Saratoga Nursery Tour

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The group toured the nursery seedbed areas and inspected the equipment used. A brief summary of the operations follows:

Seedbed Preparation

Rotary tillage, rolling, slight bed forming.

Fumigation

All species, all beds with either 75 gal/A Vapam (4 lb active/gal) as a drench in 3000 gal water/A or 100 lb Trizone/A under 2 mil poly tarp. Beds are raked to remove fumigants. Check removal by smell or bare root tomato plants planted in soil.

Sowing

With specially designed Brillion seeder to apply phosphorus below and to one side of seeder. Eight drills 6" apart.

Sowing Mulch

Shaded or fall sown beds are covered with lathracks on the ground. Spring beds are sprayed with Soil Gard at 40 gal in 100 gal water per acre to hold corrugated seedbed surface against erosion. Tests on wood fiber mulch sprayed on beds at 1000 lb/A in 3000 gal/A water show good results. Hill use in Fall 1967.

Irrigation

40' X 50' solid set sprinkler irrigation using 2" sprinkler lines and 5/32" single nozzle sprinklers. Part circle sprinklers next to hedges and roads. Moisture level determined by AC resistance

of gypsum blocks in at least two locations in each block. Water application timed according to age of stock.

Weed Control

Fumigation before sowing, mineral spitits at 15 - 18 gal/A. Simazine at 1 lb AIA, hand weeding. Most troublesome weeds are those resistant to mineral spirits (ragweed, pigweed, sorrel, clover, groundsel, those resistant to simazine (annual grasses), and those resistant to fumigation (nutsedge). Pipelines and headlands - amazine at 5 lb AIA. Annual trials of new herbicides and combinations of herbicides are conducted to find better herbicides.

Pest Control

All seed treated for protection against birds and rodents with anthraquinone and endrin. Basic copper and captan are used on pine seedlings for fungus control. Sevin is used for insects and Kelthane or Tedion for mites. In years of a large population of mice, endrin is sprayed on all seedbeds and borders.

Temperature Control

4' X 12' lath (50% shade) frames on folding legs on spruce only. Polypropylene (30% shade) cloth in half or full bed lengths on wire and wood wicket supports on spruce only. Water has replaced shade on all but spruce. Expect continued trials to eliminate all shading in about 1969.

Water Control

Paths are subsoiled for water penetration to prevent heavy run-off in thunder storms.

Wind Control

White cedar hedges parallel to seedbeds, to prevent wind erosion, drying, sand blasting of seedling, and weed seed blow-in.

Fertilizer

Phosphorus applied only once in rotation of seeding with special seeder which places 150 lb K_2O/A below and at one side of seed.

Rising 1-0 starting at emergence + 30 days, get 10 lb nitrogen/A + 10 lb K_2O/A at 7 day intervals to end of September.

Rising 2-0 starting about second week in May and ending last of September get same as 1-0. Nitrogen is supplied as Urea or Ammonium Nitrate, K as Potassium Chloride.

Rising 3-0, unless too small, get only K or a light application of N.P.K.

Soil and tissue are analyzed in laboratory to determine best rates and forms for fertilizers. Results so far inconclusive, trials continue.

Inventory

Based on variability. See inventory method Barton & Clements, TPN #46. Shipping stock ± 10%, probability 90%; 2-0 stock (non-shipping) ± 15%, probability 90%; 1-0 stock (non-shipping) ± 20%, probability 90%. Inventory frame is Wilson frame (see TPN #38 October 1959) which can be slid in from side of bed. It is 6" wide (2 square feet) for shipping stock, 1 1/2" wide (1/2 square ft) for non-shipping stock.

Lifting

Mannsaver (Mann Machine Works, West Monroe, La.) (Sowash Vallonia design) power agitated or straight lifter blade in case of frost spots.

Pulling

Hand pulling and one of the following depending on species and grade:

1. Count and tie in bundles of 50 with nurserymen's jute.
2. No count and tie in handful Is for count by weight.
3. No count and no tie for grading tables.

Seedlings are placed in 4 ft X 4 ft X 2 ft high pallet bins, 8 - 12M per bin and loaded 12 bins to a truck with fork lift. Transported to shipping areas and unloaded with fork lift.

Counting and Grading

Count-by-weight is used on species which are uniform size and low cull. Higher cull stock goes to grading belt for grading and counting. 500 seedlings are jelly-roll packed with excelsior waste for moisture. Asphalt laminated reinforced Kraft paper is used for wrap. Bundles are hand tied with binder twine and rubber stamped to show species, seedlot and date.

Shipping

By express, truck and planter pick-up at the nursery. Many SCS districts pick up bulk in bundles of 500 for distribution at their county headquarters.

Laboratory

This laboratory is equipped to test seed, soil, and plant tissue. In

addition, the laboratory staff test packaging materials and methods, herbicides, fertilizers, and assist in the solution of many other technical problems that arise. This laboratory is operated on the assumption that many nursery problems are peculiar to this nursery and are best solved by those who are closest to the problem. The laboratory also permits studies of various cultural methods and their effects on seedlings. There are problems, however, that require so much time, equipment or specialized knowledge that they can't be solved here. Other state agencies and the Colleges of Agriculture and Forestry are consulted for solutions to these special problems.