

The Triple Bedformer--A Quick and Easy Method To Form Multiple Seedbeds

Steven D. Feigner and Frederick Zensen

*Tractor operator and nursery superintendent assistant,
USDA Forest Service, Rogue River National Forest, J.
Herbert Stone Nursery, Central Point, OR*

Attaching three bedformers to a large three-point yoke allows for more efficient use of equipment, operator, and nursery ground in seedbed preparation. Tree Planters' Notes 37(3):32-34; 1986.

The formation of raised seedbeds is an integral part of the tree nursery sowing operation. Raised seedbeds help promote warming of the seedbeds during the initial germination of seedlings and increase drainage. Most nurseries in the Pacific Northwest form raised beds for these reasons (Oregon State University Nursery Survey). The importance of having straight and correctly laid out seedbeds is twofold. Without properly laid out seedbeds, there is a high risk of constricting one or two of the beds to accommodate the irrigation lines that define the unit. Also, straight beds enhance equipment operation such as drill sowing, root pruning, and fertilization. However, the primary purpose in the development of the triple bedformer was to expedite the sowing operation.

At the J. Herbert Stone Nursery, sowing is accomplished with two seed drills operating simultaneously. This requires a good deal of coordination between the tractor operators preparing the seedbeds and the two seed-drill operators.

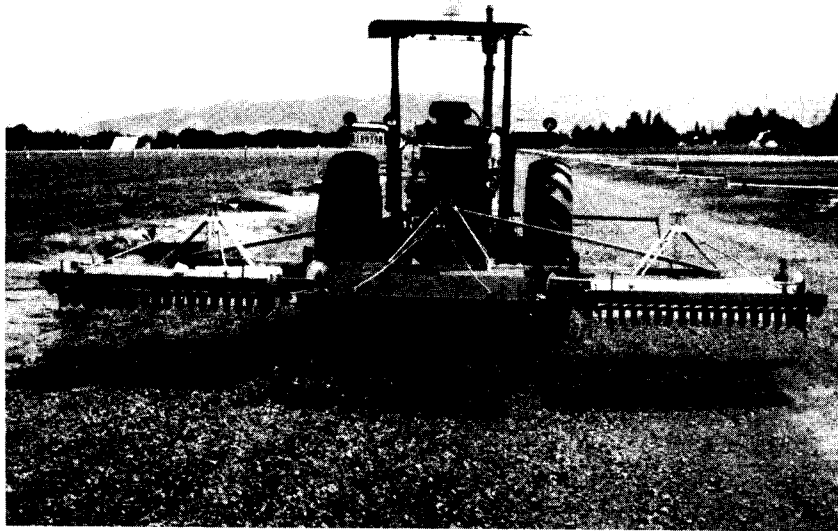


Figure 1—The trip bedformer. Note protruding rods from bedformers that mark the beds.

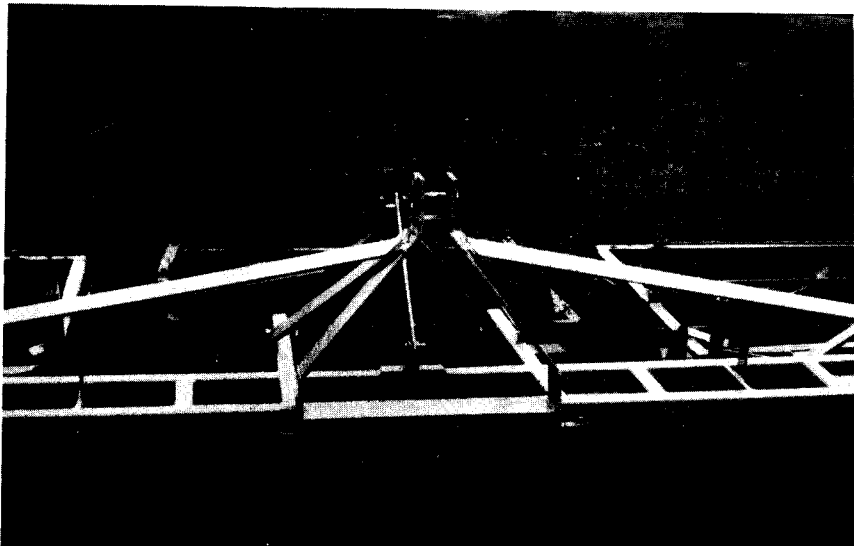


Figure 2—Three-point hitch for triple bedformer.



