

Bareroot Seedling Culture Without Fumigation: Experience at Armintrout's Nursery

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At Armintrout's Nursery, we had a long history of using methyl bromide for soil fumigation. In the 1950's we fumigated by hand, using large 4 mil sheets of plastic and 100 pound cylinders of methyl bromide which were placed on scales and the desired weight was released. Later, these plastic tarps were "flipped", and the process was repeated on the adjacent ground. By the time I became involved, the only difference was that we used individual small cans of gas. In the 1970's, commercial applicators using the continuous tarp method, did our fumigation. Then in the 1980's, we bought the equipment, were trained and certified, and again, did our own fumigation.

I was never totally satisfied with fumigation. Damping-off

disease could still be a problem. Certain weeds were actually stratified by the fumigation and germinated with a vengeance when present in the soil. Weed seeds either blew into the seedbeds, or were carried in with the irrigation water. There seemed to be a nutrient tie-up, especially with spruce. The cost of fumigation was a concern, as was the extra work and the disposal of the plastic.

I never considered raising seedlings without fumigation until after the herbicide Goal became a part of our routine. At first, we only experimented with Goal, then as our confidence in it grew, we expanded its use to the entire seeding. Then we experimented with growing seedlings without fumigation. Again, we started small, with the trees that

we thought would have the best chance, which was Scotch pine. We were successful, which led us to keep expanding the ground that we didn't fumigate. Eventually, we stopped fumigating entirely, and sowed over 20 acres of conifers in the spring, without fumigation.

We only sow our seedbeds on ground that is relatively clean. Land that has been bare fallowed works very well. We use a program of preventative fungicide spraying and the herbicide Goal. All I can say is that it works for us. My advice to anyone in making any changes in their growing routine, is to start small and experiment, then expand on that.

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