

Commitment issues

Do your homework before hiring a harvest contractor



High trail ratio in a uniform irregular shelterwood harvest operation. (Northern Hardwoods Research Institute photos)

by Gaetan Pelletier

It makes sense to hire a contractor for a highly specialized activity such as forest harvesting – if you are not equipped to do it, or if the task is too large to undertake by yourself. In the Atlantic region there are many experi-

enced entrepreneurs who can conduct harvest treatments on your woodlot at a reasonable cost. Ask for references, investigate their reputation, and don't be shy about visiting some of their past operations.

Hiring a contractor does not mean

you lose all control over your operation. In fact, the landowner should set the standards and parameters. In the end, you are the customer, and you should dictate the specifications of the work.

When hiring a contractor, the important constraints you must consider will be determined by the treatment prescription, the forest stand attributes, and your woodlot's topography and site characteristics. Different treatments call for different equipment, seasonal timing, trail patterns, and work instructions – which include residual density (basal area), what trees to cut, expected post-treatment conditions, thresholds for tree injury, tolerance for environmental damage (i.e. rutting), etc.

It's a no-brainer to clearcut well-formed 40-centimetre DBH Red spruce on a flat and well-drained site, but a single-tree selection harvest in a multi-age Sugar maple stand, with the objective of improving quality and value, is the kind of treatment that entails a long list of constraints.



Tracked harvester with large tail swing. On any forestry treatment, the choice of equipment to be used is at the landowner's discretion.

EQUIPMENT TYPE

The first decision to make is what type of harvesting system to use. Do you want a mechanical full-tree system (comprising a feller-buncher, grapple skidder, delimeter, and slasher), which brings trees to the roadside for better utilization? Or do you prefer a cut-to-length (harvester and forwarder) operation? There are also hybrid systems, in which a feller-buncher lays trees on or beside the trail, and a harvester is used to process them into round wood, to be taken roadside by a forwarder.

Besides the obvious differences between these harvesting systems, consider machine dimensions and characteristics – such as width, boom reach, ground pressure, and electronic technology. In dense stands of small trees, it is virtually impossible to conduct commercial thinning with a feller-buncher, if the goal of the treatment is to release crop trees while leaving a high residual basal area.

Not all harvesters are equal; the woodlot owner needs to understand the specifications and configuration of the contractor's equipment. Does it have a track, or an eight-wheel carrier? Does the harvesting head have both a butt saw and a topping saw? Is it small enough to do ghost trails and meander among crop trees? Woodlot owners should not settle for the first harvesting system that becomes available; it may be too much of a compromise to make.

TRAIL PATTERN

The most obvious consequence of selecting a particular harvesting system and machine type is the trail pattern that will be used. The size of the machine generally dictates the width of the trails, and the distance between the trails depends upon boom length and the operator's work methods. Even with the largest of machines, experienced operators can function with five-metre trails on flat ground. The trail width divided by the distance from one trail centre to another provides the "trail ratio" for the harvest block. Treatments such as single-tree selection and commercial thinning require trail ratios of less than 20 percent. Beware of irregular



A Tigercat harvester with small tail swing. Tolerance for damage to retained trees is another factor that the landowner should negotiate with the contractor before work proceeds.



The traditional full-tree harvesting system, based on roadside processing, is still used, though cut-to-length harvesters have become more common.

or herringbone trail patterns, which result in the trail ratio creeping up. It is good practice to determine the trail pattern for all treatment types, including clearcutting. Poor post-treatment results are almost always associated with poor control of the trail pattern. Straight trails generally lead to better control of the pattern.

Ask contractors how they regulate their trails. Are they flagged ahead of the operation? Do the operators rely on GPS navigation? Be concerned if the answer is, "We usually eyeball it."

QUALITY STANDARDS

For any treatment, and especially for partial cuts, you should only hire contractors who have a track record of good

quality work. The best way to get an appreciation of your contractor's ability to meet quality standards is to visit past work sites, and even talk to past customers. But you should not assume that the work on your woodlot will be done to the same standard. Changes in wood prices may put financial pressure on contractors, causing them to compromise quality for the sake of higher productivity. Also, operators and equipment may have changed, so outcomes will not necessarily match the quality of past treatments.