Figure 3—Bedforming discs are offset.

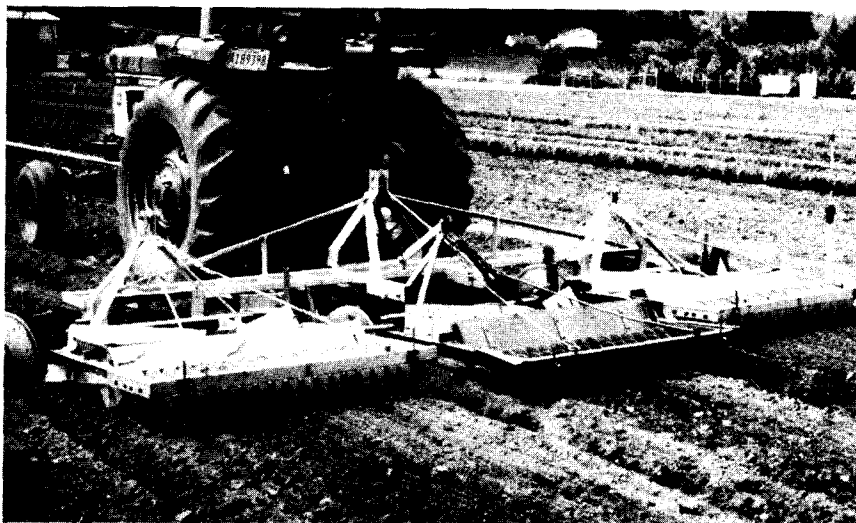


Figure 4—Beds formed with triple bedformer.

Therefore, a quick and efficient method of seedbed formation was of paramount importance.

Methods

Nurseries have used many different methods to form and mark beds, many of them homemade. Some nurseries rely on string lines, tractor-mounted bed markers, experienced tractor operators with "calibrated eyeballs," or sophisticated electronic equipment such as a laser. However, all of these methods have a common factor: they form only one bed at a time. In order to reduce the time required in seedbed preparation, personnel at the J. Herbert Stone Nursery developed the triple bedformer to form three seedbeds in one tractor pass.

Utilizing two Whitfield and one Larchmont bedformers, J. Herbert Stone Nursery personnel built and tested a triple bedformer (fig. 1). Bedforming implements as a rule are not extremely heavy, but there was some concern about the combined weight of three formers in addition to the newly constructed three-point yoke (fig. 2). Testing alleviated this concern. The middle former had to be placed further back than the outside two because the soil-scraping discs interfered with each other (fig. 3). The three

bedforming implements were attached to the yoke by means of individual three-point hookups welded on the main yoke. Guide markers were attached to the rear of each single implement.

A 40-horsepower Ford tractor used for the trial runs had no difficulties with lifting or pulling the triple bedformer. With adequate bracing and reinforcement, the implement was strong enough to per-

form well under field conditions (fig. 4).

Discussion

Multiple bedforming offers several advantages to single bedforming. Since only two passes are necessary to form an entire unit as opposed to six, an immediate savings of 66 percent is realized. Soil

compaction is also reduced. The seedbeds formed with the triple bedformer are more straight and level than those formed by individual passes. Bed height is more uniform and path width is constant. Time spent bedforming was greatly reduced and string lines and row workers were eliminated, because irrigation pipelines served as guides.