

NEW, VERSATILE PRECISION SEEDER

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A new nursery seeder has proven its efficiency in field tests at 10 Federal nurseries. Nurserymen were impressed with the Oyjord seeder's simplicity as well as its sowing accuracy and versatility.

Increasing requests for small lot orders of seedlings have made an efficient seeder essential for forest nurseries. Because seed sizes and sowing rates vary among seed lots, seeders must be accurate as well as simple to operate, adjust, and clean. The Oyjord handles a variety of seed sizes, has an accurate metering system so desired sowing densities are achieved, and is easily adjusted for a variety of seed spacings and planting depths. In addition, it is easy to clean, sows at various speeds, and has not caused detectable seed damage.

The Oyjord seeder has been under evaluation by the Missoula Equipment Development Center (MEDC), Missoula, Mont., and is now available to tree seedling nurseries. The J. E. Love Co. of Garfield, Wash., manufactures and markets the seeder in this country. The Oyjord sells for about \$7,000.

The Oyjord seeder attaches to any standard-size tractor with a three-point hitch (fig. 1). As the seeder moves along the plot, coulters open narrow trenches in the ground. Small trailing packing wheels press the seeds into the soil. With optional attachments, 2 to 14 rows can be planted at the same time, with a minimum row spacing of about 4 inches.

The Oyjord has two easily exchange hoppers for sowing (fig. 2)

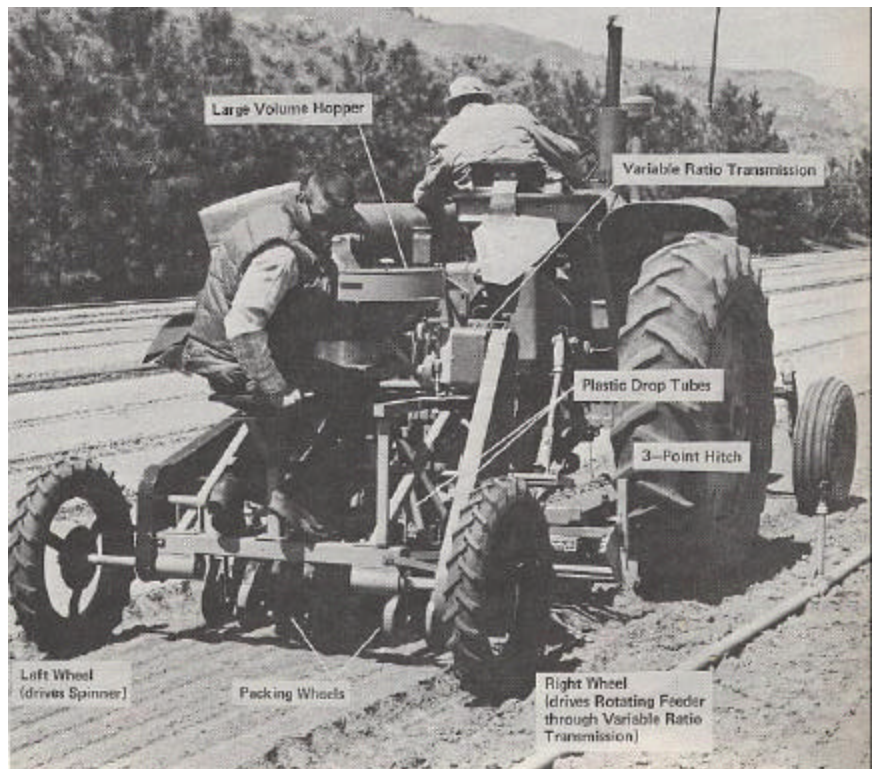


Figure 1.—Oyjord seeder attaches to any standard-size tractor with a three-point hitch.

- A *batch hopper* for small lot plot seeding. Seed for the desired plot length is placed in the hopper. A hand lever raises the hopper allowing the seed to fall into the rotating feeder. The variable ratio transmission is adjusted so the rotating feeder makes one complete turn as the seeder travels the plot length, so seeds are distributed evenly throughout the plot's length.

- A *continuous seeding hopper* for sowing large lots of seeds. The hopper feeds seed into the rotating feeder at a constant rate for uninterrupted sowing. To adjust or calibrate the seeder to sow at a specific rate—say 3 grams per foot—is a simple operation. The rotating feeder is hand-cranked through one revolution and the number of seeds dispensed is weighed. If, for example, 90 grams of seed are dispensed in one revolution, the nurseryman simply divides 90 grams by his desired sowing rate of 3 grams per foot. This gives him the distance required to sow 90 grams of seed at 3 grams per foot; the distance is 30 feet ($90 \text{ gr} / 3 \text{ gr/ft} = 30 \text{ ft}$). He then sets the variable ratio transmission for 30 feet and is ready to sow.

