



PLANTING PART II:

Sowing the Seeds of Success



Part II: How to choose stock for your reclamation plan.

This is part two in a two-part blog series on planting for reclamation called 'Sowing the Seeds of Success.' To learn more about how nurseries produce stock and ordering timelines, check out part one.

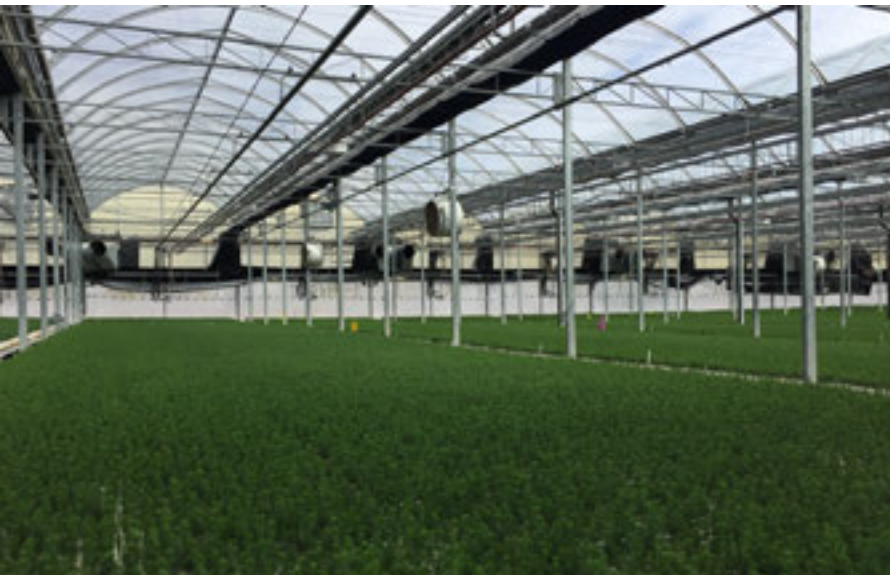
When choosing stock to plant on a reclaimed site, there are a lot of options to choose from. Do you use spruce, aspen, or something else? What about large versus small seedlings? Or maybe your reclamation plan calls for something a bit different, like planting fruiting shrubs. To dive into these considerations, the COSIA blog team sat down with experienced nursery and reclamation professionals working in Alberta. These conversations revealed some important tips for how to choose stock and key considerations for reclamation planning.

Make your planting plan alongside your site development plan

To identify which species are needed on a specific site, it helps to develop a planting plan at the same time as the planning for resource extraction. By initiating the planning at this early phase, an inventory of the species needed can be developed early and passed on to the nursery to allow time for obtaining seed, stratification, and growing.

Dan McCurdy, manager of [Bonnyville Forest Nursery](#), emphasized that ordering plants should be integrated with the early phases of a company's operations on a site.

"When [companies] are planning to do the drilling, that's when they should be planning which stock to order," McCurdy added. "The planning for the stock should be part of the whole planning for the disturbance and the closure of the disturbance."



A greenhouse at Smoky Lake Forest Nursery, one of the main nurseries that supplies reclamation stock in Alberta.

Photo courtesy of Tree Time Services.

Having a head start on restoration planning not only helps the nurseries when it comes to producing the species needed, but it also results in greater program efficiencies and improved restoration outcomes. Stretching planting windows or assigning short timelines for contract delivery can end up making restoration programs longer and less effective as the work must often be re-done later.

For McCurdy, this streamlining of the process is becoming more commonplace, but there is still room to improve.

"In the last 5-10 years, things have dramatically improved," he stated. "There are more and more people aware of the timelines, but it's still not universal yet."

Shrub species have unique requirements

Are there shrub species that will need to be re-established on your site after disturbance? If these species are a part of your reclamation plan, it may be important to plan further in advance.

“Some species have very complicated dormancy requirements, and that has to be built into the timeline,” McCurdy explained. “Every species is a little bit different.”

Some shrub species present a particular challenge because their seeds require specific, time-consuming treatments in order to germinate - some species require up to **six months** to “wake up” the seeds! Because these species are not typically used in the forestry industry, they are relatively new for nursery staff to work with. For these species, the nursery process is still being streamlined.



Species like Canada buffaloberry require long periods of time - up to six months - to prepare the seed for sowing. “We’re still very much working out what the best protocols are for these [species], which lends more uncertainty,” McCurdy commented.

Making sure that there is a plan for how to acquire the seeds for shrub species can also be critical to ensure that plants can be grown on the timelines needed.

“For some of the shrubs, the actual seed availability becomes an issue,” McCurdy commented. “If you’re making a disturbance somewhere in Alberta, you need to make sure you can access the seed of the species you need to reforest.”

In the long run, it may be more cost-efficient to delay ordering and planting until the nurseries have what is required in your site reclamation plan. Making another order later to fulfill reclamation objectives can add considerable costs.

Stock sizes: order big for reliable results

“Stock size” loosely refers to the size of container that the plant is grown in. For example, seeds can be sown in containers ranging all the way from 17 to 3200 millilitres! Within that wide range of options, how do you choose a stock type?

Jeff Renton, reclamation coordinator for [Tree Time Services](#), **emphasized that when in doubt, for reclamation it’s best to order big.**

“The larger the stock size, the more they are able to deal with competition and stressful conditions,” Renton pointed out. “In oil and gas there can be more issues; with forestry, the sites aren’t going to be compacted, there’s going to be a lot of organic matter still on the soil, so the site conditions are a bit more favourable to seedlings. In areas where it’s a bit more challenging because the soil’s been reworked [and] there might be some issues with chemistry, **having a more robust seedling is what we typically recommend for oil and gas.**”



Larger stock sizes are recommended for reclamation because the larger “plug” has already had a chance to grow and establish a robust root system, which will help it beat out the competition when it is planted onsite.

Photo courtesy of Tree Time Services.

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When you order the right stock size, you can save time and money. As Renton explained: “the most expensive thing is having to go back. We generally recommend [the larger stock size] the most because they’re going to have a higher rate of success.”

The quotes and viewpoints presented in this article represent the diverse perspectives of the professionals interviewed. COSIA does not endorse any one nursery or supplier of reclamation services.

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