

Your site is prepped and your seedlings are planted.

Now What?

You've paid good money for some of the best seedlings that money can buy and now they're in the ground. Perhaps you planted your new forest with Elite Open Pollinated (OP) seedlings. Extensive testing has shown that these seedlings can grow up to 40% faster than the seedlings that might have been used to plant the forest you just harvested. Maybe you used even higher genetic quality seedlings such as Mass Controlled Pollinated® (MCP®) or Varietals that have even greater growth potential.

So you think you can put up your feet and watch your seedlings grow into a stately forest? Not yet.

Quality seedlings require a little tender loving care to ensure that your new forest is a success and gives you the best possible return on your investment.



YEAR ONE IS CRUCIAL



Year one is crucial for pine seedlings.

Survival depends on:

1. Getting root systems rapidly established throughout the soil profile.
2. Getting terminal buds above the competing vegetation and animal browse line.
3. Giving seedlings the best chance to grow quickly (height and stem diameter) in order to be large enough to resist and withstand insects and other damaging agents such as fires, cows, deer, wind, hail, ice, snow, etc.

While it's not always possible to protect your trees against all of these agents, proper maintenance can get your pine stand off on a growth trajectory that gives it the best chance to achieve the superior genetics you paid for.

Owner's Manual

A guide to best practices for optimal results

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Weeds are the #1 enemy.

In its first year, a seedling must quickly establish a good root system so it can get the water and nutrients it needs to survive and grow. Weeds are seeking the same resources and can grow roots over 100 times faster than a newly planted seedling. If your site contained established herbs, grasses and hardwood sprouts at the time of planting, then weeds have a head start on capturing valuable resources. Clearly, in the first year, weeds represent a pine seedling's worst enemy.

Research has shown that the silvicultural treatment that gives the best and most consistent growth response is weed control. Fortunately, several herbicides are available that can be applied to control weeds in pine plantations. The best herbicide for your use will depend on the type of weed complex that is present or most likely to develop on your site. You can determine what kind of weed complex to expect by the soil type and the past use of the land.

Herbicides: Ask the professionals and choose the right method.

Your local forestry extension representative or consulting forester can help you select the best herbicide or herbicide mix, method of application and time of application for your specific site. Most herbicides can be applied directly over the top of the seedlings at the rate specified on the herbicide label. It's very important to follow label directions because **seedling damage can occur if you exceed the herbicide's label rates.**

Apply herbicides as broadcast, band or spot treatments. **Broadcast treatments** cover the complete area and are the most effective but require more chemical. If you have a site that produces weeds taller than 5-6 feet, you should consider broadcast treatment for best control.

Banded treatments are made along rows and can reduce chemical use by more than half, depending on the between-row spacing of your planted trees. The treated band along the row should be a minimum of three feet in width.

Spot treatments are made over each individual seedling and can cut chemical use even further. The diameter of a spot treatment should be a minimum of three feet.

For maximum benefit your weed control treatment should be applied before weeds begin to grow. Even if you apply herbicide in late winter or early spring you'll want to inspect the stand in late May or early June to see if a new crop of weeds is emerging.

Plants such as morning glory, sickle pod and Texas panicum germinate late, grow very rapidly and can overtake pine. The effectiveness of your early season herbicide may wear off and not control these weeds. Also, inspect for emerging pine that may come from seeds left in place after harvesting. These are harder to control because you'll have to direct a herbicide to hit the volunteer pine seedlings without getting to your newly planted seedlings' foliage.

Don't let seedlings become deer food.

Your high-quality genetic seedlings can quickly become deer food under the right conditions. While deer do not prefer pines as a food source, they will inflict heavy browse damage that can lead to mortality or severely reduced year-one growth if the population is high and the food supply low. Take special precautions if you have a high deer population or if the area you are planting has good hardwood cover surrounding it without much evergreen browse or planted winter crops. Monitor the area closely for signs of heavy browse on winter shrubs and vines near your seedlings. "Deer-away" protection treatment chemicals are available and are generally effective. However, re-application in the field may be necessary for the first two years every few months in the late winter and early spring before spring green-up.

Pales weevils can surprise you.

If the previous stand you harvested and replanted had a pine component, make sure that the harvest was done before the cutoff date, which ranges from April 1- June 1 depending on your geographical location. Stands harvested after these dates, and sites prepared in the year of harvest and planted the next winter, can have severe pales weevil problems. Chemicals exist that can be applied to the seedlings before planting (best) or after planting to protect them from pales weevils.

If you know your site may have pales weevil problems, request that your seedlings be treated at the nursery.

