

LOGGING SMALL TIMBER ON SMALL TRACTS WITH MULES

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Mechanized or Biological Powered

Previous articles have covered the use of small tractors equipped with skidding winches, and ATVs with customized trailer. Those articles are available on the Colorado Forestry Association web site, www.coloradoforestry.org/news.

A lot of logs were moved with horses, mules and oxen before mechanized equipment became useable and affordable. However, mechanized logging dominates today for several reasons. Modern diesel powered equipment with hydraulic implements of all kinds has the power and versatility to handle any job on any terrain. A given base machine can be outfitted with interchangeable implements. Diesel fuel, for the past 60 years, has been cheap.

Another major advantage is that with mechanized equipment only the operator needs to be trained. The machine does not. Whereas, with animals, both the logger and the draft animal need to be trained to work as an effective team.

Basic Equipment

The draft animals and a way to transport them to the job site.

In this case the animals are draft mules from percheron mares. They are 16.3 hands tall and together they weigh approximately 3,000 pounds.

They are owned and trained by 'Moose' Pier, who was mentored by Tom Mowery. Simple voice control works 90% of the time.





Between the harness and the log is a spreader (also known as a doubletree).

Attached to the spreader is either a choker chain or log tongs.

Not both at the same time as pictured here.



The spreader and choker drags on the ground behind the team on the way to the logs. The team can turn around in place on a steep slope.

(Try doing that on your tractor!)

The spreader must be held up and behind the team as they turn to keep it out of the way of the mule's feet.



Then the choker is attached to the spreader. The mules must trust the person behind them. And the person must trust the mules to stand still while he is in a vulnerable position.

A skidding arch could be used to lift the front end of the log off the ground. This would reduce soil disturbance and resistance to pull. However, it would make maneuvering on the steep slopes a totally different, and difficult, proposition.

Then its off to the landing. The mule skinner must be careful to stay off to the side to avoid getting run over by the log. When possible, it would be safer to hook the log up close to the spreader and use long reins to position one's self along side the log and behind the leading end. A stumble would be less likely to result in getting run over by the log.



The largest log skidded with this team was 20' long, with 11" top diameter, and 19" at the stump. It was estimated to weigh 800 pounds. This was easy enough going down hill, however there was a slight uphill stretch to the landing. That uphill portion did tire the animals. Another important factor in reducing the work for the animals is how well the log is cleaned up. Even short stubs left on the log will increase soil disturbance and the work required to skid the piece. A rough log will also increase the severity of injury if a person does get run over by a log.

The number of logs that could be pulled out of the woods will vary greatly based on skidding distance, size of logs, weight of logs, slope, brush, and snow or ice on the ground. Even this well trained and strong team can not keep pace with the rate of production possible with a small tractor and skidding winch.

So, why use draft animals?

- They don't consume fossil fuels. They run on renewable fuels.
- They don't rut soft ground the way a machine with wheels will.
- A single critter can snake logs out of thick timber with much less damage to the residual stand than a machine with a typically operator. If the payload gets hung up behind a machine, the operator uses more power to pull free at the expense of the residual stand. Mules and horses realize that something is wrong and will stop while the driver finds a more delicate solution.
- They fertilize the forest at no extra cost.



Oxen have also been used to skid logs. This team weighs about 2,000 pounds.

Pictures of oxen courtesy of Rolland Johnson of Three Eagle Ranch.

