Summit Reforestation and Forest Management Ltd.

Upper Management

[PLANTERS HANDBOOK]
The basics of what we do, how we do it, and what you will need to know about Planting trees and working with Summit
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OVERVIEW

Tree planting is both very simple and extremely difficult. It can bring periods of smooth tranquility and moments of sheer frustration. There is nothing very complicated with the act of putting a tree in the ground. But there is a lot to be said for the effort and skills needed to pound in 3 to 5+ thousand trees each day in all types of conditions.

How to plant a tree can be learned in a matter of minutes, but can take seasons to master. Variations in soil type, ground cover, seedlings, planting specifications, weather, temperature, topography, local vegetation and so on can have a significant bearing on the style and considerations needed to effectively plant the ground. Techniques evolve over time to suit the terrain and eventually all planters can and do reach a point where they can maintain a consistent pace throughout the day that is both efficient and ergonomically healthy. A good planter will maximize the number of trees they plant while minimizing the effort exerted. A great planter, or highballer, will do this and put in large numbers each and every day.

While each technique may differ and have its own unique characteristics, all good planters follow a set of basic practices to help them reach incredible feats each and every day. This Guide is intended to share many of these practices to new planters in a format that covers the fundamental aspects of tree planting as it is known to seasoned vets, to Summit, and to the foresters for whom we plant.

The glossary at the end of the Guide puts some definitions to the tree planting lingo you are bound to hear and pick up on the day you enter camp.

There is more to good tree planting than just sticking a tree in the ground. Knowing how to fit your gear, bag up your trees, manage your land, cache and time is all equally important. We want to share with you what we’ve learned over the past 30 years and do our best to get you pounding trees, making money and having fun without having to sacrifice your health and sanity in the process. We want you to succeed.
KNOW-HOW

EXPECTATIONS – ALL PLANTERS SHOULD KNOW THIS INFORMATION

When we know what to expect from each other we know our roles and responsibilities.

SUMMIT

It is essential to Summit that our employees know what we expect from them, it is equally important that they know what to expect from us. Expectations are critical. They allow you to know exactly what you agree to when you come to work for us. They ensure that you are not surprised by what we expect from you when you arrive in camp. They allow you to make a fair decision about coming to work for us.

If at any time, as an employee of Summit, you feel that we are not living up to these expectations, please bring the issue to management. We all must meet and exceed our expectations to be successful.

Summit will provide:

1. A safe and healthy work environment.
2. Healthy, plentiful and nutritious meals.
3. Consistent and predictable days off -- changes to our shift plans will be discussed with our workforce as soon as possible.
4. Clear and accurate payroll, you will be paid promptly.
5. Fair prices.
6. Full planting days
7. A full planting season - at least 45 planting days

We will:

1. Treat you with respect.
2. Be open to constructive criticism and feedback, and to the best of our ability use this feedback to make Summit a better place to work.
3. To the best of our ability, compensate for Summit caused downtime.
4. Maintain adequate camps and equipment.
5. Follow employment standards.
6. Be punctual with timelines and appointments.
7. Be reasonable in our expectations of our employees.
PLANTERS – WHAT WE EXPECT FROM YOU

Production and Quality
1. Work hard every day – plant lots of trees.
2. You must ensure that you plant trees to the quality required by your current contract; understand that different clients often have drastically different expectations. If you are not clear on the requirements of our client, you must ask your crew boss.
3. Be responsible for your density – throw enough plots so that you know your density.

On the Block
4. Caches must be kept clean, garbage boxes will be broken and weighted down.
5. Tarps must always be secured.
   a. Boxes of trees will never be left in the sun (trees will always be tarped up).
6. Bag-up immediately before planting
   a. Do not bag-up before meals
   b. Do not bag-up for tomorrow at the end of the day
7. Never throw or drop boxes or trees.
8. Always count out transfers between blocks when you move between blocks and have trees left over.
   a. Food garbage will be packed out daily
   b. All other block garbage (tree wrappers, flagging roles, long strings of flagging) will be put in the garbage box at the cache

Around Camp
10. Be on time, leaving camp and leaving the block.
11. Let your crew-boss know as soon as possible if you are sick or injured and cannot work.
12. Help keep camp clean – this is a community and we all must do our part to keep it a place we want to be. This applies to both communal and tenting areas.
13. Help with camp set-up and take-down.
14. Help with unloading reefers when required.

Safety and Environmental Management
15. Always follow both Summit’s and our Clients’ safety and environmental systems.
16. Report all injuries – we want you to be successful, we have great tools to manage minor injuries before they become significant injuries, so you have a successful season!
17. Report unsafe acts or conditions immediately to your supervisor.
18. Refuse unsafe work.
19. Know your block evacuation plan.

Days off and around town
20. Be on time for the truck when it is leaving for town on the day off.
21. Know when to meet the truck to return from town on the days off and be there ready to leave. Vehicles will not be late returning to camp to wait for you.
22. You are an adult – we expect you will act like one; we will hold you responsible for your actions.
THE BASICS – INFORMATION FOR NEW PLANTERS

STOP & ASK
If at any time you are unsure of anything – whether in camp or on the block or on the way there – take the time to stop and ask your foreman.

GEAR
Your equipment needs to be efficient, effective and comfortable for work. This is even more important when you consider that you will be using the same tools day after day, shift after shift, for eight or more hours at a time. You want to have the right tools for the job and you want them to work for you, not against you. Fitting your equipment to your body and your range of motion is essential to maintaining correct technique, quickness and above all, good health.

Planting gear can be purchased directly from your foreman. Gear is sold at-cost, meaning Summit buys it in bulk then turns around and sells it to the planter for what we paid for it. Alternatively, gear can also be purchased through outdoor equipment retailers throughout BC. Lists for these retailers can be found on the websites of two of tree plantings most reputed gear suppliers – WorkWizer and BushPro.

http://www.workwizer.com

http://www.bushpro.ca

Planting Bags
Carrying trees over difficult terrain is tough work. Having properly adjusted bags will help keep you balanced and comfortable. It will also significantly reduce your risk of injury. Poorly fitted bags can put a lot of strain on your shoulders, hips and back that can become very noticeable and painful. Straps and padding that are out of place can rub your skin raw. Rookie planters are encouraged to start with new properly fitted bags. Used bags tend to be formed to the contours of the previous owner and are more challenging to adjust onto a different body.

To get your bags fitted adequately:

- Adjust the front and rear shoulder strap attachment points until the padded hip belt lines up with your hips.
- Keep the two sides of the harness level and lined up to the chest buckle to cross your chest several inches below your armpits
- Attach the front chest buckle and keep it just snug enough to line up the shoulder straps comfortably across your shoulders
• If you have a small waist or hips, your waist belt will be done up quite tightly causing the side two side bags to come toward the front of your body. In this case you may want to adjust the side bags back (they are adjustable).
• You can also wrap a sweater around your hips and rest your bags on that (then you always have a warmer layer available in case it starts to rain)
• If your waist or hips are larger than average, the waist belt will be more open causing the side bags to come toward your backside. In this case you may want to adjust the side bags forward.
• Adjust the waist belt padding to line up with your hips
• Carry 70-80% of the weight on your hips. Keep the load balanced between your shoulders and hips.

