

Row separators permit trouble-free lifting

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Hheavy snowfalls on nursery seedbeds sometimes cause the outside rows of 3-0 red pine to lean into the seedbed path. The leaning trees do not retain their upright position until the lifting season is nearly completed. Thus, it is impossible to lift the seedlings for field distribution without the tractor tires running over the leaning seedlings.

This crushing of seedlings by the tires damages buds, needles, and stem tissue.

In the past, corrective action at Lake States nurseries consisted of shoveling or hoeing soil from the path and placing the soil in such a way as to push upright the leaning seedlings on the outside rows. Hilling of soil to the outside rows would permit passage of tractor tires

without damage to seedlings. After one season this method proved costly.

To eliminate this costly hand procedure row separators were fabricated and adapted for our conditions. A mower cutter guard (or any cone-shaped metal piece) is used as the base with $\frac{1}{4}$ inch round steel rods welded in place on the shoe for separating seedlings.



Figure 1.—A closeup of front row separator which the tractor operator adjusts with the rod attached to the angle iron.

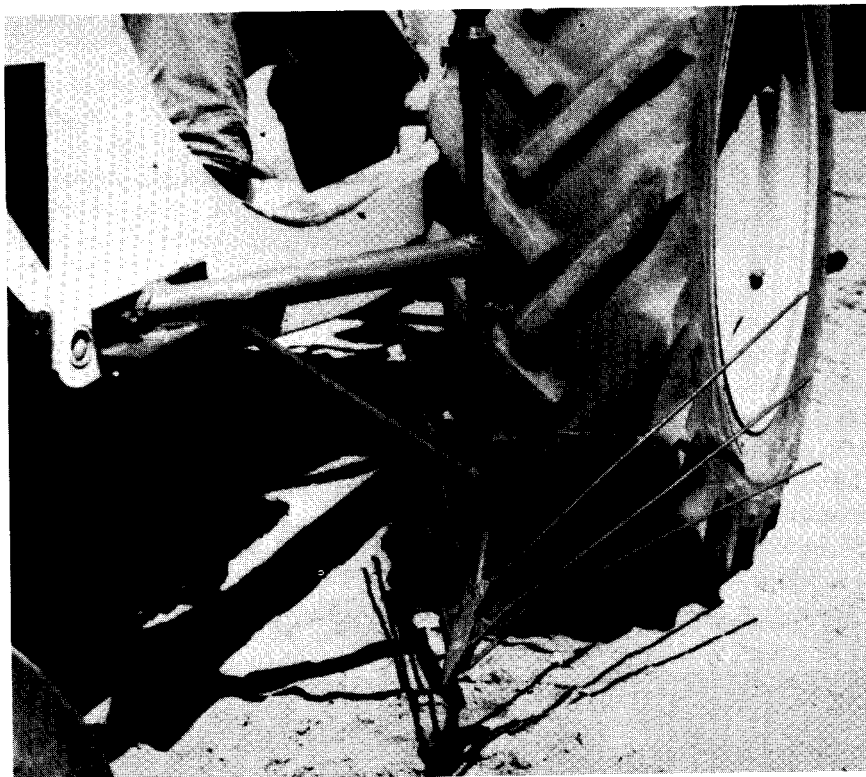


Figure 2.—A closeup of rear row separator showing frame attachments and adjustments for lowering and raising the separator.

This row-separator is anchored to the tractor by means of 1 inch pipe. The two front row separators are mounted as one unit. For the rear tires the separators are mounted individually. Adjustment for the four separators is made by one of eight setscrews. Two adjustment screws are for locking the two separators in place; two others are for adjusting height for each front separator; and another permits removal of each row separator for minor repairs or when doing other work. There is only one adjustment screw for each rear separator. Turning and travel time are not affected. The operator must remember to raise the separators prior to hacking. Although tractor models may vary slightly, the row-separators can be made and tested in 2 or 3 man days.

The row-separators have provided ease in lifting seedlings with minimum cost or seedling damage.



Figure 3.—Rear row separators parting the seedlings to avoid seedling damage from tractor tires.