

## TOP MOWING AT VIEWCREST NURSERIES

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**ABSTRACT:** Top mowing Douglas-fir seedlings is a continuous cultural practice at Viewcrest Nurseries, Battle Ground, WA. A flail mower operated at 2,100 rpms and 5-7 mph covers 4-5 acres per hour. Cutting height, in 2-inch increments, is determined by height wanted at season's end.

Our top mowing has been limited to Douglas-fir as other species are not so much of a problem with excess top growth.

Four good reasons why we top mow:

1. For better root-shoot ratio, and thus better survival.
2. To reduce handling and container costs.
3. To balance out growth. In other words, to hold back the faster growing ones to allow the slower growing ones to catch up.
4. To shorten the overall height of all the seedlings, as in the case of 2-0's for transplanting.

When to top mow varies at different nurseries, and at different times of the season. About July 1 we start looking for indications. If and when 20-30 percent of the new tips are 2-3 inches (5-7.5 cm) beyond other tip growth, we make our move. It is important to work on succulent growth, and before tip buds start to form. Frequency of mowing varies from 2 to 3 weeks, depending on growth.

Cutting height is determined by the ultimate height wanted at season's end. We work in increments of 2 inches (5 cm) and allow 2-4 inches (5-10 cm) of final tip growth to achieve the height wanted.

On 2-0 seedlings, one or two cuttings will usually do the job--10 inches (25 cm) and 12 inches (30 cm), and a possible 14 inches (35 cm) works best. 2-0's for transplanting are kept at 9 inches (22.5 cm) if possible. Fall plug transplants are cut at 16 inches (40 cm) and 18 inches (45 cm), and final cut of 20 inches (50 cm) if needed to obtain uniform height of 22-24 inches (55-60 cm).

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Sanitation is always a prime consideration. On top-mowed 2-0 stock, especially when doing a fairly heavy cut, we feel it necessary to spray with a good fungicide immediately after cutting. Fall-planted plugs and spring transplants haven't been sprayed so far. We may be changing our thinking on this, however.

Top mowing is done with rotary mowers, cycle mowers, and flail mowers. We settled on the latter. Its one big disadvantage is that the flails tend to knock some of the tips out of the way and not cut them. Speed seemed to be the answer here. We stumbled on a mower that could be reversed to give an upward slant cut on the tips, and as luck would have it, a "speed up" kit was available to increase the rpms. The mott mower filled the bill.

We crowded our pto speed to 2,100 rpms, 200 over the suggested pto rpm, and increased our ground speed to 5-7 mph (8-11 km/h), and covering 4-5 acres (1.6-2 ha) in an hour. We were now getting almost 100 percent of our tips cut, where at lower speeds we were losing about 30 percent, possibly due to bending action of the tractor, or other factors such as wind from the tractor fan.

One thing that is very important to keep in mind is safety, especially when working with these high rpms. As the flails are reversed, the driver will soon be aware of stings on the back of his neck. So we put a sheet metal guard ahead of the flails. Also it is important not to have anyone standing directly behind the flails, a guard would help here too.

Our try at changing the angle of the cut on the flails proved advantageous at the start, but the flails were soon back to a blunt stage, and we felt that speed was the best advantage we had. To remove and sharpen some 200 blades proved to be a monstrous task.

Earlier, we used a forward catcher to funnel the cut tips off in the paths, but our later cuttings were done with it off, the thoughts being that it tended to bend the tips over prior to cutting. We need to do some more testing here.

This season everything was about 2 weeks behind schedule, as well as having an unusually dry summer. So, our intentions for next year are to start our mowing 2-4 weeks earlier.

In our area, summers can be wet, and it is not always easy to control top growth with moisture and fertilizer retention. Thus, top mowing has become a continuous cultural practice in our nursery.