Shovel
Nothing becomes more personal than your shovel. Considering it will likely meet the ground no fewer than 100,000 times per season you will want to make sure it is correctly suited to you and the terrain. Use a properly customized shovel to reduce your risk of injury and increase your planting speed.

The D-Handle is the traditional and most common grip for tree planting shovels. These grips often have a thin layer of padding to offer some shock absorption each time blade strikes the earth. Most new shovels come ready-built with the most popular features:

• Blade width – The blade should be as wide as the hand. WorkWizer and BushPro (speed spade) shovels come with blades 4”-4½” in width.
• Blade length – New planters should start with the stock blade.
• Many vets like to cut their blade length down to reduce weight. Only do this if you have a longer shovel for longer stock sized trees. Don’t get keen and start with two shovels. Get used to the one before considering getting another.
• Handle type – The D-handle is the most common handle out there. Planters are recommended to offset the handle so they can keep their wrist neutral. The e-handle is designed to keep the wrist neutral, reducing the risk of repetitive strain injury. Handles are easily interchangeable.
• Shovel weight – Shovel blades are made of either stainless or carbon steel. The primary difference between the two is weight. A stainless steel shovel is lighter. While a lighter shovel may seem like the preferred choice, the heavier carbon steel shovel can be more easily driven into stiff soils.
• Shovel length – A well-sized shovel should barely touch the ground when held with arms hanging to the side. The adjacent picture shows the optimal range where the shovel handle should be when the blade is just touching the ground. Shovels can be ordered to length or easily cut down to size in camp with a hacksaw.
• Kickers – Standard shovels come with both kickers. Some planters will cut off one or both kickers to reduce weight and eliminate the chance of the kickers becoming caught on roots. Start off using a shovel with both kickers and only cut one off when you figure out, through planting, which side you prefer.
• A shovel without a kicker is only useable in the softest soils and a second shovel will be necessary when the ground gets harder, or rockier.
**Gloves**

Your hands are the most important piece of planting equipment you own. They hold the shovel, put the tree in the ground, brush away debris, close holes, rip flagging tape and more. Take care of your hands! Most planters protect them with appropriate gloves.

**Shovel hand:** There are a wide variety of gloves for your shovel hand. Something with good padding and shock absorption is preferred. The glove does not just protect your palm; it will also keep the elements off the back of your hand.

**Tree hand:** A thinner glove will allow you to feel the tree when you are grabbing it from your bag and planting it. A good sense of the tree ensures you are holding it in the right position and placing it in the ground correctly. Thin nitrile gloves can be purchased for as little as $2.00/pair they are still a wise investment. Certain types of gloves can be worn on either hand for planters who have learned to work ambidextrously.

Tools are only as useful as the person using them. And an essential part of pounding trees is maintaining your body – its health and its energy levels – so that the brain and motor behind the shovel keep running at prime. The daily exertion of planting trees demands that you keep your body nourished adequately with enough foods, liquids and rest. For specifics on what and when to eat and drink take a look at the Fit To Plant website. To understand a bit more on what you need for gear take a look here:

**Block Clothing**

The clothes you wear on the block needs to be good enough to hold up to all weather conditions. We will be working whether it is snowing, raining, hailing, or 40 degrees C outside (don’t be surprised if you experience all of these conditions within an hour). You will need comfortable clothes, and the ability to change layers quickly during your bag-ups. You should also be prepared that anything you wear out on the block will be **destroyed** in a couple of shifts (don’t be afraid to get cheaper clothes at the thrift store)

- Rain Gear, don’t cheap out here – get effective rain gear. Keep in mind, however, that when you are working hard you will often be sweating as much inside as you would be getting rained on the outside. Raingear only really works if it is raining persistently all day long!
- Fleece sweater – For brief (though often intense) rainstorms it is often better to throw on a sweater rather than your rain gear. **Even on relatively cold days, if it is dry out, you will be working too hard for either rain gear or a sweater!**
- In cool rainy weather stick with wool or polypro underwear and clothing (no cotton on cold days), this clothing will wick moisture (i.e. sweat, because if you are not sweating you are not working hard enough) away from your skin so you don’t get too cold.
- In hot weather cotton is great because it holds moisture (i.e. sweat) next to your skin so it evaporates close to you and cools you down.

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Lunch & Water
You will be expected to pack your lunch and water to the block each day (there will be a lunch table full of food for you to make your lunch from every morning). Getting them from camp to the block seems simple enough, but you will want to make sure they make it there intact.

- Use sturdy, rugged containers to store your water. Jugs or bottles with thin walls and weak plastic are inadequate in tree planting are liable to break in transport. For safety reasons your water containers need to go in the cargo box of the crew vehicle. 2L pop bottles and 1-gallon water jugs are rugged and have a solid track record for surviving the abuse they get in the cargo box.
- DO NOT USE a plastic fuel Jerry can for drinking water! It is not safe!
- Pack your lunch in a rugged container. Nothing fancy is needed – but if you have an old lunch box or a sturdy Tupperware container lying around it would help keep the contents of your lunch from becoming puréed.
- If you have not planted before start with a lunch at least 3x bigger than you think you need.
- For more information see Daily tips for eating – Dr. Delia Roberts

Camp Gear
Planting trees is hard enough to do after a full night’s rest. It becomes near impossible if you haven’t been getting good sleep. You don’t need to spend a small fortune to be comfortable, but going $10 cheaper on one item might end up costing much more than that in pain and discomfort.

Remember that when going planting the focus should be on comfort and functionality more than on portability. Planting is not the same as camping. Packing very light is not as much of a concern given the camp locations and availability of company vehicles to haul extra gear. Pack conservatively, but do not sacrifice comfort.

Tent
Getting your tent setup correctly is as important as choosing the right tent. Some things you will want to consider when getting your living space settled:

- Don’t hesitate to ask for help from others when you’re setting up your tent. Vet planters are friendly and are eager to help. Management is very busy at project startup and may not have the time to lend a hand.
- Set up only in the designated area. The tenting boundary will be clearly marked off. Areas outside of that have not had hazards assessed. If you set up outside of the border you will be required to move your tent and belongings.
- Avoid setting up in depressions and areas where water might pool
- Lay out your groundsheet so it occupies only the space directly beneath your tent floor. If it stretches out any further it will collect water underneath your tent.
- Facing the morning sun and shaded from the afternoon rays.
• In the early parts of the season it’s best for the tent to be situated on the southern side of obstacles (trees, hill, etc.) The opposite is true during the warmer months (June & July) when it is best to set up tents on the northern side.
• Be aware of your surroundings, avoid dangerous looking trees and report them to the supervisor.

