

**PRODUCTION SYSTEM FOR JUNIPERUS HORIZONTALIS
CULTIVARS IN THE SOUTH —
CUTTINGS TO FIVE GALLON SIZE**

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Horizontal juniper production is handled by two departments at Wight Nurseries, Inc.: Propagation and Conifer Container Growing. All of our propagation is done by a crew who spends its entire time in propagation. We have attempted to divide our system into as many simple jobs as possible and through various means determine a piece-rate basis for paying for each job. For instance, we have a piece-rate price for filling peat pots; for sticking juniper cuttings three per peat pot; for sticking juniper cuttings one per peat pot. We also have piece-rate prices per employee for filling 1-gal cans; for canning peat pots to 1-gal cans; for shifting 1-gal cans to 2-gal; or for shifting 1-gal cans to 3-gal.

We have found that the people who are paid on a production basis are the most productive people on the nursery. They make the most money and they are the happiest and best employees, while still giving us the lowest unit cost. Now that combination is hard to beat!

All of you who have heard me speak before know we have two key words associated with our production of plants. One is UNIFORMITY and the other is PREVENTION. UNIFORMITY everywhere, the size of the cutting, the mix, the container, the watering system and many other things. PREVENTION means the prevention of disease, insects, weeds and all potential problems. I mentioned these words many years ago and I continue to think they are the two most important in the scheme of production.

We will assume that an intelligent determination has been made of the quantities of any given cultivar of juniper or other plants that are to be produced. With this assumption in mind we start with the taking of juniper cuttings from a clean, sanitary mother block. That's clean as far as disease, weeds, insects and other problems are concerned — that's PREVENTION!

The junipers that are particularly prostrate are grown in large cans with the bottoms out planted in the field to keep the weeping limbs out of the dirt. We also take a great many cuttings from the 1-, 2- and 3-gal sizes and this serves a two-fold purpose of pruning the plants, plus the juvenility feature here that is very desirable in rooting as you all know.

Our next step is to take a uniform cutting from these clean plants and put it in a wire basket. As a preventative, we dip the

cuttings in a mix containing Benlate and other things to clean them up. We make our own rooting hormones using IBA, alcohol and water. Strengths are varied according to past history of the cultivar and our rooting records.

The mix we use to root in is mixed on concrete slabs and the ingredients are clean. They are not all sterilized, but they are clean. The sand is kiln-dried and uniformly graded. The pine bark is screened for uniform particle size. The shale, a by-product of the steel industry, is sterile and uniform. These are mixed and put into new peat pots in flats, both on a piece-rate basis, as well as the piece-rate basis being used for sticking of the cuttings themselves.

We use well water exclusively in propagation. Much of our water for the nursery is from lakes, but we determined long ago that for propagation, the water needs to be of excellent quality and clean.

In conifer propagation we use ground beds for some cultivars which gives us a bare root liner; however, most every prostrate juniper is grown in jiffy pots, in a flat and in outdoor beds. The cuttings are taken in January and February.

Once the liners are ready and we believe this is a relatively short time compared to other nurseries, we plant into gallon cans, which are in the field, on a piece-rate basis. Even if we use our canning machines, we have incentive programs to keep production up. Most of our canning is not done with machines.

These plants are placed in the field by canning crews as part of the piece rate planting procedure. Our peat pot liners are kept in the flats only about six months from the unrooted cutting stage to planting. I know many of you use much larger liners but we believe that ours should be canned before the peat pots grow into each other. Because of the variations in speed of rooting, we can some cultivars in June but some have to wait a little longer.

We place these junipers into areas where the roads, ditches and surrounding areas are kept clean. We believe prevention of disease and insects and weeds is necessary and those of you who saw the nursery will remember that we keep the surrounding areas as clean as possible.

Fertilization is done at each irrigation using Milton Roy injection equipment. Soil tests every month help us determine quantities of fertilizer to inject into irrigation water.

We shear the plants as many times as is necessary to make a good plant and normally no cold protection is required for juniper cultivars in Cairo, Ga. We do use cold protection for our broad-leaved plants which consists of jamming them together with a 6 inch Kraft paper wrapped around the outer edges to cut down on

the effects of the wind and the chill factor. Historically, we don't get much below 17° or 18° although 3°F was recorded in 1962. At that time all *Ilex* and many other broadleaf cultivars were killed because they sat on 1 ft centers in the field.

We pre-label on a piece-rate basis during slow periods so that when the shipping season comes we will have that done.

Shifting up from 1-gal to 2-or-3-gal is done on a piece-rate basis around a large soil mix pile. Although this method may not seem as efficient as a potting machine we have found it to be quite efficient and in our opinion it beats the canning machine.

Basically, this is how we produce the horizontal juniper.

In summary I would say:

1. Simplify your jobs so that they can be done on a piece-rate basis.
2. Have a uniform mix, container, bed size, irrigation heads, everything as uniform as possible.
3. Prevent every problem you can with preventive spray programs, herbicide programs, disease programs and you will probably have a very successful juniper production operation.

MODERATOR PARKERSON: What is your piece-rate for making 'Blue Rug' cuttings?

JOHN WRIGHT: For most operations our people work as a crew and I assure you they will purge a crew of a man who does not work. The piece-rate for making the cutting and sticking it in a peat pot is \$5 per thousand; we do stick some 3 cuttings per pot and that rate is \$15 per thousand. This is paid to the crew and each man on the crew receives the same amount.

LARRY CARVILLE: What do you shear with the sickle bar which we saw at your nursery?

JOHN WRIGHT: It is used on wax-leaf ligustrum, gardenias, *Ilex crenata* and certain *I. cornuta* hollies and some of the more upright low-growing junipers. On 'Blue Rug' and 'Bar Harbor' we still have to do it the old hard way — by hand.

LARRY CARVILLE: How do you fill the peat pots in the trays?

JOHN WRIGHT: If we had one location we would probably run them under a filling device and rake them off but we have several areas where this is done. The workers scoop them much like filling an ice cream cone and then set them in the trays. We don't much care how they do it; we've tried telling them how we think it should be done but it's much like buying a Ford truck for a foreman who wants a Chevrolet — he'll make sure it doesn't last very long. All of us here are plant lovers, but on a piece-work basis you don't need plant lovers; you need someone who is highly motivated by money.