

DEWINGER FOR SMALL SEEDLOTS

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The Missoula Equipment Development Center (MEDC), Missoula, Mont., has built and tested a dewinger for processing small lots of tree seed.

Most existing dewingers are designed for large quantities of seeds, and encounter difficulties when processing small lots. Cleaning between each seed lot is difficult and time consuming; and lengthy, complex adjustments are required to dewing small lots.

Increasing emphasis on genetically superior seed and smaller seed zones makes it evident that a dewinger for small seed lots could play an important role in reforestation.

In addition, a MEDC survey of Forest Service nurserymen's equipment problems confirmed the need for a dewinger that could easily handle seed lots of 10 pounds or less. MEDC engineers set out to build a self-cleaning dewinger that required only simple adjustments to process small lots, while preserving seed integrity.

Dewinger Built

The MEDC dewinger is essentially a rubber-lined cylinder with a rotating central shaft (fig. 1). A variable speed motor powers the center shaft, and attached to the shaft are pure gum rubber flaps.

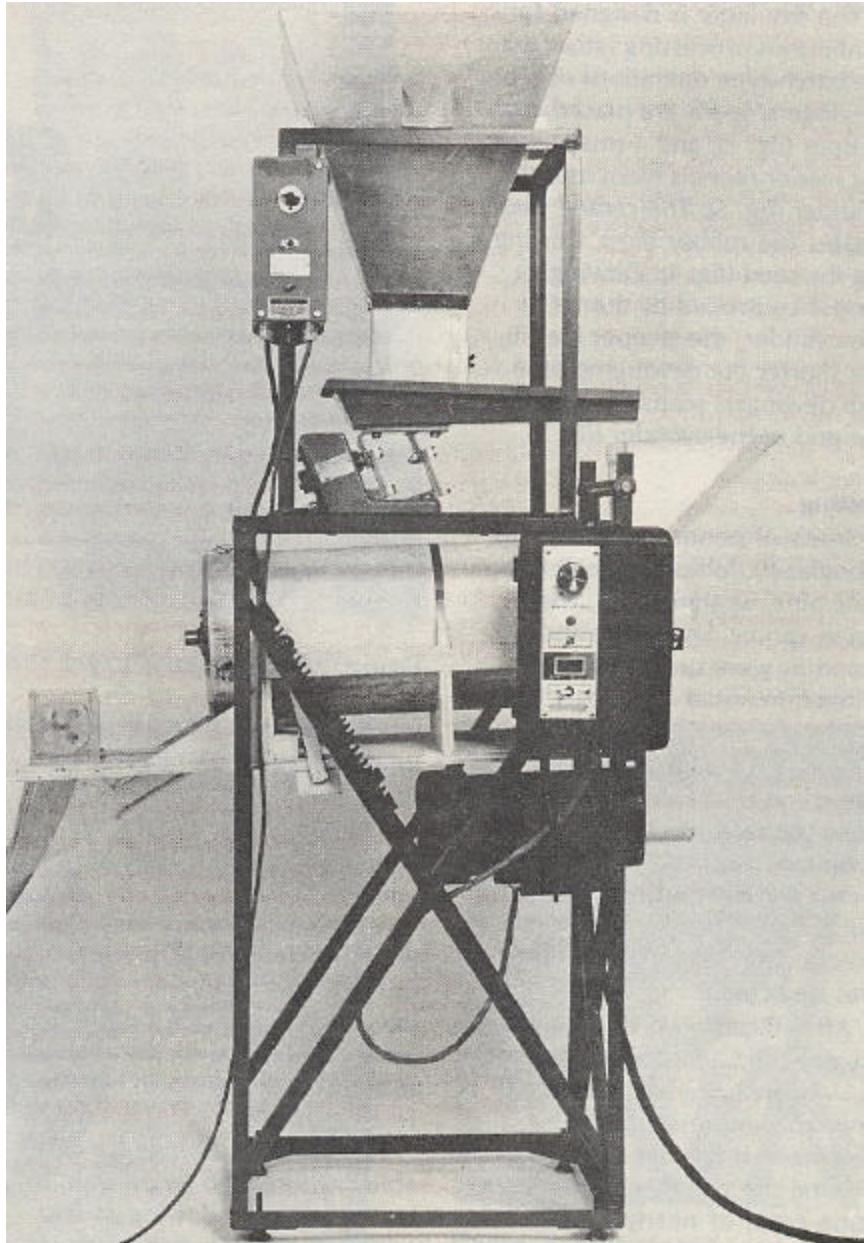


Figure 1.—Dewinger designed for processing small lots of tree seed.

The dewinger is designed for continuous processing rather than the batch-type operations of other dewingers. Seeds are placed in a hopper (fig. 2), and a small vibrating feeder funnels them into the cylinder (fig. 3). The central shaft rotates the rubber flaps, dewinging the seed (fig. 4). Dewinging time is controlled by the tilt of the cylinder; the steeper the tilt, the shorter the dewinging time. The dewinged seeds flow out of the end of the cylinder (fig. 5).

Testing

Seeds of ponderosa pine, Douglas-fir, loblolly pine, lodgepole pine, western larch, Englemann spruce, and noble and grand fir were successfully dewinged in initial laboratory tests.

In November 1976, the dewinger was sent to the Forest Service Wind River Nursery at Carson, Wash., for operational testing. The MEDC machine satisfactorily dewinged species without excessive damage. Similarly, no effect on seed germination was detected.

After these tests, Wind River Nursery personnel observed that, ". . . overall, we have been very favorably impressed with the dewinger. It has been used to dewing the majority of our 1976 cone crop, of nearly 12,000 bushels."