Sleeping bag
Evenings can get quite cold during the season and many nights will be below freezing. It’s not uncommon to see frost on the ground in the morning as late as July. Do not skimp on your sleeping bag. Get one that is rated to at least -10°C. Liners are optional items that can help keep you even warmer and also keep some of the grime out of your sleeping bag.

Mattress
Different people have different opinions on what makes for a good sleeping surface. Most would agree the ground is not one of them. Mattresses do more than provide soft cushioning, they are also essential for insulating against the cold. The following are options, each with their pros and cons:

• Air mattress: Relatively inexpensive and quite comfortable. They also quickly become worthless with even the smallest defect or puncture. Not recommended.
• Cot: On the higher side of cost but also comfort. Cots keep you high off the cold ground. They are bulky and tougher to pack around. Cots are best combined with a foamy to provide added insulation.
• Blue foamy: You get what you pay for with these. They are one of the cheapest option and durable but provide little comfort.
• Camping inflatables are a good compromise between air and foam mattresses. These offer durability and comfort at a decent price: good value and the preferred option for most.

Good sleep is of tremendous importance. Select bedding that is the best suited to get you a good night’s sleep. Consider doubling up and combining two of these: Air mattress + blue foamy.

Hygiene
You will want to bring with you all of the usual hygiene products you would use at home including soap, shampoo and toothpaste + toothbrush + floss amongst others. Also bring a pair of tweezers.

All toiletries – and other scented items - must be kept out of the tenting area. There is shelving in the mess tent designated for such personal belongings. Keep your toiletries in a small bag to keep them together. Make sure to label whatever container you use. Theft in planting camps is rare, but it is possible for someone to mistake your items for theirs. Be sure to mark them accordingly.

Female planters should remember to bring up feminine hygiene products as they may be in the bush for extended durations.
While toilet paper is provided it is highly recommended that you also have some Wetnaps\textsuperscript{sm} and baby powder on hand. If your tush prefers the softer stuff (higher than one ply paper) we recommend you bring your own.

\textbf{NEVER keep scented items in the tenting area for the risk of attracting wildlife—from mice and up to and including bears.}

\textbf{Footwear}
You should have a pair of Caulk boots (spiked boots for walking in rough terrain) It is a WCB requirement that you have a pair of Caulk boots with you in the field.

For most planting a good, sturdy pair of hiking boots (ankle height) is well suited for the job.

Put on a pair of clean, dry socks each morning before throwing on boots. Constantly wet feet or dry dirty socks can lead to trench foot or other painful exposure injuries.

\textbf{Rucksacks, Backpacks, Etc.}
Get a small backpack to carry your day to day gear (lunch, extra clothing, etc).

A duffle bag (or similar) is the best option for your camping gear and clothing. It is easier to carry around a few slightly smaller bags than one large one and you will want extra space for extra gear/clothes you pick up during the season.

Garbage bags are not suitable for transporting gear unless they are themselves placed into another duffle bag/sac. A full garbage bag may be accidentally mistaken for actual garbage and tossed out! Clear plastic bags, on the other hand, can be useful it will show the contents and keep them dry.

\textbf{First Aid}
Planters should bring their own small first aid kit for minor cuts and injuries. This kit can include:

- Standard band-aids
- Anti-bacterial liquid soap
- Disinfecting wipes
- Ibuprofen (anti-inflammatory)
- Knuckle bandages
- Fingertip bandages
- Moleskin
- Reusable icepack
- Wrist brace (that fits!)
- Knee brace (that fits!)
- Baby powder

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ON THE BLOCK – WHAT TO EXPECT IN THE FIELD FOR NEW PLANTERS

The morning routine is simple. Wake up, eat breakfast, pack a lunch then leave at a designated hour (usually sometime between 6:30 – 7:30) to the block. If you are late to the truck you will be left in camp! Once at the block your foreman will hold a short tailgate meeting to brief the crew. Immediately after planting pieces are assigned and everyone heads to their cache (where trees are) to load trees into their bags before heading out into their section of land to start the day.

This section goes into the details of your average planting day.

BAGGING UP

Putting seedlings into a bag does not sound complicated and it need not be. There are, however, some simple rules you should follow every time you ‘bag up’.

- ALWAYS bring your shovel with you to the cache.
- Empty loose soil at the bottom of the bags as you walk across the block to the cache. Never leave piles of plug soil at or near the cache.
- Throw away bundle wrappers and other plastic garbage in the designated garbage bag/box.
- Bag-up no less than an hour’s worth of trees. You will quickly learn your own pace and know this number. It will increase as you improve. You will plant slower if you have too much weight for too long.
- Count your bundles as you bag them up. Keep track! You are paid for what you plant. Keep an accurate record of what you are bagging up and planting. All planters have a tally book to use for this exact purpose. The daily tally is torn out each day and submitted to the foreman. A yellow carbon copy remains in the tally book for your records.
  - Totals will be separated by block (sometimes by piece) and by species (request key)
  - Tallies have to be multiples of the bundle sizes (typically 15 or 20)
  - Do not split bundles
- Unless specifically requested to do otherwise, lay the bundles on their side. Cris-cross the bundles on your shovel side. For your planting side (draw bag) unbundle the trees and lay them down with the plugs facing forward.
- Trees must be in the silvicool insert. Roll down the silvicool around the rim to minimize obstruction.
- Only unbundle trees that you are confident you can plant before the end of the day.
- Always handle the trees carefully. Do not throw, shake, hit or in any way violently disturb the boxes, bundles or individual trees. An abused tree is unlikely to survive.
  - Notify your foreman of stock that is damaged or infected (fungus or disease-ridden trees are often very evident). Do NOT bag them up. Set them aside under the tarp in a separate box away from the others. Let other planters using that cache know also not to bag them up.
  - NEVER lay the trees out onto the ground as you are bagging up. Each bundle from the box should go straight into your bags.
- Time at the cache should be spent putting away garbage, bagging up and refuelling (quick bite and drink) before getting back into your piece. Do not waste time. Do not lose momentum. Bag-up quickly, effectively and put that shovel back to work.

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• Refuel at each bag-up. Eat carb-rich foods and drink fluids — even if you are not thirsty. To maximize your time, eat while you bag up. Do not stop to eat. Avoid full meals — they will slow you down and cause discomfort while planting. You need to be heading back to your piece to continue planting immediately after bagging up. See the Fit to Plant guide for a great nutrition guide — tailor designed for tree planters.

• Follow proper technique when putting on loaded bags.
  o Facing away from the bags, bend down at the knees and buckle in.
  o Do not sling loaded bags from shoulder to shoulder.

