A check on seed set in the September post-emergence test showed that plants from plots which had been treated with DSMA with and without 2,4-D, yielded an average of 53 and 68 seed respectively as compared with 452 seed from plants of the untreated plots. All chemically treated plots gave lower seed counts than the check.

Seed which was procured from plants of chemically treated plots and subjected to laboratory germination studies gave germination which ranged from 45 per cent to 57 per cent. The check plot seed germinated 70 per cent. The lowest per cent germination of seed from all treatments occurred when 2,4-D was combined with sodium arsenite or DSMA. Seed from plants treated with sodium arsenite plus 2,4-D and DSMA plus 2,4-D, germinated at the rate of 45 per cent and 47 per cent respectively. Germination was 54 per cent and 57 per cent, respectively, when these arsenicals were used without 2,4-D.

Conclusions

Study of goosegrass emphasizes the importance of a good turfgrass cover for weed control.

Goosegrass germination is suppressed by a lack of light and low temperatures.

Chlordane (on clay) gave excellent control of goosegrass when applied prior to germination. Some trials at other locations since the start of this study support these results. More information on consistency of chlordane performance and injury potential should be obtained. Field work should be considered exploratory and limited in scope. Chlordane preparations on a granular clay, spread uniformly at 1½ to 2 pounds of actual chlordane per 1000 square feet, should be timed several weeks in advance of anticipated germination. Also, other pre-emergence herbicides may be worthy of trial.

Goosegrass can be suppressed by late season chemical treatments. DSMA appeared to be the most effective of the several chemicals used.

Chemical treatments applied in mid-September gave up to 90 per cent reductions in viable seed set. This shows the fallacy in curtailing treatment of goosegrass even though cool weather has slowed growth of this weed.

Eleusine indica. M. S. thesis, Rutgers—the State University of New Jersey, 1959 and unpublished data.

A Control Valve for the Travelling Sprinkler

BY EDWARD J. CASEY
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Superintendents who use travelling sprinklers of one type or another are aware of certain operational weaknesses and subsequent risks of turf damage. A weakness experienced has been with one of the type utilizing a moving base with a 20 foot radius supply pipe to sprinkler head. Assuming that normal irrigation procedure is to have the sprinkler operate for nine or ten hours through the night without supervision, any malfunction during this time results in varying degrees of turf damage. The fundamental weakness of the sprinkler is the lack of an automatic cut-off valve to stop the flow of water in the event of some malfunction. If the power wire or the guide wire breaks, or the anchor stake is pulled out of the ground, the sprinkler will continue to operate in its circular pattern, even though its linear movement has ceased. A situation of this sort results in severe turfgrass damage if the sprinkler operates in one position for hours.

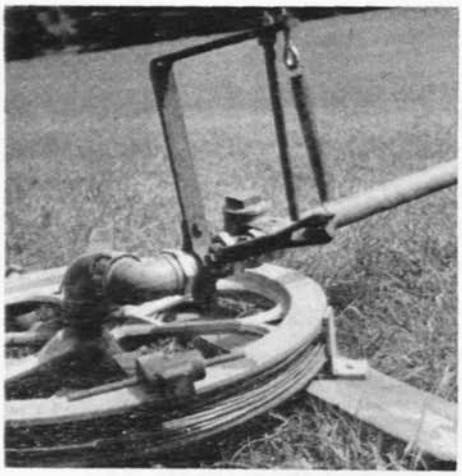

Fig. 1—Pin positioned to hold valve open.

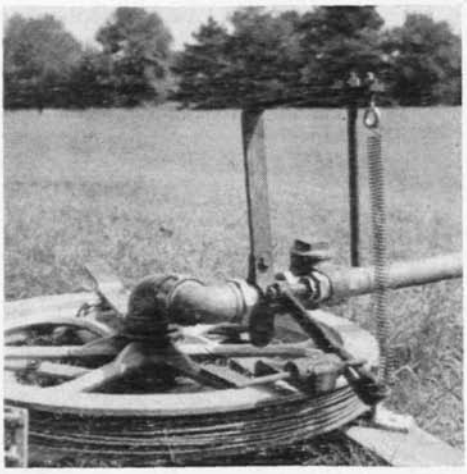

Fig. 2—When control valve closes irrigation stops.

The illustrations show the installation of a one-inch, spring operated gate valve in the radius supply pipe, also a valve control pin attached to the reel drum. At the start of the sprinkler operation, the one-inch gate valve is opened (against spring tension) and the control pin placed in position to hold the valve open. (See Figure 1). The valve and control pin rotate with the sprinkler.

While the sprinkler is in operation, it pulls a dead-load of 200 to 300 pounds and considerable tension is built up in the anchor stake, power wire, or guide wire. Should either wire break, or the stake pull out of the ground, tension is released which results in torque or backlash movement at the reel drum thereby displacing the valve control pin, which in turn allows the gate valve to close immediately, and the sprinkler operation stops. (See Figure 2).

This is a simple positive mechanism which appears to be a valuable accessory to the travelling sprinkler of the type mentioned.

The Effect of Fertilizer Rates and Placement on Turfgrass Seedlings

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Frequently, it is desirable to use generous quantities of fertilizer on the day of seeding or shortly before seeding turfgrass. It is known that fertilizer can injure grass seedings, but the dangers have not been defined. It was the purpose of this study to determine the effect of a complete fertilizer of soluble nature on turfgrasses when used at the time of seeding.

Procedure

Fertilizer rate and placement treatments with turfgrass seed were made in 5-inch greenhouse pots. All treatments were repeated three times and they were seeded with equal numbers of Kentucky bluegrass and red fescue seed at a rate of 40 seeds per square inch.

A 5-10-5 fertilizer of soluble nature was used at rates that gave ¼, ½, 1 and 2 pounds of nitrogen per 1000 square feet. One of the ¼ pound rates was left on the soil surface and the other was mixed throughout the soil. With ½, 1 and 2 pound rates three procedures were used as follows:

1. Fertilizer applied to the soil surface (slight incorporation in the