Based on these operational tests, minor modifications were

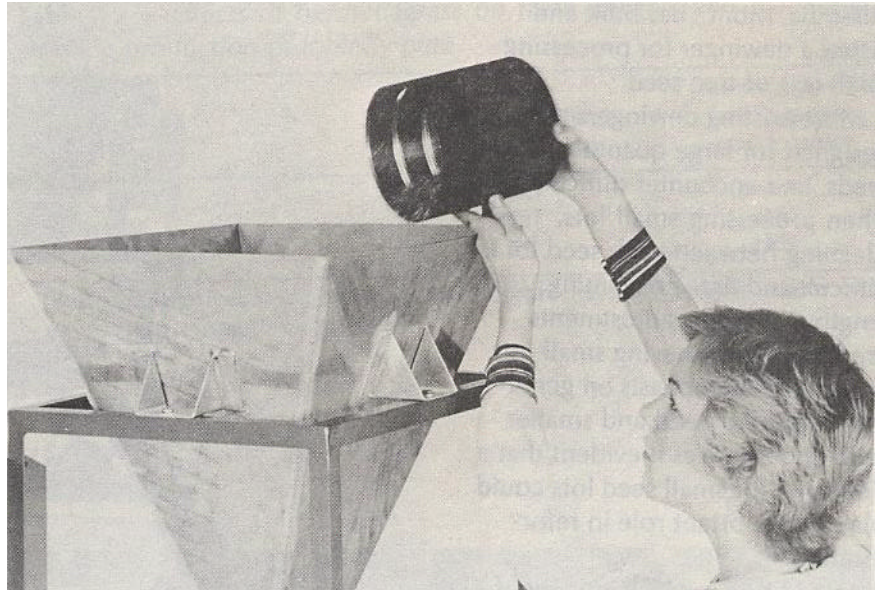


Figure 2.—*First step is to put seeds into hopper.*

incorporated in two improved units that underwent testing at the Forest Service Coeur d'Alene Nursery in Idaho and the Mt. Sopris Nursery in Colorado in January 1978.

MEDC is making a slide-tape program describing how to operate and maintain the dewinger. Copies of the program, which is planned for completion in September 1978, will be loaned free of charge.

Fabrication drawings are available to those who might want to build their own dewingers (No. MEDC-592). Also, the dewinger can be purchased for \$3,000 to \$4,000 from two firms: Wilkins

and Associates, Inc., 601 Alexander Ave., Tacoma, Wash. 98421 and Gentry Machine Service, P.O. Box 263, Carson, Wash. 98610.

For further information write or call Ben Lowman (comm. (406) 329-3364; FTS 585-3364) at the Missoula Equipment Development Center, Fort Missoula, Bldg. 1, Missoula, Mont. 59801.

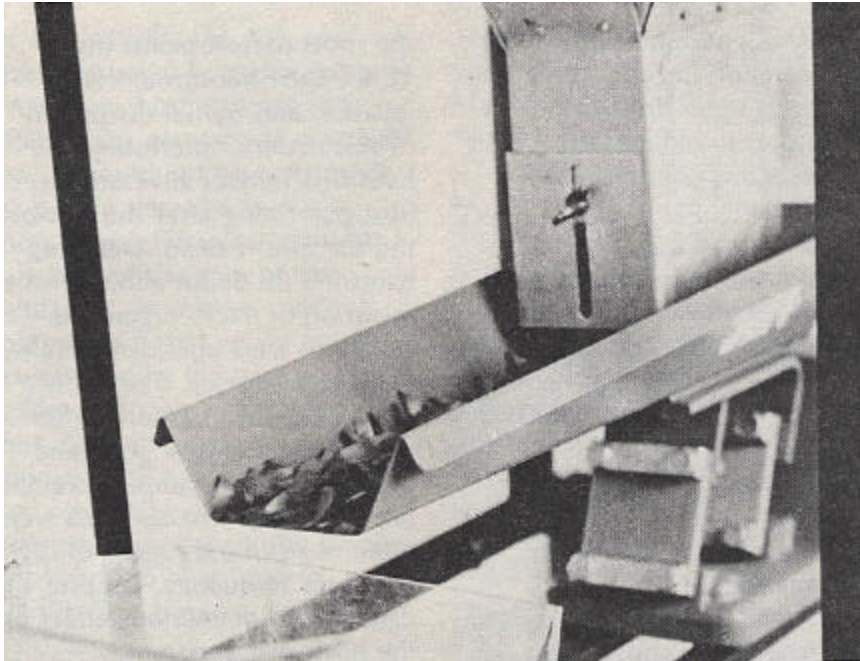


Figure 3.—*Vibrating feeder funnels seeds into dewinging cylinder.*

Figure 4.—*Central shaft rotates rubber flaps, dewinging seed.*

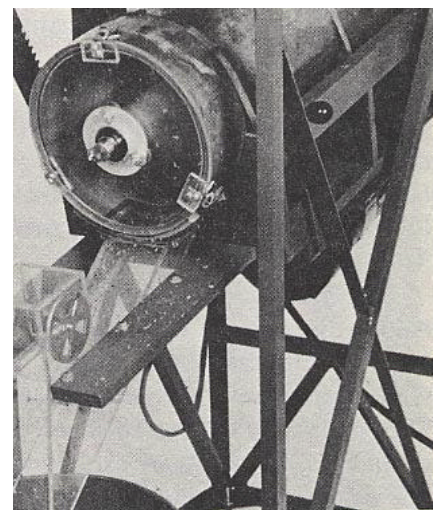


Figure 5.—*Dewinged seed and chaff blown from rotating cylinder.*