain holes. After planting, the cuttings were watered with a predetermined amount of water that thoroughly wetted the media but did not saturate it. Approximately 3 pints of water was used to wet $6\frac{1}{2}$ quarts of peat-lite mix. Subsequent waterings were made on the basis of weight loss. When the pillow pak lost $1\frac{1}{2}$ pounds, a pint and one-half of water was added.



FIGURE 1—Flowering bed of Princess Anne in "Pillow-Pak."

Following the initial watering, the second application of water was not made for 2 weeks. The third application was made 10 days later. As the plants' requirements for water increased, the frequency of watering was reduced to 4 days.

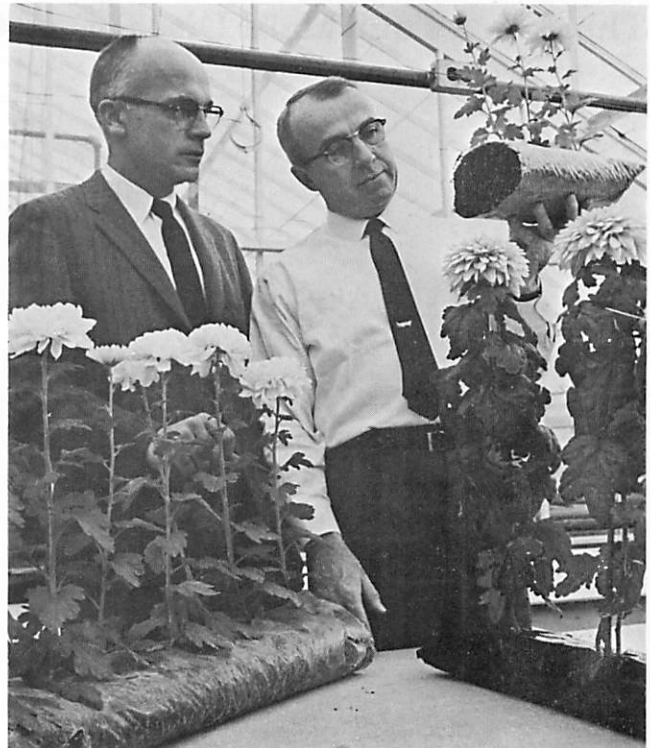


FIGURE 2—Boodley and Sheldrake examining cut through section of mum container. Plants on the right are Princess Anne that were seen at floriculture greenhouses during short course program.

The plants were grown under long days from September 10 until October 4 at which time short days were started.

The media contained 6 pounds of 5-10-5 per cubic yard plus ground limestone and superphosphate. No other fertilizer was added during the growth of the plants.

The plants were harvested December 10-14. Excellent quality flowers were obtained. Of the 82 plants grown, the average flower diameter was $4\frac{3}{4}$ inches, stem length 24 inches and fresh weight $2\frac{1}{2}$ ounces.

Examination of the media showed that roots had penetrated throughout the mass of the media and were not confined to any one particular region. There were no differences in growth whether clear or black plastic was used.

Although watering was done by hand, a semi-automatic system could be adapted. With a moist scale and individual watering tubes the plants could be set-up to regulate their own water application. Such a method is being trialed on a second crop of plants.

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"Pillow-Pak Plants"

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FIGURE 3—One 4-inch diameter pillow pak of Princess Anne

Other crops such as bedding plants or geraniums may also be grown in the "pillow pak." Bedding plants in such containers would be versatile as shown in the figure. Special occasions might call for hanging containers of petunias or other crops. Patios, porches, halls, etc. could easily be decorated with growing plants.

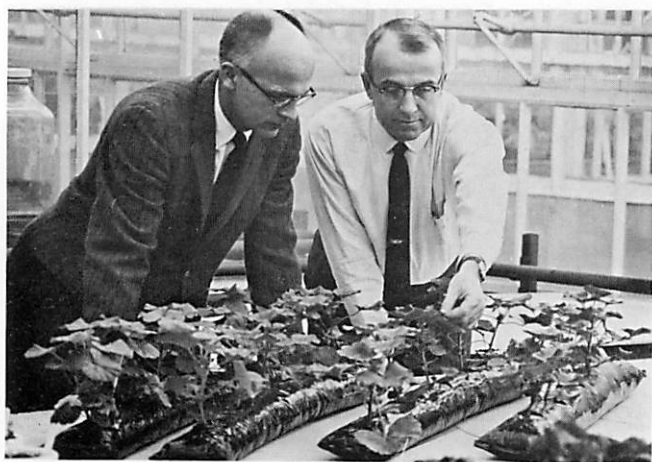


FIGURE 4—Geranium stock plants started in pillow paks

Many questions remain to be answered before the "pillow-pak" can be recommended for general culture. Among these are: drain holes needed or not? If one crop of mums are grown, can a second be grown in the same containers? What other cut flowers may be adapted to this technique of growing? How is sunlight going to affect the temperature inside the container? We have experienced 118°F with tomatoes with no adverse effects.

Some advantages readily apparent are that the paks could be made up before hand and stored ready for use for the next crop. If peat-lite mixes are used, steaming isn't necessary. Any flat surface may be used for a bench or growing area. Water requirements are definitely reduced since none is lost from the container. With bedding plants the containers make instant flower box fillers, may be rearranged on a patio or just laid out in rows in a bed.

Only a lack of imagination can restrict the ultimate use to which such containers may find a place in the floriculture world.



FIGURE 5—Norm Smith, former County Agent, demonstrating the versatility of a pillow pak of marigolds.