

Shipping and Packaging of Perishable Propagation Material

Larry C. Newton

Classic Groundcovers, Inc., 405 Belmont Road, Athens, Georgia 30605 U.S.A.

INTRODUCTION

Since Classic's beginning, the idea of "Sudden Service" has meant there would be an emphasis on customer service. This has led to a program of shipping plants as quickly and efficiently as possible and still having them arrive in good condition.

Classic Groundcovers, Inc. is a 36-year-old nursery that propagates and grows groundcovers in 6-cm (2¼-inch) and 10-cm (4-inch) pots as well as bare-root material. We ship nationwide and do some overseas deliveries. We also propagate over 4,000,000 cuttings per year and can ship 1000 packages per day, averaging 2500 packages per week.

We use waxed chicken boxes from the poultry industry for our shipping. Wax is important because we pull orders daily in all weather and the waxed boxes hold up when wet. Each box holds 24 10-cm (4-inch) pots or 70 6-cm (2¼-inch) pots and is packed with newspaper on the sides and top to prevent shifting. We also sell bare-root material, which is bundled, the roots are dipped in a gel polymer solution. Sphagnum moss is put in the bottom of the boxes, and paper is used to fill any gaps.

SHIPPING AND PACKING

Shipping with UPS and FedEx. Years ago, Greyhound Bus was the most commonly used system of shipping, along with taking packages to the local UPS outlet. We then started preparing packages for shipment at our facility using Pitney Bowes equipment. In 1992, we were shipping enough volume that UPS set up a computer weighing system in our shipping shed, allowing us to totally prepare packages for UPS shipment. About 3½-years ago, we looked into setting up a similar FedEx system alongside our UPS system because they offer 2-day delivery to the Northeast, which is a 3-day delivery zone for UPS. The timing of adding this additional system was very fortunate, because UPS went on strike that summer and we relied totally on FedEx to make our deliveries. Since then we have considered it necessary to have both of these systems on line.

Processing an Order for Shipment. A salesperson will take an order on the phone and type in all pertinent information on the computer. They will then print an acknowledgment, which has three copies and labels to be attached to the boxes. Our office is separated from our shipping facility, so the shipping manager will come to the office several times a day to collect orders. When she returns to the shipping shed, the copies are separated, one for the incoming line that goes on the box to the customer and the other to the computer. All orders are written on a master pull chart. The shipping crews come to the shed, get their orders and enough boxes and paper, then go out to the nursery to assemble the order. Finding the plants in the greenhouse is facilitated by an inventory of plants contained in each greenhouse. This is on a chart attached to each greenhouse door. The items in red are still in production and the items in green list all plants available to be shipped. All but one of the crew members will take their boxes and paper and begin pulling plants for

orders. The other crewmember stays with the trailer and makes lids for the boxes. On each box, he will write the plant name, the size 10 cm (4 inch) or 6 cm (2¼ inch) or bare root, and the quantity in each box. When they finish packing the boxes they return to the trailer, put on the appropriate lids and return to the shipping shed. Here they unload the boxes on a roller rack. One for UPS and one for FedEx. As the boxes slide down the roller rack, the shipping crew reads the contents written on the boxes and matches them up with the proper acknowledgment. We have three baskets of acknowledgments, one for orders containing only 6-cm (2¼-inch) pots — one containing orders for 10-cm (4-inch) pots and the middle basket contains orders with mixed sizes. There is a separate station for processing bare-root plants.

Handling Bare-Root Plants. Bare-root plants are bundled in groups of 50 and held together with either rubber bands or twine. They are carried to a dip tank in the shipping shed containing a gel polymer material. Here the roots are dipped in the gel slurry and placed on a wire rack to drain off excess water. They are then packed in the same chicken boxes we use to ship our containerized plants in. The bare-root boxes will have sphagnum moss in the bottom of the box to keep roots moist during shipping.

Orders to California, Washington, Oregon, Arizona, Hawaii, and overseas must be bare-root plants. These locations will not accept our pine-bark soil. All roots must be hand-washed to remove any soil particles and inspected by USDA inspectors before shipment. A phytosanitary certificate as well as all appropriate paperwork from an independent freight forwarder must accompany all orders going overseas. These orders are usually taken to the Atlanta airport for direct airfreight shipment. All others are direct shipped by UPS or FedEx. These boxes are moved to the appropriate roller rack with the correct address label attached to each box.

