

## RURAL ENTERPRISE SERIES

RES-04B

### Custom Portable Sawmill Enterprise

Portable sawmills have become an attractive enterprise option in recent years. With improved technology, a small unit run by one or two people can economically produce good quality lumber. There are more than 70 manufacturers of portable sawmills from which to choose and a wide variety of models. The simplest and least expensive rely on manual labor for all operations except powering the saw blade. The more automated (and therefore expensive models) include hydraulic or electric accessories that require minimal physical labor.



The demand for services provided by portable mills is a relatively new phenomenon. Much of the north central and northeastern United States is heavily forested with maturing stands of mixed hardwood and softwood species. The wood resource for smaller mills is virtually limitless. While acreage of forest and standing volume of timber is generally increasing, land parcel size and ownership tenure is decreasing. Large-scale sawtimber management is just not realistic for most owners. Portable mills can fill the niche that the traditional forest industry has lost. These mills can often turn a profit from relatively small volumes of low-grade sawlogs from forest thinnings on-site that otherwise would be harvested as low-value firewood. Owner/operators can often gain access to free or inexpensive logs, seek out specialty "character" wood, saw custom dimensions, and saw on sites with low sawtimber volumes, thereby saving trucking to and from a mill.

#### Skills and Time Needed

It may be a good idea to assess your interests and capabilities by working for an established owner/operator for a few weeks or months before you take the plunge and buy your own mill. You'll learn about the realities of running both a mill and a business. You'll also get an appreciation of your physical limitations and be better able to decide on how much automation is appropriate for your enterprise.

Portable sawmill operators need to be physically able to lift and stack logs and operate the sawmill. Some higher priced mills almost fully automate these processes. If your mill is portable, you should be comfortable maneuvering equipment and a truck in small clearings. You should also be able and willing to drive between work sites and the lumber buyer. You'll save money and time if you are able to perform regular maintenance such as blade sharpening and fix problems with the mill as they arise. Good customer service is an important aspect. Your business will grow faster if you enjoy meeting and talking with new people.

#### Equipment Needed

Besides acquiring a sawmill, you will also need a truck with which to transport it. Prospective sawmill buyers should not rush into a purchase. It is crucial to gain first-hand familiarity with as many specific mills as possible before making a purchase. If at all practical, don't buy a specific mill until you see it being used by a satisfied, competent, and experienced private owner/operator. *Independent Sawmill & Woodlot Management* magazine is an excellent source of information on various mills. Most new portable mills range in price from around \$5,000 to \$35,000. New manual mills (in which you load the logs and push the bandsaw through the log) run about \$5,000 to \$12,000. Fully hydraulic mills (which load and turn logs and have a powered carriage feed drive) cost about \$16,000 to \$35,000. Production for the manual mills is only about 1,000 board feet per 8-hour day, whereas hydraulic mills may cut 3,000 board feet per day.

If, for instance, you have only about \$10,000 to spend, you could afford a new mill on the low produc-

tion end, or a used mill in good condition from the middle range, or a "fixer-upper" from the upper end. Depending on your circumstances and mechanical abilities, you may consider learning about and eventually looking at mills that may seem initially out of your price range.

As the owner/operator of the mill, your time is best spent sawing lumber, not loading logs, and off loading and stacking lumber. Production will be a lot higher with you at the controls, plus you can run the mill for longer stretches if you're not doing a lot of backbreaking labor. For these reasons, you might consider hiring a laborer. Of course, the price of finding and keeping a good worker often comes at a premium. You could also consider requiring the customer to supply labor for such tasks, but there are liability and production considerations involved with depending on a novice and unknown "customer helper."

### **Insurance Concerns**

A critically important aspect of your business is that of liability and insurance. If you have one or more employees, you may be required to cover them with workers' compensation insurance. Self-employed individuals do not have to obtain this insurance in many states, but it is worth a check. You may choose to purchase it through a private insurance firm. Clients may request evidence of a worker compensation policy before they allow work to begin.

General liability (third-party) insurance covers you should your business cause damage or injury to your client or a third party, such as if you happened to knock over your client's neighbor's fence when maneuvering the mill. If you have clients assist with the work, you must ensure that any injuries they sustain are covered. It may also be wise to get an "equipment floater" or "inland marine" rider to insure your mill as a piece of mobile equipment. This will cover damage incurred on the road, at your home, or at a job site. Your regular automobile insurance may cover damage you cause to other vehicles while on the road for the business. It is wise to inform your automobile insurance agent of your new business to be sure you are covered under various scenarios.

### **Marketing**

It is unrealistic to out-compete prices offered by retail-lumber dealers. If you are to stay in business and make a profit, you must be able to offer something that your competition (retailers or other portable saw-mill owners) cannot. Find your niche. Your service (availability, custom sawing, production rate, production efficiency, honesty, etc.) or product (species, kiln dried, finished lumber, etc.) must be unique. It's important to research how you can beat the competition and then capture and hold on to that market.

Many established owner/operators have no need to market or advertise their business. They have all the business they want just from word of mouth! Still, for operators just starting out, or in more competitive markets, it is wise to spend some time and effort developing a marketing campaign based on your niche. Some places to advertise include the yellow pages, hardware stores, tree nurseries, realty offices, penny-saver papers, farmer newsletters and magazines, and forest owner magazines. Let foresters, loggers, plumbers, electricians, carpenters, appliance repairmen, Cooperative Extension offices, chainsaw dealerships, farm equipment service/dealers, and even other sawyers know of your business. Create a web page for your business. Look for opportunities to demonstrate your mill and your services at county, agricultural, and forestry fairs, trade shows, forestry workshops, and dealerships. Post a sign at sites where you are sawing so passersby can get in touch with you if they are interested in your services.

