Spring Greenery Found At Nickeson Greenhouses

Grower Jody Applebee is taking geranium cuttings.

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HORNBROOK (Bradford Co.)— On the first day of spring, Bradford County lies covered in a layer of new-fallen snow. A winter storm warning is in effect, schools will close early, and the green of spring is nowhere in sight.

At Nickeson Greenhouses in Hornbrook, however, preparation continues for the inevitable return of mild days and longer nights. Owner Jerry Nickeson makes numerous decisions about which plants should be moved to colder greenhouses, which plants should be moved to warmer areas. It's the critical game of timing to ensure that the blooms for the busiest season of the year will precisely match supply and demand. Flowers for Mother's Day, Easter, and Memorial Day constitute 80% of his greenhouse business.

This year is particularly difficult because Easter is 21 days later than last year. It is not a simple matter of starting the plants 21 days later. The differences in growing conditions in March and April may require some tulips to start 41 days later to get them ready for an Easter that's 21 days later.

Seventeen years of experience predict that Jerry will time things just right. He had started his first greenhouse in a cornfield in 1973. That February, the piece of land was a barren field; in March a 26x100 foot greenhouse was erected. He bought 7,000 cuttings of geraniums, and by June 1 his entire stock of potted geranium plants was sold to a wholesale garden center buyer.

All those nights of worrying, and early mornings up early worrying, were suddenly replaced with an empty building and time on his hands. What was he to do? He started building his second greenhouse in September and filled it with poinsettias for Christmas.

Nickeson Greenhouses now comprises 28,000 square feet in eight greenhouses, with construction of number 9 just begun.

Jerry jokingly admits, "If I could have known at the beginning what I knew five years later, I probably never would have begun. I simply would have been overwhelmed."

Yet 17 years later, not for sentimental reasons, geranium propagation remains a solid foundation of the Nickeson greenhouse business. Geranium propagation is now an 8-month project, beginning with 500 new stock cuttings from Oglevee in Connelsville. Oglevee supplies greenhouses across the country with plants developed in cooperation with Penn State and other universities. The plants are free from the bacterial wilt that nearly decimated the geranium industry.

From these 500 stock cuttings, Nickeson produces over 100,000 rooted plants. Nickeson learned his trade at Penn State's Horticulture Department and by working for over two years for the greenhouses of Marcus Sensinger in Lehighton. Working from the original 500 cuttings, rooted in movable propagation benches warmed by coils of Biotherm polyethylene plastic that circulates warm water through the soil, Nickeson maintains 74° soil temperature and an air temperature that may drop to 60° without harming the plants. By June 1, the multiplication from cuttings is up to 5 to 1. By December 1, the stock geranium count is up to 19,000 plus the original 500. From these they take cuttings, and in January, February, and March they start shipping the small, rooted plants to other greenhouses to pot and sell as finished plants for Memorial Day.

At the peak shipping season, mid-March, the turnaround from cutting to rooted plant is two weeks, with each bench refilled as soon as it is emptied and the soil pasteurized. Nickeson ships 10,000-12,000 plants per week during this height of production.

The two techniques of the Biotherm soil warming, and the soil pasteurization between plantings save Nickeson hundreds of dollars in energy cost and lost plants. The energy saved by backing off the air temperature, a harmless practice if the roots are kept warm and cozy, is tremendous. The Biotherm practice actually saves energy and allows Nickeson to speed up plant growth.

Soil pasteurization involves heating the soil to 180° for 30 minutes to kill the harmful bacteria. The steam process takes about 2.5 hours to force the coldest spot in the soil to the necessary 180° for the full 30 minutes. Before steam pasteurization, it was common to lose 50 percent of the cuttings; now, Nickeson loses less than 1 percent of his rootings.

Studying industry advances, combined with old-fashioned ingenuity are the major causes for Nickeson's success. In his words, the adage "the Greenhouse business is selling space," motivates every aspect of his business. He installed rolling benches so that for the 6x12 feet, 2,000-pound benches he needed only one aisle instead of one for each bench. His large greenhouses now hold 15 benches instead of 13, resulting in a 20% increase in capacity with no additional construction, energy, or property tax costs.