Processing of Boxes Containing Plants for Shipment. A packing slip with an acknowledgment, a nursery stamp, and a fire-ant-free stamp are put on the last box for each order. The boxes are then lifted to a strapping machine that straps the lids firmly in place. They are then lifted to a roller rack that slides these boxes to a computer station. When they reach the computer station our shipper will read the address label on the lid and find the appropriate acknowledgment in an accordion folder. They move the box to a scale where the box is weighed, then enter the appropriate information, typically phone number and zip code, on the computer screen and then push a button to receive two labels. One is the UPS or FedEx Bar Code box label, the other is a smaller label which is attached to each acknowledgment for each package sent. This label contains freight amounts for adding to COD labels and tracking numbers so each package can be tracked in case of a lost shipment. This is where all specialty stickers will be attached to the box such as CODs, next day air, next day Saturday, 2nd day, etc.

When completed the package is moved to a roller rack which returns the package to the front of the building where we have a large sliding door. UPS parks a trailer in this entrance every morning and we fill it during the day. It will hold about 300 boxes. When it is filled, we stack the remaining packages next to the door and one UPS driver will have to load these in the truck he brings to pull the trailer. UPS comes in the late afternoon and early evening, picks up the trailer, and delivers all the packages to the UPS hub in Athens where they are dispatched overnight. At the end of our shipping day we print the daily records, one is for our office and the driver

takes the other. Both UPS and FedEx computers are connected online with a modem so they have constant knowledge of our activity at their central office.

The next morning all acknowledgments from the previous day are taken to accounts receivable where the orders are double-checked for errors or backorders. The total freight bill is also totaled at this time and the invoices are prepared and sent to the customers. We also have software that allows us to track packages. It can tell you where packages were scanned and also proof of delivery.

A Tour of Your National Arboretum and Its Latest Cultivar Releases

Margaret R. Pooler

USDA-ARS-U.S. National Arboretum, 3501 New York Ave., NE, Washington, DC 20002 U.S.A.

THE U.S. NATIONAL ARBORETUM

The U.S. National Arboretum, established by an Act of Congress in 1927, is a research facility and living museum in northeast Washington, DC. Administered by the U.S. Department of Agriculture, the mission of the Arboretum is to conduct research, provide education, and conserve and display trees, shrubs, flowers, and other plants to enhance the environment. The Arboretum is a unique federal institution linked by partnerships to many governmental agencies, the scientific community, other arboreta and botanic gardens, and various private-sector groups. As a national center for public education, the Arboretum welcomes over 600,000 visitors annually to a stimulating and aesthetically pleasing environment.

Located on 185 ha (446 acres), the National Arboretum has plant collections, historic sites, and special attractions that appeal to visitors year-round. These attractions include separate landscaped collections of Asian plants, azaleas, conifers, dogwoods, hollies and magnolias, boxwood, native plants, perennials, and state trees. Other attractions include aquatic plants, the Capitol Columns, Friendship Garden, National Herb Garden, National Bonsai and Penjing Museum, National Herbarium, and the Washington Youth Garden.

Gardens, Education, and Research. The approximately 110 full-time staff and over 200 volunteers at the National Arboretum work primarily in either the Gardens Unit, the Education Unit, or the Research Unit. The Gardens Unit is responsible for maintaining most of the display collections and attractions mentioned above. The Education Unit oversees tours for groups, special exhibits, docent programs, discovery stations, interpretive signs, the Washington Youth Garden, and media presentations. The Research Unit, with labs in Beltsville, MD, Glenn Dale, MD, McMinnville, TN, and Washington, DC, conducts wide-ranging basic and applied research on trees, shrubs, and floral plants in areas as diverse as genetics, pathology, taxonomy, entomology, and physiology. Overall objectives are to develop new technologies for the floral and nursery industries, breed new plants with superior characteristics, and develop new methods of disease detection and control.