NOTES

Figure 2—View of knocked down thresher showing cylinder, concave, and concave housing.

in a basal width of $\frac{3}{4}$ inch and terminal width of $\frac{1}{2}$ inch. At right angles to the plane of rotation the teeth were tapered to a terminal dimension of $\frac{3}{8}$ inch from the full $\frac{5}{8}$-inch base dimension.

The sides and end were made of $\frac{3}{4}$-inch birch plywood, and the balance was made of 18-gauge galvanized sheet metal. Not shown in the figures are the receiving drawer and screens, which fit snugly in the lower portion of the machine.

The machine is practically self-cleaning. The concave assembly is easily raised if it becomes necessary to remove pliable material, which may occasionally be retained by the teeth of the concave. The space between the concave and cylinder is easily adjusted by a series of notches at the top support of the concave and similarly spaced holes at the bottom support. These supports providing for spacing are evident in figure 1.

The machine will handle a variety of materials, including many grasses, small grains, sorghums, millets, vetches, many small legumes, peas, and some of the smaller bean and cowpeas. Large sizes of the last two probably could be threshed if an alternate concave of a larger diameter were constructed.

The unit is operated by a $\frac{1}{3}$ H.P. motor on a mounting from which the motor can be lifted for use on other equipment when the thresher is idle. Blueprints for the construction of this machine are available.—Edwin James, Botanist, Crops Research Division, ARS, USDA, Fort Collins, Colo., formerly Agriculturist, Southern Regional Plant Introduction Station, Experiment, Ga.

AN EIGHT-ROW TOOL BAR NURSERY DRILL

TRACTOR-powered nursery seeders are now used by most crop improvement workers. Descriptions of many of these have been published and literature pertaining to a number of them has been cited by Porter and by Miller and Ross.


Figure 1—Views of the tool bar nursery seeder.

The tool bar seeder described herein is a modification of the tractor-drawn drill previously described by Porter. It was built by R. Carl Reeder, Agricultural Aid, Soil and Water Conservation Research Division, ARS, USDA, Southwestern Great Plains Field Station, and has been used for planting small grain nurseries since 1954. Its general construction can be seen in figure 1.

Stationary shanks with shovel type openers were mounted on a conventional 3-point-hookup tool bar. The shanks were spaced 13 inches apart so that no opener would follow the tractor wheels. A depth gauge wheel was mounted on each end of the tool bar. Solid press wheels with spring tension were attached as shown. V-belt seeders were mounted on the tool bar above the openers. Columbia planters, for use in bulk seeding of relatively large areas, were mounted in front of the V-belts. The Columbia planters and front V-belt pulleys were attached to separate shafts which were chain driven from a sprocket on the rear wheel of the tractor. A sliding gear, similar to that used by Miller and Ross (2), was placed on the tool bar as a part of the