

Glyphosate Application With a Janitor's Dustmop

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A simple, lawnmower-mounted, gravity-flow herbicide application device is described. It allows application of the nonselective herbicide, glyphosate, to grasses, with no risk of damage to adjacent, desirable plants.

To control a serious infestation of johnsongrass (*Sorghum halepense* (L.) Pers.) and purple nutsedge (*Cyperus rotundus* L.) between rows in a cottonwood

(*Populus deltoides* Bartr.) nursery, a diluted glyphosate solution (Roundup) was applied with a janitor's dustmop. The mop was mounted on the front of a large-wheeled, self-propelled mower with the blade disengaged (fig. 1).

A 5-gallon carboy of Roundup solution was attached to the mower frame. A flexible Tygon tube was installed from a spigot on the carboy to a "T" installed in the middle of a 3/8- by 30-inch, rigid plastic pipe having six equally spaced 1/64-inch holes. Removable caps were installed on the ends of the pipe,

and the pipe was clamped to the back of a janitor's cotton yarn dustmop along with a 1-inch wooden dowel for rigidity. These, in turn, were attached to an easily removable metal frame extending in front of the mower. The frame had guards to lift low branches out of the way of the mop (fig. 2).

The spigot was adjusted to permit enough herbicide to flow through the small pipe holes to keep the mop wet. Mop wetness, ground speed, and concentration of the solution could be adjusted to achieve the greatest effectiveness and economy.

Johnsongrass was about 7 feet tall, so it was mowed; and 12 inches of regrowth were permitted before chemical application. There was essentially a solid stand of grass. Dew was allowed to dry before application. A 5-percent Roundup solution was used; and the spigot was adjusted to keep the mop wet, but not dripping, while the mower was moving at about 1-1/2 miles per hour. The mop was run 4 inches above the soil surface. About 1-1/4 pints of Roundup per acre were used to kill the grass. Apparently, no more than 1-1/2 pints per acre would be required under the worst conditions, as long as the grass is no more than 12 inches high.

Cottonwood foliage touching the wetted grass was not

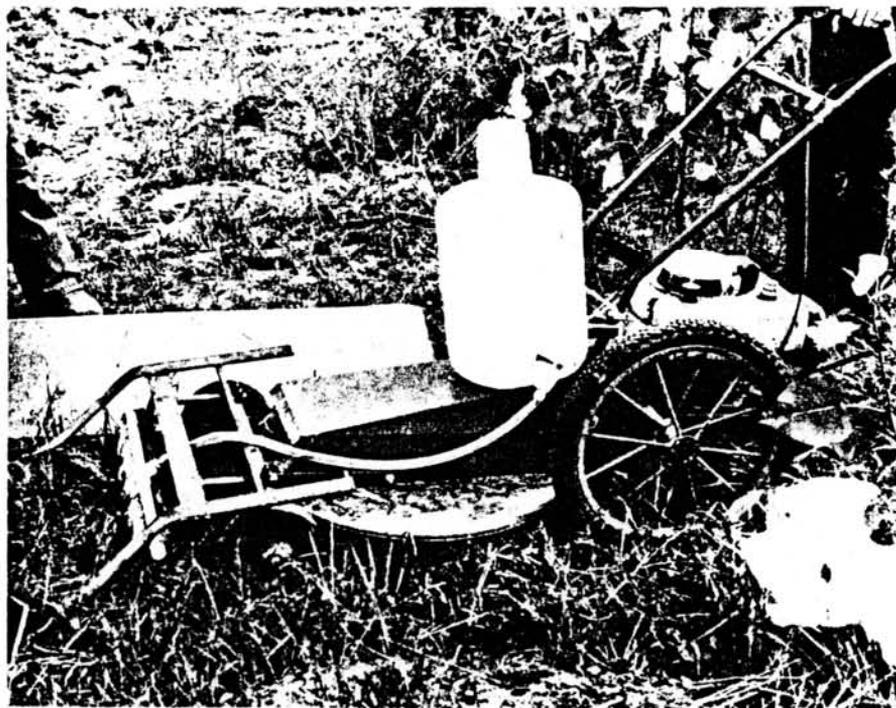


Figure 1.—Herbicide applicator mounted on a self-propelled mower, showing the container for the herbicide solution and its connection to the applicator head.



Figure 2.—Close-up of the applicator head showing details of mounting hardware.

harmful. The only apparent damage to trees was from chemical entrance into trunks damaged by the guards.

Where johnsongrass infestation was heavy, purple nutsedge was not as easily killed because the johnsongrass apparently shielded the nutsedge. In another area mowed just before treatment, both nutsedge and

johnsongrass were killed.

Grass between trees in the rows was untreated and survived. Some additional grass sprouted in the treated areas between the rows, but shading largely controlled the grass for the remainder of the season. The aboveground portion of the trees was harvested during the winter, permitting considerable

regrowth of johnsongrass during the early part of the next growing season. An additional application of Roundup killed the johnsongrass between the rows and part of that in the row between trees, apparently because of translocation back to the original plants.

The mop applicator has a simple design and does not permit drift. In these respects, it is similar to the wick. It uses somewhat more chemical than the wick, but can be adjusted to deliver high volumes of chemical when needed. A disadvantage is that it requires some adjustment in flow rate as conditions change to achieve adequate wetting without excessive chemical use. This adjustment does not need to be precise, since herbicide dripping on the soil in the treated areas between the rows does not injure plants in the rows.

The described device provides us with a simple, easy to use glyphosate applicator for grass control in progeny test areas. There is no danger of spray drift, as with high pressure sprayers, so adjacent trees are safe from herbicide damage.