• Always bag out at the end of the day. **Never** leave trees in your bag at the end of the day. Return unplanted bundles to the proper box (same seedlot and request key). If by any reason you have loose trees left over, re-bundle them neatly and box them.

• Try to keep your bags balanced — transfer bundles from one side to the other from time to time to keep the weight evenly distributed.

**STOCK HANDLING – WE WILL EXPECT THIS LEVEL OF STOCK HANDLING FROM ALL PLANTERS**

Poorly handled trees will not survive very well. When you first handle a seedling it may not seem fragile. Sometimes the soil plug may crumble a bit more easily than others but for the most part they seem fairly sturdy. However, they are sensitive to shock, friction and temperature. Precautions need to be taken to minimize exposure.

A special reflective and insulating material — commonly known by its brand name Silvicool — is used to make both cache tarps and planting bag inserts. The function of this material is to maintain tree temperature and moisture. Trees that are not kept cool or that dry out have a significantly reduced chance of survival.

**Caches**

A tree planting cache is a temporary storage place for trees. On the block the final storage place for trees before they go in your bags is a tree cache. This cache consists of little more than a reflective tarp covering boxes filled with trees. Some key things to know about your cache:

• Boxes must ALWAYS be under the cache except when you are actively bagging up
  o Individual trees, bundles or boxes must not be exposed to direct sunlight for longer than they need to be.

• Loose trees or bundles of trees should never be out of the box. Trees are either in a box under the cache or your bags

• The tarp should cover all of the cartons and be white-side-up.
  o For the spring plant — May and most of June — heavy objects (rocks or logs) must be laid out across each side of the tarp to prevent it from being blown away.
  o For summer plant — typically starting June 21st — tarps must be tied onto an A-frame built from surrounding logs and branches. All tree boxes must be underneath the shade provided by the tarp.
• The last person to access the cache, planter or foreman, is responsible for ensuring it is adequately re-tarped. If you come across an improperly tarped cache, please take the time to fix it.

**Garbage**
The cache also serves as a collection point for tree-related garbage (**NOT** food garbage). Boxes and bundle wrappers are gathered at the cache to be picked up by the foreman and brought out of the block. Planters are responsible for keeping their garbage pile organized:

• Plastic waste should be packed away in as few boxes as possible. Care must be taken each to keep the garbage box closed up to prevent loose trash from flying away.
• Tree boxes must be broken down after they have been emptied. The last person to take trees out of the box is responsible for breaking it down. There are two different ways cartons can be broken down: flat or accordion. Your foreman will let you know which way they would like the carton broken down.
• Food garbage, or anything with a scent, must be brought out by the planter and disposed of in camp. Pack out what you pack in. Leaving any scented object in the tree-related garbage will attract bears to the block.
• Do **NOT** ever bury garbage on the block. Other forestry workers will be on that block long after you are gone and do not want to deal with the wildlife that leftover garbage, buried or not, will end up attracting.

**Boxes**
A box of trees should be treated like a box of puppies – handle with care.

• Do **NOT** throw, drop, hit, kick or in any way mistreat the boxes.
• Do **NOT** leave boxes exposed to the sun.
• The “Keep Cool” printed on most boxes refers to the trees, not just your state of mind.

**QUALITY- MUST BE UNDERSTOOD BY ALL PLANTERS**
Fundamental to tree planting is not just knowing how to put a tree in the ground – you must know how to put in a good tree. A tree that will have a high chance of survival. This section focuses on the quality aspect of tree planting.

The exact specifications for what defines a good tree vary from region to region, forester to forester, contract to contract. **Quality depends on the area where you are planting.** Quality involves more than just what type of soil (medium) the tree will be planted in. Spacing, from one tree to another as well as from competitive vegetation is equally important. While there is some variation in quality expectations there are several common, if not universal ones, what constitutes a well planted tree.

Quality specifications vary from contract to contract. The trees that you will be expected to plant are outlined in the **contract pre-work** – an initial meeting held by your foreman or project supervisor that details all of the expectations for that specific contract. **Plant to the current specifications even if they seem contrary to what was expected in previous contracts.**
Take extra care at the start of each contract to get calibrated with the specs. Monitor yourself more than usual until you are confident you have the quality side down.

**Good Trees**

A well-planted tree will be:

- Straight enough top— not leaning significantly in any direction.
- Planted with a relatively straight (not leaning or curved) plug.
- Tree planted to an acceptable depth (varies by contract)
  - Usually the laterals will be out of the ground
- Planted with the plug in acceptable planting medium (varies by contract)
- Planted in the best microsite (varies by contract)

At times other specifications may be tagged on. These will be explained in detail by your foreman before commencing work. Additional specs typically require a bit more time and result in a higher tree price.

**Good microsites**

- Optimal microsites vary from contract to contract. General microsite considerations include:
  - Planting medium
  - High or low spots
  - Obstacles
  - Moisture
- Certain microsites are never acceptable:
  - Chunky red rot (decomposing logs)
  - Squirrel cache (husked cones)
  - Underneath an overhead obstacle
  - Stick mat
- Overhangs (suspended acceptable medium with an air gap underneath)
- Ground with a layer of water

**Good Density**

Density refers to the number of trees in a given area. Planters are told the target density for a block in terms of what they will find in a plot. You will be asked to ‘plant 7’s and 8’s’ or to ‘hit 6’s’. These numbers refer to the number of trees that should be in a plot. Density is measured in the field by plots (covered in next section). Each plot is a sample of 50m² or 1/200th of a hectare. Therefore, calculating per hectare density from a plot is as simple as multiplying the number of trees in the plot by 200.

For example, a plot containing 10 trees would indicate a density of 2,000 stems per hectare (SPH). A plot of 6 trees would mean a density of 1,200 SPH. Statistically speaking, many plots are needed to get an accurate idea of density, but a combination of experience and throwing plenty of plots – at least 2 per bag up – will develop the skill to ‘eye out density’.

If for example, a particular block has its density targeted to 1,800 stems (stems is another word used for seedlings or trees) per hectare. Each hectare should have on average 1,800 trees. While there is some leniency, often as little as 50 – 100 trees per hectare, it is essential to ‘hit density’. Going too far under density leaves the block with not enough trees and you may have to go back and fill in. Go too far above density and you may have to take some back out.

Acceptable density is not just reaching the calculated target. You will be required to have consistent density across the block. A planter cannot make up for 5’s by planting 9’s when the target density calls for 7’s. Not every plot will always be 7 but most of them definitely should be.

*After each plot take a look at the trees within it and their spacing to get a feel for how that density looks.*

Plots are samples. Select your spots randomly. The survey plots thrown by the mill and Summit are taken randomly as well and can land anywhere. If you only throw plots in the clearest and most easily accessible areas you will not give yourself an accurate gauge for the entire piece.

