

Computation

The corporation's IBM service prepared a program for computation of the inventory that basically replaced the hand computation and was according to the following formulas previously used:

For transplants:

$$\text{Number of trees} = \text{number of bed feet} \times \frac{\text{sum of sample counts}}{2 \times \text{number plots}}$$

For seedlings:

$$\text{Number of trees in bed} = \text{bed length} \times \frac{\text{sum of trees all plots in bed}}{4 \times \text{number of plots in bed}}$$

A "Printout" of all cards is initially prepared and returned to the nursery for checking prior to computation. The "Printout" is a printed record of each card, with the master card listed first. This master card is spotted in the list by having zero listings for Total Trees and Usable Trees.

Following checking of the "Printout," the data is computed according to the instructions maintained by the IBM service. A report showing the computed number of trees for each block, species, age class, and source is returned to the nursery. There is an additional listing of the numbers of trees available at the upper and lower limits of 95-percent confidence levels. This statistical computation is a definite "plus" factor for IBM computation since the time-consuming computation would seldom be undertaken for all trees in a nursery. The report prepared by the corporation's IBM service is used as a basis for the annual report of inventory for the nursery.

The detailed report from the IBM service is further used during the shipping season because the number of trees per foot of bed are shown for every block, species, age class, and source. An order for 25,000 trees of a certain species and age is filled by dividing 25,000 by the number of trees per bedfoot; e.g., $25,000 \div 21.8 \text{ trees/foot} = 1,147 \text{ feet}$. The crew chief of the lifting crew is then instructed to lift 1,150 feet of this species. This lifting procedure has resulted in greater accuracy, particularly with large samples of trees.

Literature Cited

- (1) Mullin, R. E., Morrison, L. M., and Schweitzer, T. T.
1955. Inventory of nursery stock. Ontario Dept. of Lands and Forests. Res. Rpt. 33.