### **Financial Picture**

The budget that follows contains information based on hourly charges and board-foot charges. When you figure the number of days you will cut per month, allow for downtime for machinery maintenance. There may be times when it is too wet to get into the woods, so there is a chance you will not cut every month. You'll need to estimate your average board feet per day based on an 8-hour day. Consider what you could cut with and without help, on good and bad days, and days with and without breakdowns. Guidelines from equipment manufacturers may be overly optimistic. Sawing rates vary regionally. In central New York, for example, cutting charges range from \$0.20 to \$0.35 per board foot.

Some of your expenses will vary depending on the amount of lumber sawn, the number of days worked, the number of times the mill is moved, your employee expenses, etc. Manufacturers typically provide estimates of the operating cost per board foot or hour. Other costs include moving your portable sawmill from job to job, and the time spent setting up the mill and doing miscellaneous repairs, such as sharpening used saw blades or buying new blades.

A typical wage for an employee might be \$10 per hour. Some forest industry associations offer Worker Compensation insurance at rates significantly less than the state rates. This is well worth looking into. You will probably have to pay into the state unemployment insurance fund at a percentage of gross annual employee wages. The percentage varies by business and employer, but for seasonal and temporary employment such as sawmilling, the rate is often relatively high.

Fixed expenses do not vary with the amount of work you do. You'll have these expenses regardless of how much time you work or your production level.

Insurance coverage is one fixed expense. It should include at least liability, comprehensive, theft, and transportation, which will typically cost from \$900 to \$1400 annually. Mills are often purchased with a loan. Your loan officer will figure the monthly loan payments.

Financial analyses have been run using potential profits for three different mills with different worker requirements, manual labor needs, and daily board-foot capacities. On the basis of a sawing charge of \$0.20 per board-foot, results show that it is usually most profitable to buy a small, lower cost production unit and have no employees or a large unit with a substantial startup cost and have one employee. The larger daily production possible with the higher priced mill compensates for the greater startup cost. However, these results should be interpreted with some caution. For example, achieving the high annual output for the large unit could require active marketing by the owner to find enough clients to keep the machine busy.

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### Information Resources

*Independent Sawmill & Woodlot Management* magazine, <<http://www.sawmillmag.com/>>

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Greason, M.C. 1998. Developing a Custom Sawmilling and Kiln-Drying Enterprise. In: Proceedings of Conference on Natural Resource Income Opportunities for Private Lands, April 5-7, 1998. Maryland Cooperative Extension, University of Maryland, College Park, MD. (301) 403-4264

Tooch, D.E. 1990. Management Guidelines for Sawmill Operators. Publ. FDIR001001. New Hampshire Cooperative Extension, Durham, NH. (603) 862-2346

Wengert, E.M and D.A. Meyer. 1992. Processing Trees to Lumber for the Hobbyist and Small Business. Forestry Facts #60. University of Wisconsin Cooperative Extension, Madison, WI. (608) 262-3455

### Adapted from

Goff, G., J. Kays, M. Greason, J.E. Wagner, H. Canham, Developing a Custom Portable Sawmill Enterprise, MFS-1, Maryland Cooperative Extension.

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## Profit and Cash Flow Analysis of a Portable Sawmill

Work Charged on an Hourly Basis		
Profit Analysis	Example	
A. Purchase price of mill	\$18,000.00	
B. Salvage value of mill after years used	\$3,000.00	
C. Number of years used	5	
D. Number of hours used monthly	60	
E. Depreciation cost per hour	\$4.17	
F. Annual interest cost per hour (or opportunity cost)	\$10	
G. Interest cost per hour	\$1.46	
H. Maintenance cost per hour (gas, oil, blades, etc)	\$4.00	
I. Labor cost per hour (self)	\$0	
J. Other costs per hour (insurance, marketing, accounting, etc)	5.25	
K. Total cost per hour	\$14.88	
L. Rate charged per hour	\$35.00	
M. Net profit per hour	\$20.13	
N. <i>Net profit per month (labor and time for owner)</i>	<i>\$1,207.50</i>	
<b>Cash Flow Analysis</b>		
O. Amount financed	\$15,000.00	
P. Months financed	36	
Q. Loan annual interest rate	12.00%	
R. Monthly loan payment	\$498.21	
S. Cash operating cost per month	\$555.00	
T. Total cash outflow per month (loan payback + operating costs)	\$1,053.21	
U. Total cash income per month	\$2,100.00	
V. <i>Net cash flow per month</i>	<i>\$1,046.79</i>	
<b>Work Charged on a Board Foot Basis</b>		
<b>Profit Analysis</b>		
W. Board feet processed per hour (1000 per 6-hour day)	125	
X. Total cost per board foot	\$0.12	
Y. Rate charged per board foot	\$0.30	
Z. Net profit per board foot	\$0.18	
AA. <i>Net profit per month (labor and time for owner)</i>	<i>\$1,357.50</i>	
<b>Cash Flow Analysis</b>		
BB. Total cash income per month	\$2,250.00	
CC. <i>Net cash flow per month</i>	<i>\$1,196.79</i>	
<b>Notes:</b>		
V. Cash flow does not consider depreciation, but it does include loan payments.		
W. Include time spent traveling, setting up and taking down, moving logs, maintenance, and marketing.		