Be careful to make sure you take the time to find and count all of the trees in the plot. A plot is just a sample and gives a general sense of quality and density. If in 3 plots you find low density and 20% of the trees to be unacceptable, fixing the trees in those plots does not fix the piece – it points to a bigger issue that may require you to fix the area and adjust your planting to get back on track.

Directly related to density is the spacing between trees. The inter-tree spacing increases as the target density decreases – fewer trees means more space in between them. Each contract also has an allowable minimum spacing (the closest two trees can be to each other).
The ground on blocks is rarely uniform, meaning you have to adjust your spacing accordingly to meet the two key objectives: achieving target density AND planting in optimal microsites. All this must take place while respecting the set minimum spacing – often between 1.5 – 2.0 meters.

**Need-to-Know**
Foremen will explain the specs for each block. The quality specs rarely change on any given contract but the density often varies from one block to the next. For each block you must be sure to know:

- Target density (and target spacing)
- Minimum spacing
- Acceptable planting medium
- Required microsites
- Tree depth
- Stock
  - Types
  - Stock specific microsites and planting areas
- Distance from:
  - Roads
  - Burn piles
  - Treeline & drip line
- Flagging colours:
  - Allowable colours for planting
  - Block boundaries
  - RP, WTP, MFZ and other boundaries
- Allowable planting areas (roads, seismic lines, etc.)
- Acceptable naturals

If you are uncertain about any of these specs be sure to STOP & ASK!

**Replanting**
You will have to fix the quality or density of your piece if it does not meet the requirements of the contract.

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You are paid to plant trees to the standards set by the client, not to fix them after the fact.

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Get your quality and density down first. Make the early investment in time to monitor yourself and make the necessary adjustments to ensure your trees are planted properly. Summit does not expect perfect quality. Summit does expect all planters to meet the minimum expectatations laid out by our clients. Your foreman and the Summit checkers will let you know ahead of time what acceptable is. Plant to or above the standard and you will never have to replant. Throw plots – two per bag up – to achieve target density.
Your foreman will make an effort each morning to check your work early on and help identify any quality issues so you can correct any errors early in the day.

Consistent quality and density problems can lead to severe consequence down the road.

For more information on the general standards of tree planting quality and density take a look at one of BC’s most common quality inspection standards – the **FS 704**. It gets fairly in depth and not something you should concern yourself with now unless feeling extra keen.

**Know the specs. Know your density. Know your quality.**

**You cannot improve what you do not know.**

### HOW TO PLANT A TREE

Planting looks easy enough from an outside perspective, but the once you start plating it soon becomes apparent how much is involved in getting seedlings into the ground quickly and adequately. Planters, especially rookies, must stay focused.

The planting of each tree involves over a dozen separate motions that can be achieved by dozens of different styles and techniques. The focus here is on the general movements of planting trees. Specific techniques can come later once the new planter is familiar with the basics.

All planters need to learn it right the first time. Improper posture and movement can lead to injury, poor quality and low production. Bad habits are hard to break.

**Optimal microsite**

- Find the best place to plant the tree. In order of priority the microsite should be:
  1. To spec for the contract, location, medium and spacing
  2. Easy to access: do not jump over a log or dive into stick mat or otherwise spend any amount of time or energy trudging into an area that could be planted with **smart spacing**.
  3. Easy to plant: do not struggle with screefing or tough medium when a cream spot is a few inches away. **Manage spacing** to get to target density.
    - Pay attention to terrain features. Over time they will reveal what lies beneath:
      - Lumps and bumps
      - General contours of the ground
      - Vegetation (mosses, grasses, etc)

**Tips:** If you can, learn how to plant with the shovel in either the left or the right hand. This way if you start to get any sort of repetitive use injury you will be able to easily switch hands and continue planting.

**Always focus on finding the easiest spot to plant your tree given the contract requirements**
- Stumps
  - Look at the side of the road when entering the block. The turned over berms of soil and ditches can say a lot about what to generally expect.

**Holding the shovel**

- Hold the shovel with a neutral wrist (if you relax your arm by your side the position of your wrist is neutral – there is no flexing of your forearm up or down).
  - Do not flex your wrist up or down at any time while planting
- *Keep a loose grip on the shovel* – only hold on tight enough to keep control. Grip too tightly and you may get ‘The Claw (see glossary) or tendonitis.

**Opening the hole (<1 second for most ground)**

- Insert the shovel blade vertically into the soil (the inside curve of the blade facing you!)
- Get the blade down into acceptable medium at least one inch more than the length of the plug. Use the kicker *if necessary*.
- Use a forward-down-back motion to open the hole. Quickly mastered, this technique takes under a second. This motion is complicated to explain on paper and will be demonstrated for you by your trainer/foreman.
- Make sure your hole is large enough for your hand and the plug

*Unless the ground is uniformly hard the better option is generally to move the shovel over a bit to get around the rock, roots, log or other debris that is obstructing the blade.

**Planting the tree (~1 second)**

- Hold the plug lightly and completely in your hand—ensure it is not past your finger tips.
- The tree will fit the contours your, gently press against the back of the blade. The middle finger must be lower than the bottom of the plug to prevent bending of the root.
- Do not squeeze or force the tree plug into the hole, this will lead to numerous quality faults (J-root, compressed plugs, shallow, broken plug, etc).
- Move the plug along the side of the hole at proper depth – typically half an inch below the top of the acceptable medium – using the back of the blade as a ‘guide’.
**Closing the hole (~1 second)**

- Once the tree is in place remove the blade from the ground while switching the grip on the tree to hold it in place.
- **The timing here is critical, as you put the tree into the hole you will also pull the shovel out of the hole.**
  - If you pull the shovel out too soon the tree will likely be shallow (the soil will fall back in too early)
  - If you pull the shovel out too slowly it will tear the tree out of the hole or damage the roots.
- With the blade out of the ground slide the hand up the plug keeping just enough pressure to keep the tree in place. Once the hand is out, use your fist to press the hole firmly closed. In harder ground a slight twist while ‘punching’ will help loosen the dirt and make the hole easier to close.
- There is a wide range of hole closing techniques that involve different motions with the shovel blade, fingers, heel, toe or palm. Each has its benefits and drawbacks. We will discuss two of the best for most ground conditions. Learn both, but you will likely choose one that you use most of the time.
  - **The knuckle/fist** – you punch the ground in front of the tree. The earth will have to be soft enough to do this.
    - **Benefits:** This close method is suitable for getting soil around most of the plug.
    - **Use:** Better in loose soil, on contracts where the client wants soil around the whole plug.
    - **Limits:** There may be a small slit at the top of the tree that must be twisted closed afterwards to ensure a well-planted tree.
    - **Limit:** very hard on the hand and knuckles when there are lots of rocks, roots or the soil is very compacted
  - **The Pinch** – with the pinch you are pinching and twisting the ground around the stem. Especially in areas with organic top layers (root mat, grass mat, moss) you will have to twist as well.
    - **Use:** Better on contracts where the client needs only a seal for the top of the plug but does not require tight soil around the plug itself
    - **Benefits:** Rapid method for closing organic layers (humus layers and moss) around the plug
    - **Limitation:** It takes a lot of hand strength to close the hole deeper than the top few cm’s
    - **Limitation:** Harder on the wrist and hand tendons in harder soil.

