

A Hand Seed Divider and Method for Planting Experimental Plots

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Highlight

Quick, precise, and even seed distribution was obtained with a plastic seeding device and wood trough, both of which cost less than \$7 for material and required less than four man-hours for construction. These two items appreciably reduced the time required to plant grasses and legumes on small experimental plots.

A major problem in seeding small experimental plots is obtaining equipment that will handle a wide variety of different-sized seeds in very small amounts, and permit uniform spacing of seed. A seed divider and a 5-ft planting trough (Fig. 1) were designed to meet these requirements. A particular study required that grass and legume seeds be evenly distributed along a 10-ft row. The seeds were packaged by weight into equal portions for each 10-ft row.

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Similar planting designs to test adaptability of plants have been used as early as 1945 (Johnson and Hull, 1949). A device for spacing seeds within rows in flats is described by Dade (1966).

This article describes how the seeds in each package were evenly dispersed along each row in a field planting trial conducted in the Black Hills of South Dakota.



FIG. 1. Seeds in each segment of the seed divider are emptied into corresponding 1-ft segments of the planting trough.

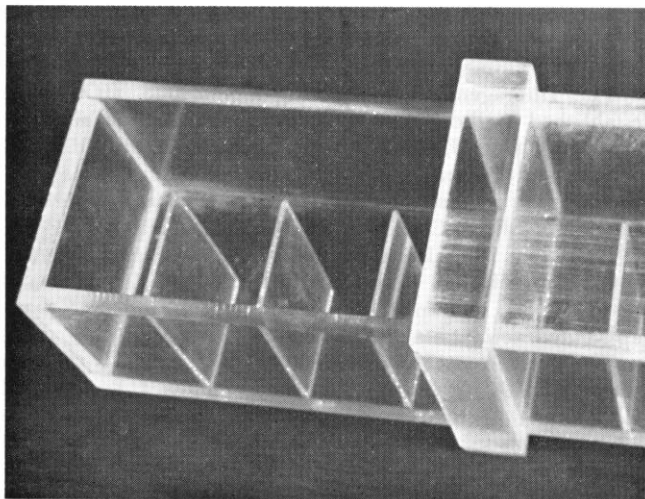


FIG. 2. Seed divider, showing construction of dividers and sliding lid.

Material and Design

The small seed divider, measuring $2.25 \times 2.25 \times 12$ inches, was constructed with $\frac{3}{16}$ -inch-thick clear acrylic plastic for the shell, and $\frac{1}{16}$ -inch-thick clear plastic for the interior partitions. Each division held seed for 1 ft of the row to be planted. The seeds were first placed into the seed divider and spread out evenly with a spatula or small brush. The interior partitions, which covered only half of the bottom of the divider (Fig. 2), permitted the operator to spread the seeds evenly on one side, then tilt the divider so that the seeds would slide toward the partitions and into the 10 compartments in nearly equal portions. The seed divider has a sliding lid that allows the operator to empty each division individually into the trough.

The planting trough is 5 ft long, with a divider at each ft interval (Fig. 1). Construction material consisted of $\frac{3}{4}$ -inch pine for the sides and ends, and $\frac{1}{4}$ -inch plywood for the dividers. The entire surface was painted black. The paint allowed the seeds to slide easily, and also made the seeds more visible. Seeds from each division of the seed divider were emptied into a corresponding 1-ft division of the trough and spread evenly. The trough was then tilted

to allow the evenly spaced seeds to fall into the prepared seedbed.

Discussion

The small seed divider and trough worked very well on small plots, and greatly speeded up the planting operation. Seed distribution along the rows was very uniform. By using clear plastic, the operator could see the seeds at all times. The seed divider was economical to construct and required only a few hours to assemble; furthermore, it can be constructed to any desired proportion. A seed divider may be constructed for either a right-handed or a left-handed operator.

One problem encountered with the plastic container was that static electricity built up on all exposed surfaces during use. Seeds would cling to the surfaces, and slow the operation considerably. To overcome this, the plastic was treated with "Statikil."² All indications of static electricity were eliminated after two treatments. Two treatments a day were sufficient to keep the divider relatively free of static electricity. As the number of treatments on the divider increased through use, the daily buildup of static electricity appeared to decrease.

A wind shield was constructed to prevent light seeds from being blown from the planting trough. The wind shield was not needed on calm days. This shield was effective when winds ranged from 10 to 30 mph.

Although many different species of grasses and legumes of various sizes and numbers were seeded with this seed divider and trough, no other problems were encountered. This seeding technique is effective for planting different species on small plots where mechanical drills would not meet the desired requirements.

LITERATURE CITED

- DADE, EUGENE. 1966. A planter for spacing seeds within rows in flats. *Agron. J.* 58:636-637.
- JOHNSON, W. M., AND A. C. HULL, JR. 1949. Range forage species for seeding in ponderosa pine areas. U.S. Forest Serv., Rocky Mountain Forest and Range Exp. Sta. Res. Note 5, 3 p.

²Trade names are used for the benefit of the reader, and do not imply endorsement or preferential treatment by the U.S. Department of Agriculture.