HOW WE PRODUCE GROUND COVERS

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We mainly produce forms of the following plants: *Pachysandra terminalis, Hedera helix, Vinca minor, Euonymus fortunei* and *Ajuga reptans*. Pachysandra constitutes more than half our annual production. All production is container-grown and container-propagated. Soil ingredients are mixed and placed in flats which are wetted and summer cuttings inserted. The flats of cuttings are misted for 6 weeks, hardened off and sold in the fall or stored for spring sale.

All plants originate as cuttings (or rootless offsets in the case of Ajuga). All flats are 14 x 18 inches and may hold 30 3-inch square plastic pots.

CUTTINGS

Cuttings come from cooperative people in nearby communities in the case of pachysandra, or from my own beds for the other species. The crew uses small anvil pruners to take all cuttings. Pachysandra is cut just above the second whorl of leaves from the tip. This results in a good looking stock bed as well as good cuttings. We throw out the deformed and small cuttings when sticking.

Myrtle roots at the nodes so we take the cutting ¾ inch below the node. There may be 3 to 5 nodes on the cutting. The cutting is stuck so the bottom node is just below the soil level. This spreads the young roots through the soil rather than out the drainage hole. We ice all myrtle cuttings if we plan to hold them more than an hour. Other cuttings will recover from wilting when placed under mist but a wilted myrtle cutting is a dead myrtle cutting.

Ajuga is dug, the roots cut off, divided and stuck just like a cutting. Hedera and euonymus are cut above the 4th to 6th node from the tip (3 to 5 node cutting). Vinca cuttings are taken in June, pachysandra in July and other varieties worked in during the same period or in August.

FLAT FILLER

Filled flats are prepared on a homemade flat filler. Sand, peat, ground limestone and superphosphate go in the side door of the barrel. A 50:50 mix by volume of sand and peat with 5 lb. superphosphate per yard and appropriate amounts of lime are used. The sand is local washed sand and the peat is sphagnum peat from Maine. The barrel is rotated by a ¾ hp. motor for about 10 min.

Meanwhile, the operator is working with the other barrel. When the operator needs soil he opens the head of the barrel by means of crank linkage. Sand-peat mix in the rotating barrel slowly flows through the 1 inch gap and onto a 4 inch open auger. The auger moves the soil to and across a turn-table. Flats are placed in cut-away compartments in the turn table and the table turned by hand to fill them. Final touches are made using a 2 by 8 inch piece of ¼ inch plywood. Flats may be filled with 3 inch square pots already inserted. With all the lifting and shoveling I wouldn't recommend this set up for more than 10,000 flats of annual production.

The filled flats are placed side by side on the sticking table and wetted down. For solid flats of pachysandra a dibble board with 110 nails is used. All other stock is stuck directly in 3 inch pots without dibbling. The cuttings are dumped on the prepared table and stuck by hand. Hedera cuttings are stuck 2 per pot, myrtle-4 per pot and others 1 per pot.

MIST

After sticking, all flats are placed in mist areas. Vinca and pachysandra mist areas are under hardwood shade, while ajuga, euonymus and hedera do well in the sun. All mist areas have 1/32 inch orifice nozzles on 4 ft centers; 12 to 15 sec/3 min is a normal cycle for freshly stuck cuttings. This is gradually reduced until 5 sec/3 min is used 6 weeks after sticking. After this the stock is hand watered as required.

GROWING

Each week during spring and summer the entire nursery is fertilized with 20-20-20 applied through a Hozon proportioner. The diluted rate is 0.2 lb./gal 20-20-20 with 0.02 lb./gal chelated iron added. The iron appears to help prevent black stem in vinca. Care must be used to prevent burning. The worker uses a fan shaped water spreader and moves smoothly to just cover the foliage — no soaking. If the sun is out we follow with a little water to wash the foliage.

A simple 3 gal compressed air sprayer is used for disease and insect control. Benlate is used for *Botrytis* on ajuga; otherwise at about 50°F the *Botrytis* grows better than the ajuga. Malathion is used for scale in pachysandra stockbeds, or as a dip for cuttings, if necessary. Occasionally metaldehyde bait or spray is used for slugs and snails. Appropriate herbicides are used for weed control in growing areas.

At 8 to 12 weeks most cuttings are ready for sale. All pot-grown material is sorted before sale. Most cuttings are propagated in June, July and August so considerable stock must be stored for spring.

STORAGE

Most pachysandra is stored on shelves in a cellar. Lights are used only when working in the cellar. The shelves are spaced to allow 1 to 1½ inches between the shelf and pachysandra below it. This allows air circulation and a space for squirting water. Water is applied about 3 times during the winter. Pachysandra goes into storage when the ground begins to freeze. Fans blow air in at night and during cold weather to maintain the stock just above freezing. Pachysandra should be removed from the cellar before the weather warms so much that 40°F or less cannot be maintained.

With species other than pachysandra, inflated plastic film houses are used. Shelves are spaced 2 ft up and down for light distribution. Temperatures are 37°F nights and 50°F days. As spring approaches, warmer temperatures are used to encourage spring growth. In winter, mist lines are tied to the rafters for storage. In summer the lines are hung on nylon twine and the house is stripped to make a mist area.

SUMMARY

Ground cover plants that don't fit this sytem simply aren't grown. After propagation the stock is either sold or over-wintered for spring sales. This presentation contains no new ideas. Ideas from many sources, including this Society, have been related in a new way.

MODERATOR CUNNINGHAM: I wish to thank all of the speakers on this morning's program We will adjourn for lunch and meet back here in this room immediately afterwards.

Friday Afternoon, December 6, 1974

LARRY CARVILLE: For the first presentation this afternoon we have the recipient of the student award and he's going to present his paper on "Comparative Effects of Fresh and Compacted Hardwood Bark Extracts on Plant Growth". At this time, I present to you Mr. Steven Still of the University of Illinois.