In his germination room, the space-saving technique was his own devising. All the bedding plants at Nickeson begin in this room. The 20'x20' space contains 1,000 square feet of growing area, with 32 square foot shelves stacked five high. The stacking allows the warm-loving plants to grow near the ceiling, the cool loving plants to grow near the floor, to take advantage of the natural air stratification. The room is temperature controlled, with the room also controlling the heat in Jerry's office next door. He is quick to apologize to visitors for the coolness of his office by stating, "The building is controlled by the plants next door -- so I'm second class here."

From mid-January to mid-May, the bedding plants, one-half of which will be sold wholesale and one-half retail at the property, are started from seed. With some plants, that is more difficult than others. The popular wax begonia plants begin from seeds that number over 1 million per ounce. Nickeson used to mix the seeds with Knox gelatin so he could plant them.

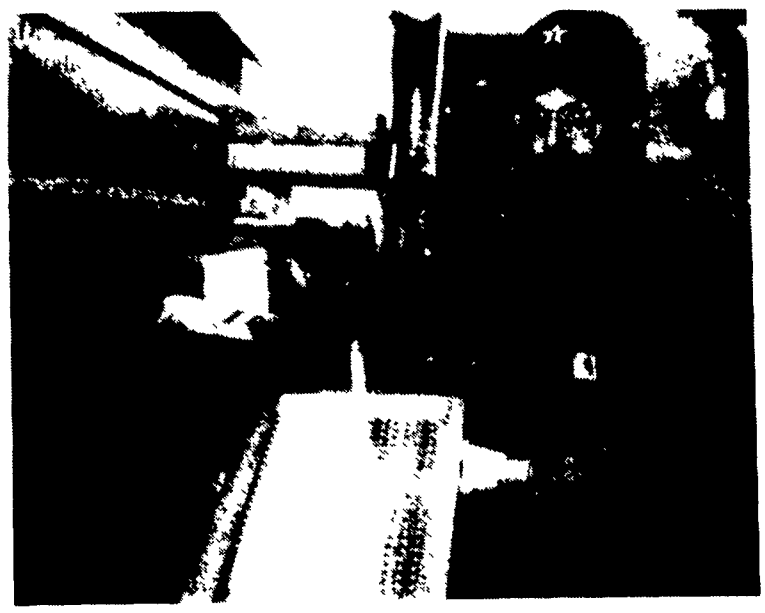
The one-inch plug trays that Nickeson now uses so that he can transplant the wax begonias without disturbing the roots require a greater precision -- one seed to each plug. Nickeson could have bought a $10,000 Hamilton seeder. Instead, he designed his own machine -- the cost, $4. Using a drill press, he drilled 400 wells exactly the diameter of a seed in a metal plate. Then he drilled a catch basin around each well. Four hundred seeds on the plate equals 400 seeds in the flat. Just right.

The technique is simple. You spread 2,000 pelletized seeds over the plate, rock it gently, and the excess seeds will roll into the tray at the edge of the planting box. Place the box over the flat. Slide the plate so the wells are open, and the seeds drop right into place on the flat.

Simple. When you know how. And know-how is the key to the business. When they first started using the plug flats at Nickeson's, they were having very little success. Then they learned that the simple act of scooping the soil mix into the middle of the flat, then spreading it to the sides, was compressing the soil so that the young roots had no airspace. Now, they fill the flats carefully, and water the soil mix before they fill the trays, not after. With the small plugs, the water drainage can be a serious problem, literally drowning the roots. Nickeson resolved the problem by placing each plug tray on top of a regular tray. This increases the column of water, and allows the water to drain down into the bottom flat.

Years of accumulated know-how such as when to pull the first daffodil and crocus pot from the freezer to check the number of days to flowering, how to circulate 20,000 cubic feet of air per minute through the greenhouse to cool the air when the sun is shining steadily, where to position the cold frames with circulating water coils and roll-down plastic to produce some of the sturdiest garden plants in the region, why pay for peak electric use in the germination room when you can turn on the cool white lights on off-peak hours and also take advantage of the cool night air to lower the temperature in mid-May; ensure that Nickeson Greenhouses will continue to produce. The three full-time, year-round employees and the 10-12 full-time peak-season employees are thankful that the brave, foolish, naive young Jerry Nickeson had the guts and ingenuity to chance it 17 years ago.

Rows of Cineraria and Calceolaris for a local flower show are being grown.



Nickeson built this seeding machine for $4. He says 8 to 10 stacks of lights in germination room contains 1,000 square feet of bench space.