- **If you learn to use both techniques you will be able to switch based on ground conditions for each tree.**

**Flagging the tree (<1 second)**

- The piece of flagging used to mark your tree, should have been torn off as you were walking to this planting spot
- When marking a tree always flag as close to the tree as possible. Learn to look for the tree, not just the flagging. Flagging tape can get blown around by the wind.
• There are times when flagging may be used to mark off an area that has already been planted or a significant obstacle that may obstruct the view of trees planted nearby it.

Walking away

• As soon as the tree is planted the planting hand should be reaching into the draw-bag to grab the next tree.
• Do not spend extra time landscaping around the tree or ‘gardening’ it. The tree must be good enough to ‘pass’ but do not waste time if the tree is already acceptable (in medium, microsite and quality). Move on.
• You are walking away from the tree (you do not stand up then walk away).
• At no point in the planting cycle should you be standing straight up in one place.

Moving on to the next tree (1 – 5 seconds)

• While walking to the next tree tear a small piece of flagging tape (~3 inches) and hold it with the tree.
• A tree should already be ‘loaded’ in hand while stepping on to hit the next microsite.
• Be aware. Look to the adjacent line of trees – both directly beside the current line and where it leads. Look ahead to the general area where the next tree could go. While approaching that general area look more closely for optimal microsites. The next spot will depend on:
  o The spacing of the trees in the adjacent line from each other
  o The spacing of the trees in the adjoining line from the current line
  o Spacing from the tree you just planted
  o Available microsites
  o Obstacles

Always be looking one tree ahead, before you get to your next planting spot – you should know where you will be walking to after you plant this tree!


MANAGING LAND
To maximize planting time your planting piece you must manage your land. When working any piece, a planter always wants to arrange bag ups to:

• Cover land entirely (leave no holes)
• Minimize dead walking (dead walking = walking without planting trees)
• Respect fellow planters, both the one sharing your piece and those in pieces around you. Planters always plant in pairs

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Cutting a piece

- Listen to the crew-bosses directions. Repeat them to ensure they were properly understood.
- Many crew-bosses make copies of the block map. If none are available, make sure to at least see a map one to orientate and get bearings.
- Most lines are cut by selecting a large object (marker) along the back boundary and flagging a path towards it.
- After each tree planted along the first line look up to keep straight with the marker. Keeping calibrated with the marker prevents the line from becoming crooked or curved.
- As you plant your first line you will tie flagging on high sticks/branches so it is visible for any planters coming in another direction.
- Flag each tree on the first line

Covering ground

- Start planting as close to the cache as possible
- Always follow the last line of trees
- Plan bag ups to know how much land will be covered. Sometimes it may help to add a couple of bundles.
- Upon reaching the back of the piece, plant along the back boundary, moving back and forth (backfilling)
- When possible save enough trees to plant back to the cache.
- Avoid cutting yourself off (cutting yourself off is worse than walking a short distance back to the cache, it is easier to walk with empty bags than it is with full ones)

Keeping track

- Get a rough idea of how many bundles it takes to reach the back of the piece. How many are required for each line of backfilling and how many may be needed to fill a pocket (smaller openings or divots in the boundary)
- If you are unsure of the boundary of your piece STOP & ASK your crewboss!
- Know roughly how much ground you have covered and how much remains open.
PLANTING FASTER

1. **Walk faster** – It will take time to learn how to actually put the tree in quicker but you have been walking for most of your life!
2. **Set goals** – time your bag ups – know your pace – always try and increase your pace.
   a. Time your bag-up with a known number of trees.
   b. Next time add another bundle and do it in the same amount of time.
   c. Once you get to a point where it does not make sense to carry more trees (the weight of the trees will start to slow you down) then do your bag-ups in a shorter amount of time.
3. Eat & drink the right stuff, the right amount at the right time—tree planting is an extreme sport and elite planters treat their bodies as athletes do. You are an industrial athlete! See the Fit to Plant Program for research-backed info and tips. [http://selkirk.ca/research/faculty-research/tree-planting/](http://selkirk.ca/research/faculty-research/tree-planting/). Booklets are also available in the Camp Document Box
4. Work to exhaustion every day and you will increase your physical limits day after day.
5. Quit smoking. Seriously. Smoking not only limits your body it takes time and time on the block is money (literally)! – you might as well be rolling your smokes with $20 bills!
6. Minimize time spent not planting – you can eat while you bag up and drinking doesn’t take long, otherwise you should be looking to plant your next tree.
7. **Rest!** Every night and on days off. Your body and mind need to recover to keep working at your peak. Drinking excessively on the night off and suffering through your whole day off is unhealthy; your body requires that day of rest to continue operating at full throttle for the next shift and the remainder of the season.
8. Don’t be afraid to experiment or try different techniques. Listen to other planters, rookie or seasoned highballer, try any tricks they might suggest, it might just work for you. Always strive for continual improvement!
9. Try other shovels (ask foreman for advice)
10. Awareness – follow trees, look ahead, know what to expect to manage your land effectively. As an example, if you have a massive wetland in your piece and will need more spruce, you should be prepared (have more spruce) before you begin planting that part of the section.
11. Watch faster planters. Note their technique and rhythm.
12. Learn to follow trees – after you cut your first line, you should have an idea of which direction your lines take.
13. Area plant – many planters find that planting small, planter-defined areas is more efficient than merely planting single-file lines all the time. Effectively area planting and will take time to develop. Look for areas that are tricky to get into or which may pinch on the next line and prevent the problem.
14. Look for trees! – This may sound simple enough but with the surging practice of flagging every tree, it is possible to fall into a habit of seeing only the flags. Flagging tape is unreliable, it blows around in wind or gets covered with other obstacles. Use the flag as a reference to find the actual tree—the tree is what you really need to space off of to get your density right.
15. Don’t flag all of your trees. There are lots of times where flagging a tree is entirely unnecessary. Trenches are an obvious example. Another is when planters are working a line side by side and communicating well, often flagging the inside line is redundant. Another common tactic is to not flag trees while area-
planting, if a small well-defined area will be planted all at once and the planter can momentarily remember where the last few trees went, there is no need to flag them. Learn the places where it is a waste of time to flag!

16. Try to get a read on the topology of your piece upon arrival and during your first bag-up. Different types of ground will require different styles of planting. Rocky ground will require a greater focus on stump spots, steeper ground will require you to space trees a bit wider.

17. Planting up-hill vs downhill—planting uphill is more comfortable and faster than planting downhill, you won’t have to bend down as far or turn around as much. If you have a steep piece, focus on planting as much facing uphill and plant the section from side-to-side.

