Figure 1 • *A convex mirror held in place with a magnet allows the operator of the precision seeder to see into the seed hopper without having to step up on a stool.*

Photo by Kas Dumroese

TIPS *for Improving Seed Planting Efficiency*

R Kasten Dumroese, David L Wenny, and Susan J Morrison

ABSTRACT

The efficiency of a precision seeder was improved by adding a mirror so employees could monitor seed levels and by marking seeds with brightly colored talc to quickly verify the accuracy of the machine.

KEY WORDS: Old Mill Seeder, planting, mirror, sowing machine, talc, seeds

The University of Idaho uses an Old Mill precision seeder (model 615-3; International Marketing and Design Corp, San Antonio, Texas; 210-655-7171) to sow conifer seeds (Wenny and Edson 1991). As part of the seed delivery system, seeds vibrate inside a bowl at the top of the machine (about 2 m [6 ft] above the floor) and move up a spiral ramp on the inside wall of the bowl before dropping into a seed distribution tube. Because of this configuration, it is difficult to see how many seeds are still available for planting—if not enough seeds are in the vibrating bowl, the stream of seeds becomes fragmented and the efficiency of the machine, in terms of how fast a container is sown, drops significantly. When planting large-seeded species, the vibrating bowl can empty fast, thus requiring frequent refilling. Even the tallest employees had to step up on a short stool to peek into the bowl to check the seed level.

We found that a 7.5-cm-diameter (3 in) convex mirror with a similar diameter flat magnet, both available at our

local auto parts store for about US $5, could be attached to the overflow seed return on the Old Mill seeder, allowing even the shortest employees to check the seed level without climbing up and down the stool (Figure 1). This inexpensive accessory reduces employee fatigue during a day of planting and reduces the number of times the machine runs out of seeds.

A second useful technique used during sowing is covering seeds with brightly colored talc. We mix just enough Aurora Pink (AX-11-5, Day-Glo Color Corp, Cleveland, Ohio; 800-289-3294) with seeds so that they are finely covered before putting the seeds through the precision seeder or sowing by hand. We have not found any detrimental effects of the talc on germination, but it makes sown seeds much easier to see (Figure 2), allowing a visual verification that the machine is running properly. As sown containers emerge from the precision seeder, an employee can quickly scan the container to ensure appropriate numbers of seeds are in each cavity. The talc costs US$ 27.89 per kg ($12.65/lb; 2.3 kg [5 lb] minimum order) and is available from the manufacturer. The University of Idaho grows about 600,000 plants annually and a 2.3 kg container of talc has lasted more than 8 y.

REFERENCE

Wenny DL, Edson JL. 1991. Improved container sowing with an electronically controlled optical seeder. Tree Planters' Notes 42(3):4–8.

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Figure 2 • *Seeds coated with colored talc (left side) are much easier to see against the medium than those not covered (right side), allowing the operator of the precision seeder to quickly verify the accuracy of the machine.*