Vigilance is important. Even if the stand was harvested a month before the established cutoff date, inspect your seedlings periodically beginning in late January or early February to insure that no pales weevil activity is present. Look for stem girdling at the soil line, pitch along the stem and yellow or brown foliage. These are telltale signs of pales weevils.

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Pales weevils treatment at the nursery is good insurance, but if you have a heavy infestation, you can still have mortality, especially on an un-site-prepared site.

Protect the terminal bud from tip moth larvae.

It's important to promote rapid height growth in year one to get the trees above weed competition and the deer browse line. Tip moth larvae can repeatedly kill the terminal bud of young pines. If the damage frequency is significant, growth height is reduced and the quality of the lower log may be reduced due to increased branch frequency and increased forking.

Two systemic insecticides (PTM™ and CoreTect™ tablets (formerly SilvaShield™ Forestry Tablet) have been registered and shown to be effective. Unlike foliage sprays, which require perfect timing and often must be applied for each generation of tip moths, these systemics are applied once at the time of seedling planting and protect the trees for somewhere between 1-3 years. They are most effective when combined with early planting. The best window for planting and treatment is December and January. Seedlings planted and treated after February 1 may not have adequate time to absorb enough chemical to protect against the first cycle of tip moth larvae.

Early fertilization.

If the soil is low in phosphorous (P), then P fertilization should be done either before planting or in year one. Get your soil tested by a local lab and follow their recommendations. P fertilization can be applied throughout the year. Usually enough P fertilizer is applied to provide 50 to 80 lbs. elemental-P per acre (115 to 185 lbs. P₂O₅ per acre). Common P fertilizer products are diammonium phosphate or triple super phosphate.

Most soils have sufficient nitrogen for young seedling growth, especially if the existing organic matter was not scalped away and good weed control is practiced. Very deep, coarse sandy soils may be an exception, especially if scalping is applied before or during planting. However, on many soils, nitrogen deficiencies can develop as stand size increases and the demand for nitrogen increases. Dormant season foliage analysis can help diagnose when nitrogen fertilization may be needed.

Don't let your seedlings get trampled.

It's best to exclude domestic animals from your newly planted forest for the first two years. If you do allow domestic animals in your new forest, try to keep all feed troughs and mineral supplement areas outside of the newly planted area.

YEAR TWO CONSIDERATIONS

If good weed control is maintained throughout the first year, then second-year treatments are not usually needed to keep your trees growing at a fast rate. However, if the herbicides you used have permitted select weeds such as broomsedge or blackberries to develop, consider a single treatment at the beginning of the second season. This is especially true if your stand is in an area that may be at high risk to wildfires. In any case, year two is a good time to put in your fire lines that you will want to maintain for subsequent years.

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10 MOST IMPORTANT THINGS FOR YEAR ONE

Investment in high-quality genetics has proven to result in increased profits, but it doesn't happen without your help. Like any high-quality product, special treatment is required to realize the maximum potential.

1. Apply herbicides to control weeds. Inspect the stand in late May or early June for a new crop of weeds even if you apply herbicide in late winter or early spring.
2. Ask a professional which herbicides are right for your location and help you choose the right application method, time and rate.
3. Inspect for emerging pine from seeds left in place after harvesting. These are harder to control because you'll have to direct a herbicide to hit the volunteer pine seedlings without getting to your newly planted seedlings' foliage.
4. Don't let your seedlings become deer food. Monitor closely for signs of heavy browse on winter shrubs and vines near seedlings or nipping of buds on your new seedlings.
5. Inspect your seedlings periodically to insure that no pales weevil activity is present. Look for stem girdling at the soil line on seedlings that show symptoms of yellow or brown foliage or gnawing and pitch along the ground line and stem. Stands harvested after the June 1 cutoff date and sites prepared in the year of harvest and planted the next winter can have severe pales weevil problems.
6. Protect the terminal bud from tip moth larvae. The best time for treatment is at planting. Seedlings planted and treated after February 1 may not have adequate time to absorb enough field-applied chemical to protect against the first cycle of tip moth larvae.
7. Have soil tested for phosphorous (P) by a local lab and follow their recommendations for fertilization at the time of planting.
8. If you have coarse, sandy soil or if scalping is applied during or before planting, nitrogen fertilization may be required. Dormant season foliage analysis can help diagnose when nitrogen fertilization may be needed.
9. Don't let your seedlings get trampled by domestic animals such as cattle. It's best to exclude domestic animals from your newly planted forest for the first two years. If you do allow domestic animals in your new forest, try to keep all feed troughs and mineral supplement areas outside of the newly planted area.
10. Monitor seedlings throughout the summer for adequate survival. (Baby your seedlings!)