18. Bag up sizes—a good rule of thumb is to plan bag-ups to last about 1 to 1.5 hours. This is a good amount of time to be away from food/water and helps you maintain a good momentum throughout the day. Many people bag up as much as they can fit in their bags; this works well for some, and slows others down. Find your sweet spot on bagup size.

19. Plant with your partner—for the sake of safety, block organization and sometimes emotional stability work in pairs. It is important when working a piece together to have clear communication with what each person has done and what they want to do with the piece.

HEALTH

Most people who come out tree planting for the first time are young and healthy. Many are also quite active and already take good care of their health. Regardless, tree planting taxes the body and mind as much, if not more, than some of the most rigorous sports out there. Taking good care of yourself while out in the bush is essential to reducing the wear and tear pounding trees will have on you.

BODY

Independently funded research has shown that tree planters exert as much energy as an elite athlete in training. The stresses placed on the body are significant, but manageable if mitigated with proper preparation, form and diet.

All planters are given a pre-season exercise training program when they are hired. The program itself spans eight weeks. Do it up until just before you start planting. The exercises get the body up to the level of performance that will be demanded of it when you go from a relatively sedentary lifestyle to a job that burns upwards of 7,000 extra calories per day (2,000 calories is the rough average for most people). Most importantly the exercises will calibrate the body to the repetitive motions planters make two, three, four and more thousand times per day.

Those thousands of motions per day can lead to repetitive strain injuries (RSI) very quickly if you are not careful with your planting technique. Your crew-boss will go through ergonomic training before the start of planting. Get a head start by reading “A Tree Planter’s Guide to Reducing Musculoskeletal Injuries” that will be emailed to you by your foremen. The document is also available for download on our website (http://www.summitplanting.com). Within its pages you will also find a lot of photos which will give you both the dos and dont’s plus a good idea of the job and terrain.
**MIND AND SOUL**

You will hear it said as often as the variations there are of saying it: tree planting is as much about mind as it is about body.

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**TRAINING PROGRAM**

A lot of tree planting is learned on-the-job. Persistence and hard work do pay off. There is no substitute for experience. However, we do want to prepare our rookies as best we can for the demanding work that lays ahead. Trainers – often former crew-bosses – are hired for the first week of the season to help bring rookie planters up to speed. During and beyond that time your foreman will provide coaching and support. Experienced planters on the crew will also be a great help in offering their advice and knowledge.

Tree planting is full of little tricks and tips that could take up an entire book. Our goal in training is to build a solid foundation from which you can more easily develop the intricacies that make the difference between a decent planter and a high-baller.

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**PRE-SEASON**

Training for the planting season starts months ahead of the first day of planting. New planters should understand the Expectations and be comfortable with them. They should know what they are getting into and not hesitate to ask their foreman about anything they are uncertain of. Tree planting is not for everyone.

For those who know tree planting is a job they are committed to, time should be taken during the pre-season to prepare physically for its strains and demands on the body. A detailed ‘Fit to Plant’ program can be found on the Selkirk College website. Scientific research backs the claim that planters who follow this program significantly reduce their risk of injury and substantially increase their earnings. Learn more at: [http://www.selkirk.ca/treeplanting](http://www.selkirk.ca/treeplanting)

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**INITIAL ORIENTATION**

The first few days upon arrival in camp are essential for getting settled, becoming familiar with the camp and getting an initial introduction to safety rules. Rookie planters are required to be in camp two days before the scheduled start of planting.

**New Planter (Rookie) Orientation and Field Training**

For Further information on how your first week or two planting will be organized please refer to the document: “First Year Planter Steps to Success”
ADDITIONAL SUPPORT & COACHING

The first shift of the season is intentionally kept to 2 days (as opposed to the 3 day norm) to allow time for everyone to rest and recover. The intensity of tree planting can be a shock to the system even after weeks of physical preparation. The tree planting season begins in earnest for the rookie planters on Day 1 of the second shift. This is when they join their crews and begin planting directly under the supervision and guidance of their foreman. This is also when they need to prove their mettle and ratchet up their numbers to meet their goals.

Through the first and second shift an hour after dinner will be devoted to mini training sessions aimed at developing specific skills needed to transition from rookie to vet, low-baller to high-baller.

Crew-bosses provide continued training and coaching to their planters with the bulk of that attention given to rookies. The intention is to promote good technique and quality while giving tips and tricks to bring up overall speed. In addition, crew-bosses carefully select experienced planters to pair plant with a rookie—to offer advice and motivation.

GLOSSARY

412B One of a series of characters that can be found on tree boxes. These refer to the dimensions (in cm) of the plug. The first digit (4) refers to the plug diameter. The next two numbers (12) refer to the plug length. The letter (B) is used to distinguish between different types of plug and is not always present.

For example, a 310 pine has a plug three centimeters in diameter and ten centimeters in length.

Burn The burn is the piece of ground on and around which a slash pile used to stand until it was burned in the winter.

Cache A temporary seedling storage area. All caches are tarped.

Checker Another term for support staff. Refers to one of their main tasks—checking quality and density.

Client The organization which contracts tree planting projects and has obligations to restock harvested land. In other words, the company that hires Summit. Clients are also known as licensees and ‘the mill’.

Cluster f*** May happen towards the end of finishing a large block when there is only a few pieces to plant and many people around to plant them. Foremen plan and organize their days to avoid cluster plants as much as possible.

Cold storage Essentially a warehouse sized refrigerator used to keep trees frozen. Trees are thawed 5-10 days before delivery to the general area where they will be planted.

