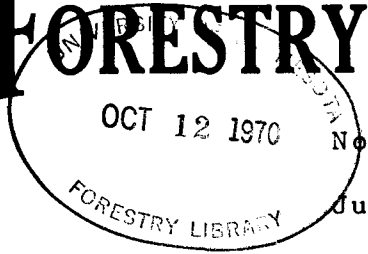


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# MINNESOTA FORESTRY NOTES

COPY 2



POWER DRIVING BLUNT VS. POINTED WOOD POSTS

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The service life of properly treated wood fence posts has been established at 30 or more years and is considered satisfactory. However, hand setting of wood posts is a hard, slow job and tends to discourage their use. The use of power-driven equipment has eased this task.

Driving of wood posts is not a new idea. They have been hand-driven with a heavy sledge or maul since early times. To make driving easier, a long, slender point was usually made on the large end of the post. Even then, hand driving was a hard job, and most of the driving was done in the early spring or fall when the soil was moist.

Setting of wood posts has been made easier by the development of the power post driver. Each year an increasing number of treated wood posts are being power driven on farms and along highway right-of-ways. Some of these posts have been power driven with the small or top end in the ground; others have been driven with the larger or butt end in the ground; some have been pointed and others have been driven blunt.

When using a 200-pound or heavier power-driving head, the posts could be driven without pointing, and the idea soon spread that pointed posts were not necessary. The present study was designed to determine the merits and effectiveness of power driving pointed versus blunt treated pine posts.

Two hundred 3-inch diameter, 6 1/2 foot long pine posts were divided into four equal groups. Fifty posts were pointed on the small end and 50 were pointed on the large end. Fifty posts were chosen to drive the small blunt end in the ground and 50 the large blunt end. All posts were lathe peeled, and only those with very little natural taper were used. All posts were pressure treated with creosote before driving. The test area was a deep loam soil covered with a heavy grass sod. Half of each group of posts was driven when the soil was moist and half when the soil was dry. While actual moisture determinations were not made, the moist condition followed a period of heavy rain with the soil near saturation and the dry conditions when

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the soil was dry enough to be cracked. All posts were driven to a depth of 24 inches using a 200-pound power post driver. The number of blows required to set each post was recorded. After driving, the tightness of set and straightness of set were recorded for each post.

All four types of posts drove more easily when the soil was moist (Table). About 24 percent more blows were required to set the same post in dry soil as compared to moist soil.

Blunt posts required about 16 percent more blows than pointed posts. There was no particular difference in the number of blows required to set posts pointed on the large end or the small end.

All of the pointed posts and most of the blunt posts driven with the small end in the ground were set firm. About 15 percent of the posts with the blunt end in the soil were not immediately set firm. This may not be too important, for after 3 months the soil had settled around them and these loose blunt posts were also firm.

No special attempt was made to set each post straight, and some posts of each group failed to be set plumb. This was not a serious factor except for the posts with the small end pointed where about 16 percent were 3 inches or more out of plumb.

Previous work has demonstrated that when the depth of set is equal, greatest strength of the post and also its resistance to overturn is greatest when ground-line diameter is greatest, i.e., when setting the large or butt end of the post in the ground. Since there is a saving of about 16 percent in the number of blows required to drive the pointed post and an improvement in the straightness of setting, the study clearly shows the desirability of using posts pointed on the large or butt end.

Table

Blows Required to Drive 3-Inch Diameter 6 1/2 Foot Posts to a Depth of 24 Inches

<u>Post Type</u> (50 of each type)	<u>Average Number of Blows</u>		
	<u>Dry Soil</u>	<u>Wet Soil</u>	<u>Dry &amp; Wet Soil</u>
Pointed large end	18.72	14.82	16.77
Blunt large end	20.91	18.07	19.49
Pointed small end	20.18	13.75	16.96
Blunt small end	21.55	17.43	19.49