The parameters for quality include control of the trail pattern, damage to site, injury to crop trees, residual stand density and composition, proper release of crop trees, etc. Additional



A well-executed trail pattern on a selection harvest operation. Poor planning of trails is a major cause of unsatisfactory post-treatment results.

considerations are wood utilization, merchandizing, waste, and bucking practices. You must be comfortable with your contractor's ability to generate products that meet the specifications to produce maximum returns. This is especially true if the contractor is remunerated by total volume only. Waste must be kept to a minimum.

When the work is being done by a mechanized harvester, you must determine how well the contractor is using technologies such as on-board computer data, price lists, bucking optimization, etc. Determine whether the harvesting head is well calibrated and used according to industry best practices. Do the operators conduct daily checks on measurements, to confirm that specifications are being met? Verify that the volume measured by the harvester reconciles with scale volumes at the mill.

Of course, there are external factors beyond the control of the landowner, which may limit your ability to negotiate the specifications of a harvest job. Contractors are busier when the demand for wood increases – such as this past summer, when lumber prices were very high. A contractor may not be available during the window of time you consider ideal. Sometimes, you will have no choice but to operate in the wet season, or risk not getting a contractor at all.

But in the end, it is your woodlot, and the decision to hire one contractor over another is entirely yours. In your discussions with prospective contractors, it is perfectly acceptable to say, "As a customer, I need to know that you can operate according to my schedule, while keeping the trail ratio below 25 percent, improving the quality of the residual stand, keeping 18 square metres of residual basal area in the leave strips, releasing crop trees on at least three sides, and generating a sawlog rate above 25 percent from the harvested trees."

(Gaetan Pelletier is executive director of the Northern Hardwoods Research Institute in Edmundston, N.B.)

YOUR NECK OF THE WOODS

Coming Events

Ongoing: The Balsam Fir Forum Digital Series for Christmas Tree Growers. Informative, comprehensive, and practical advice from industry professionals on growing and operating a tree production business. Visit balsamfirforum.com.

Jan. 14: Continuous Improvement in Forest Trucking Operations Zoom Webinar, Canadian Woodlands Forum Virtual Forum. Kelly Henderson of the Trucking HR Sector Council Atlantic will preview the Truck Driver VR Simulator and give an update on the Forest Truck Driver Training Module. AV Group NB Inc. will address maximizing fleet utilization; JDI will provide an update on the N.B. Tri-Drive-Quad Pilot Project, and in conjunction with AV Group NB Inc. will look at examples and challenges with truck backhauls. Visit cwfcf.org/event-4095154 for details.

Feb. 10: 2021 Woodland Conferences Webinar via WebEx. Visit nswoods.ca for topics and details.

Feb. 16: Wood Pellet Association of Canada Asian Wood Pellet Conference. "Energizing Asia with Sustainable Low-carbon Biomass" is a three-hour live online event, starting at 7 p.m. EST, that will cover a global market review with an emphasis

on Japan, South Korea, and Taiwan; government policy developments affecting biomass; evolving Japanese biomass sustainability and GHG requirements; the Canadian wood pellet sustainability story; results of a Canada-Japan wood pellet greenhouse gas emissions study; opportunities in Taiwan and elsewhere in Asia; and question and answer sessions. For more information, email Gordon Murray, executive director Wood Pellet Association of Canada, at gord@pellet.org or visit www.canadianbiomassmagazine.ca.

Feb. 24: 2021 Woodland Conferences Webinar via WebEx. Visit nswoods.ca for topics and details.

Mar. 10: 2021 Woodland Conferences Webinar via WebEx. Visit nswoods.ca for topics and details.

May 14-15: 2021 Loggers' Expo-Northeastern Forest Products Equipment Exposition, Cross Insurance Center, Bangor, Maine. Visit northernlogger.com or phone 319-369-3078.

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