Contract A planting project undertaken for a client
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooks</td>
<td>Purveyors of nutrition, health, bliss and sanity. Treat them well!</td>
</tr>
<tr>
<td>Corridor</td>
<td>Often refers to a ‘Skidder trail’</td>
</tr>
<tr>
<td>Cream</td>
<td>Generally cleaner, easier and therefore faster land.</td>
</tr>
<tr>
<td>Cream out</td>
<td>Planting out the creamy section of land, often with a disregard to the way a given piece should be planted. Not cool. Plant your piece normally, don’t cream out your partners.</td>
</tr>
<tr>
<td>Dead walking</td>
<td>Walking through a piece without planting trees. Wise management of a piece often makes dead walking avoidable.</td>
</tr>
<tr>
<td>Dripline</td>
<td>The area located directly under the outer circumference of the tree branches.</td>
</tr>
<tr>
<td>Duff</td>
<td>Loose organic debris that is only partially decomposed. Not considered a suitable planting medium.</td>
</tr>
<tr>
<td>EMS</td>
<td>Environmental Management System</td>
</tr>
<tr>
<td>Excess</td>
<td>When plotted density of a block is higher than the determined maximum, it is considered excess and if over a certain percentage will result in fines. Excess cannot be balanced by simple density compensation. That is to say, planting the remaining half of a block in 5’s when the rest of the block is 9’s will not correct the excess. The overall density will round out to 7’s, but half of the block will still be planted to excess – and the other half will be considered insufficiently stocked.</td>
</tr>
<tr>
<td>Flagging</td>
<td>Coloured light plastic ribbon. Flagging comes in rolls and is generally used to mark off areas and boundaries. In planting it is used to mark off individual trees and cut pieces. Summit provides flagging tape. Please don’t waste it.</td>
</tr>
<tr>
<td>Foreman</td>
<td>Crew supervisor</td>
</tr>
<tr>
<td>Forester</td>
<td>In general terms this is the person hired by the mill to coordinate silviculture operations.</td>
</tr>
<tr>
<td>Ghost line</td>
<td>A line of trees that does not serve as a boundary or any other useful purpose. In other words, a planted line of trees not where it should be – always follow trees. Ghost lines are frustrating, irritating and confusing.</td>
</tr>
<tr>
<td>Highball</td>
<td>To plant lots of trees. Used in relation to other planters. A lesser planter can pound and still be highballed by a more skilled planter.</td>
</tr>
<tr>
<td>Hole</td>
<td>In terms of a piece a hole is an area in an active piece that has been left unplanted.</td>
</tr>
<tr>
<td>MFZ</td>
<td>Machine Free Zone. Almost always a plantable area if within the block boundary.</td>
</tr>
<tr>
<td>Laterals</td>
<td>Laterals are the prominent ‘branches’ at the base of the seedling, just above the plug. A lateral becomes the leader (trunk of the tree) if the main stem is damaged or destroyed.</td>
</tr>
</tbody>
</table>
must never be buried when the tree is planted.

**Mill**
Another word for client. The mill refers more specifically to the nearby mill that owns the license, and therefore obligations, for crown land across the region.

**Mill checker**
Employees of the client who are responsible for assessing quality and reporting it back to their supervisors.

**Mounds**
A form of site prep.

**Natural**
A young tree that grew naturally.

**NP**
‘Non-productive’. Can also be taken to mean ‘Not-plantable’. These areas are marked out on the block maps.

**Pay plots**
The surveys/plots taken by the mill checkers and used to determine the overall quality of the block. These surveys determine the payment amount to Summit. Blocks are always expected to receive 100% payments. Anything less is unacceptable.

**Piece**
The section of land a planter is responsible for planting. Foremen typically direct their planters to ‘cut’ their piece by forming a boundary with a line of trees.

**Pound**
Planting very hard, maximum effort.

**Pre-work**
Gathering of everyone concerned with a given planting project with an end to finding consensus of acceptable specifics for quality, density, safety procedures, etc. Always pay close attention during the pre-works.

**Project**
Another word for ‘Contract’

**Project supervisor**

**Raw**
Ground that has not been prepared after harvesting.

**Red rot**
Decomposing logs that become red. Red rot can vary from lightly decomposed (chunky) to heavily decomposed (smearable). Chunky red rot is never an acceptable planting medium. Smearable red rot sometimes is acceptable, depending on the contract specs.

**Reefer**
Short for ‘refrigerated trailer’. The reefer is a commercial trailer used to transport and store boxes of seedlings

**Replanting**
Something no one ever wants to end up doing; the result of poor quality and/or density.

**Request Key**
A subcategory of the seedlot. Seedlots may differ in size, age, plug size, etc. The request key is used to make distinction.
Residual  Looks similar to a WTP but is considered to be part of the block and therefore needs to be planted unless instructed otherwise by the client.

Rookie  Someone who still needs to look in the glossary for definitions

RZ  Riparian zone.

SMS  Safety Management System

Schnarb  Ugly, difficult to plant land. The opposite of cream.

Seedling  The formal term for a small tree intended for planting.

Seedlot  The seedling species and region from where its seed was taken from.

Seismic line  A seismic line or road is typically a straight swath that has been cut through the terrain. From the air seismic lines look like narrow strips that have been cut out of the forest. While they may sometimes be confused as roads, seismic lines are created by geological exploration companies to survey the ground formation beneath. Seismic lines may or may not be planted – depending on the contract.

Site prep  Short for Site Preparation. Site prepped ground has been primed for planting by heavy machinery. The decision to site prep and the type used depends on a number of factors including topography, vegetation, accessibility, ground type, soil depth, budget, climate and target species for planting.

Skidder trail  A corridor approximately 5 meters wide carved into the forest by a skidder (massive 4-wheel vehicle used in harvesting to drag mature trees off the block). The tire tracks can be mistaken for trenches.

Slash  Organic debris left behind from the harvesting operation. Slash is mainly made up of sticks and branches. On properly cleaned blocks most slash is collected into burn piles.

Slash pile  The large pile of wood debris cleaned up at the end of a harvesting operation. Piles are formed alongside the in-block roads and can become massive – dozens of meters long and several meters high. Slash piles are burned in the winter and the subsequently freed ground is typically planted the following year.

Specs  Short for specifications.

Spring Plant  The planting period in the Canadian interior defined largely by time period and stock. Spring trees are trees that were grown the year before and frozen over the fall and winter. The spring plant typically takes place between mid April to late June. Spring trees are dormant (i.e. not actively growing) therefore have a different biological state than summer trees, which are actually growing. This affects the way the trees are stored and treated – from cold storage all the way to being planted into the ground.

Stop & Ask  What you should do if you’re uncertain about anything. Stop work and ask your direct
supervisor for clarification.

**Summer Plant**  The planting period in the Canadian interior that takes place from late June into August. Summer trees differ from spring trees in that they are still growing. Summer stock is ordered days in advance of actual planting and is ‘hot lifted’ from the nursery – the trees are bundled and processed while still growing. Because summer trees are ‘alive’ special consideration must be taken to treat them much the same way any living plant would be treated and given adequate watering and air circulation. Most summer stock is kept under shade tents which protect the trees for desiccation (drying out) but give them just enough light, air and water to stay healthy.

**Support staff**  Assistant to the project supervisor

**The Claw**  The tightening around the hand that can develop from holding the shovel handle too tightly. The range of motion in the fingers is reduced making it difficult to open the palm.

**Trench**  A type of site prep where the ground is literally trenched by heavy machinery. Disc blades or a plow carve shallow trenches, flipping the soil and exposing plantable medium

**Underplant**  A planting block with a juvenile or mature stand of trees that stand overhead. Also known as understory planting. Underplants are common in older plantations where disease, pestilence or fire have severely damaged or killed most of the existing stock.

**Veteran (Vet)**  Someone too cool to even pick up this document let alone let an idle glance even touch upon it

**WTP**  Wildlife Tree Patch. An area of preserved timber that was not cut down during the harvest. The WTP is always considered NP (Not Plantable) and is not considered to be part of the block even though it may be within the block boundary.
The Usual Suspects

From left to right: