

A MODERN TREE PACKAGING FACILITY

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Many of our tree packaging operations resemble organized confusion more than an orderly business operation.

The nursery business in the Northeastern Area is a big business. 1967 expenditures were in excess of 3 million dollars for the production and distribution of tree seedlings.

The production process is distinct and separate and though it effects packaging and distribution it will not be considered here.

Packaging and distribution including lifting, may contribute up to one-half the cost of the nursery operation.

There are two basic technique in use in making up tree orders, The first is make up of standard size packages by species, age class and seed source for shipment from a stock pile of packaged trees. The second method is packaging on an individual order basis.

The first technique pre-supposes that order limitations are imposed on the buyer requiring a larger minimum size order say 250 to 1000 per species or other sub-division.

The second technique reflects less rigid restrictions an order size , accepting small orders down to 100 or below per species and perhaps a lower limit on the composite order size.

The acceptance of small individual species orders, within a larger composite order limit may be policy for a number of reasons most of which the nursery manager has no control over.

I will describe here one method of order handling involving the small size order and individual order handling.

Basically this is the method in use at the Indianhead, Saskatchewan Nursery: The line items or tree species shipped include 7 deciduous species and 3 conifers. The bulk of the program is deciduous species totaling 6.7MM out of a total 9.7MM shipped in 1967.

Each tree order is handled on an individual basis , Made up packaged, weighed labeled and shipped by commercial transportation on an individual order basis It occurred to me that the package make-up and shipping operation may contain ideas applicable to some Northeastern Area nursery packaging operations:

The deciduous stock shipped is fall lifted, counted and tied in bundles of 25 for overwinter storage, In the spring the trees are moved in pallet boxes into the packaging building by forklift.

Order forms are made up in the winter along with an appropriate address tag and maintained in proper sequence. Orders are flashed on a screen by a pair of opaque projectors. Make-up men select the proper quantity and species of trees from the bin rack, place the address tag, from a hook holding the address tags in proper sequence to correspond to the order being projected, on top of the tree order and signal the projector operator for another order.

The trees and tag now represent a bundle or bale and move along the conveyor to a twin tying machine where the order is compressed hydraulically and tied.

The trees then move through the root dip tank containing a captan solution and on to the wrapping conveyor A worker there selects a square of burlap and places a supply of moss upon it, the tree bundle is placed upon it.

The bundle is removed at a wrap table and the moss and trees arranged and wrapped with burlap. The bundle is returned to the conveyor where it proceeds to the banding device which is used to tie the bundles or bales.

Tied bundles then move by conveyor across a scales where the weight is taken and recorded on the bundle. The bundle then proceeds into a waiting van for commercial shipment or may be moved to storage for delayed shipment.

It is quite obvious that any system requiring individual order handling requires more expense than bulk handling „ In many cases nurseries handle stock both ways -- standard pack and individual orders „ Most nurserymen indicate delay and more expense in handling individual or custom orders.

This packaging layout uses a staff of 36. They averaged 102,870 deciduous trees per hour or 2,858 trees per man hour They processed 6,450 orders for deciduous trees involving 6,500,000 trees and 4,629 orders for conifers. Average order for deciduous was 1000, average for conifers 62. Average bale size in number of trees deciduous 350, conifers 32. An average order of deciduous stock contained 2.7 bales, conifers. 1.4 bales.

Fortunately few of you have this volume of business in small orders „ It does show that organization along with some mechanization can produce efficiency in order filling and handling.

Historically, productivity per man has been increased by assembly line methods where each individual performs a limited number of repetitive operations contributing towards the end product., This packing line represents an adaption of these techniques.

A very strong attribute of this adaptation of the assembly line approach is its versatility. The physical plant consists of a large open space. Equipment can be arranged in any design for modifications which may occur at a later date.

The use of fork lifts for handling pallet bins and stock lends speed and labor savings to stock movement.

The scale of this system is probably not warranted for your nurseries but perhaps a small scale version of this approach may strike your fancy as the answer to the small mixed order problem.

The advent of genetically improved seed from seed orchards will warrant closer attention to seed source and increase the number of line items in your inventory.

This will result in closer attention to packaging to insure return or direction of this material to more closely defined customer areas.

