

AGRICULTURAL SWEEPS MAKE SCALPING EASY

Gordon Barrington, Agricultural Engineer

F. B. Trenk, Extension Forester University of Wisconsin, Madison, Wisconsin

An agricultural tool widely used in the renovation of old pastures for improved forage production is the sweep. It might be described as a modified duck-foot shovel, with shearing spans ranging up to 30 inches in width. It functions principally by severing the roots of grasses and weeds at predetermined depths of up to 6 inches below the surface.

In some places hand scalping or its equivalent is required for tree planting. Furrowing, although practical, may be definitely objectionable, either because of the continuous trench which results, or because of the clearly defined rows, especially when landscape effects which suggest natural stands are desired. Regardless of the tool used, the severing of the roots of shrubs and sod represent the most severe part of the labor involved in hand scalping.

A modified sweep, mounted on a single plow beam, and set to operate at a suitable depth on a hydraulically operated three-point-hitch type of tractor does a very effective job severing the roots of grasses, weeds, and small shrubs. (See photo following.) A disk coulter operates in front of the sweep. Lateral incisions in pairs were made into the ribbons of turf with long-handled spades at intervals which were determined by the spacing desired for the planted trees. The short strips of turf between incisions, about 12 inches in width, were rolled back, leaving in effect short, intermittent furrows appearing to be the work of a shallow middlebreaker plow.

The rollback of the turf was made much easier when vertical blades 3 inches in height were welded to the tips of the sweep. Their cutting edges slope backward, and are parallel to the line of draft. They score, but do not completely sever, the sod strip, producing what might be described as a hinge, which makes it much easier to tip the sod back. At the same time the sod strip lies flat, thereby more effectively smothering the live sod under it.

The sweeps which were used are available from various manufacturers but they generally are intended to be mounted on a cultivator. A special

mounting bracket is therefore required to mount the sweep on the plow beam. The drawing shows the bracket which was used to mount the sweep on a Dearborn plow beam. A 3/4 inch carriage bolt passes through the sweep mounting hole and through the clamp piece at the rear of the bracket. It will probably be necessary to change the location of the mounting holes to adapt the bracket to fit another make of plow. Mounting holes for plow bottoms are not standardized. Washers may be used to fit the bracket to the beam if the beam is tapered.