Tests

MEDC conducted a market search for precision seeders in early 1975. Several seeders were evaluated for their simplicity of operation, ease of adjustment,

sowing accuracy, and efficiency in handling small lots of a variety of tree seeds.¹

The Oyjord was then taken to the Forest Service Lucky Peak Nursery near Boise, Idaho, where it was field tested sowing common conifer tree species, as well as small lots of various shrubs and forbs. It was further evaluated by nine federal and one private tree seedling nursery scattered across the United States.

The Oyjord performed well in all tests. Nurserymen consistently rated it excellent in ease of calibration, adjustment, and cleaning. Typical of the comments are these from Frank E. Morby, nurseryman at the Lucky Peak Nursery:

We at Lucky Peak were extremely impressed with the ease of operation; its calibration was simple and quick, and the drill was the best I have worked with in handling small seed lots that covers 5 to 20 lineal feet of bed space.

And these comments from Wind River Nursery at Carson, Wash.:

There are several advantageous features of the Oyjord

seeder, which make it economical to use: (1) ease of calibration prior to seeding, (2) quick depth setting for seeds to be sowed, (3) different hopper sizes for sowing small or large lots which saves time and space, (4) one-man operated, (5) fast sowing, which can extend growing season, (6) equal distribution of seeds from hopper to sowing tubes, (7) uniformity of seed bed rows at beginning and ending of each seed lot, (8) pre-setting for desired footage. The seeds that were sown with the new drill germinated well, and the seedlings are grown beautifully.

Conclusions

The Oyjord seeder was the most promising of the precision nursery seeders MEDC tested. Its range of sowing speeds is adequate, with no detected seed damage. It can handle most major tree species, adapts to diverse sowing methods, and with two hopper attachments, has the ability to sow a wide range of seed lot sizes.

¹ Results were published in an MEDC Project Record, Evaluating Precision Seeders for Tree Seedling Nurseries (7724 2203), Sept. 1976. The Oyjord seeder proved superior in these tests.

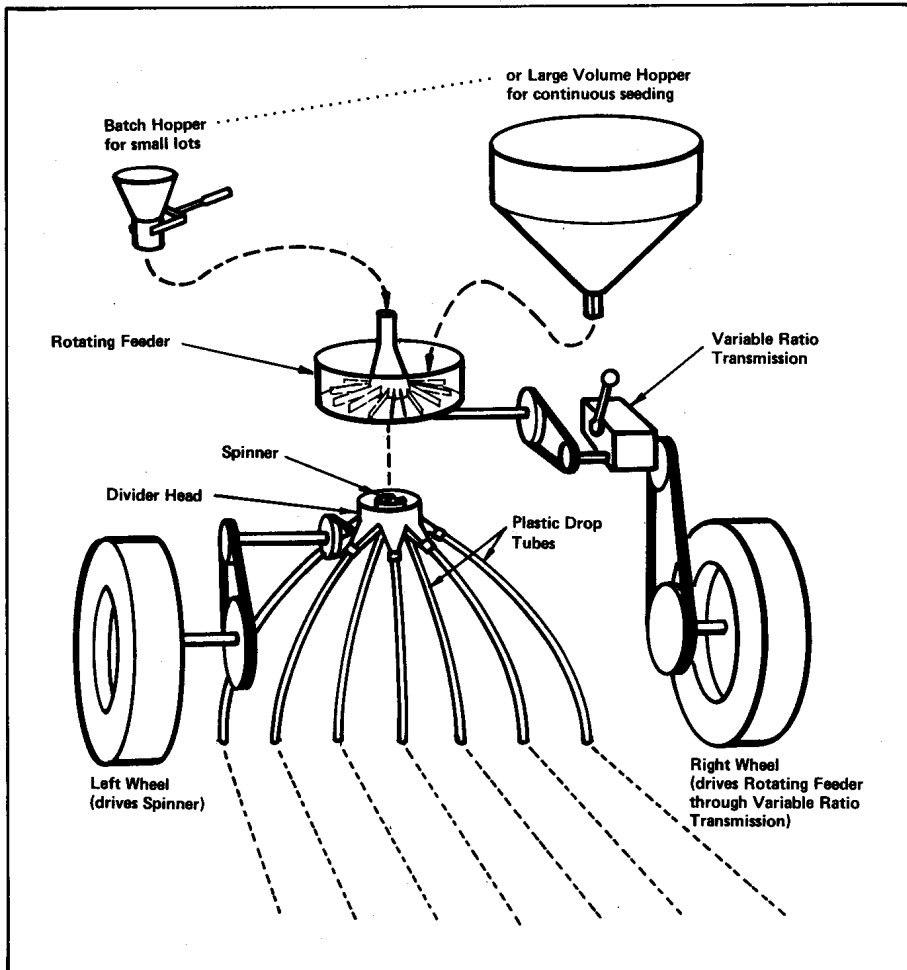


Figure 2.—Oyjord has two easily exchanged hoppers—a batch hopper for sowing small lots of seed and a continuous seeding hopper for sowing large lots.