Washington State Finds Dacthal Effective in Postemergence Trail

Turf maintenance personnel have long battled the troublesome, persistent weed, Creeping Speedwell (*Veronica filiformis* Sm.). Now help may be on the way in the control of this broad-leaved weed, which infests turfgrasses in many areas of the Northern United States and Canada. Veronica is an annual weed—sometimes perennial—a prolific spreader that’s hard to control in turf without damaging desirable grasses. But tests during 1967 using Dacthal herbicide produced encouraging results in the control of this weed pest. Dacthal is a patented herbicide, developed by the Agricultural Chemical Division of Diamond Shamrock Corporation, Cleveland, Ohio.

In most of the tests, the Dacthal required at least one month to show visible effects, but then produced 99% control or better. Most of the research was coordinated by T. J. Neidlinger, technical service representative of Diamond Shamrock, in cooperation with the Western Washington Research and Extension Center, a branch experiment station of Washington State University, at Puyallup, Washington. Tests were supervised by Dr. Roy L. Goss, associate agronomist and extension turf specialist.

Early in January a greenhouse screening trial was conducted to test various chemicals on actively growing Veronica. Dacthal was applied at the rate of 12 and 24 pounds active ingredient per acre, to four 25-square-foot plots. By April visual evaluations showed 95% effective control for the 12-pound rate, with the 24-pound rate giving 100% control.

With this data in hand, Dacthal was tested at two golf courses in the Pacific Northwest and one in northeastern Ohio. Three thousand square feet of fairway turf were treated with the 12-pound-per-acre concentration on a golf course near Seattle early in June. In addition to actively growing Veronica, the plot contained Highland bentgrass, fine-leaved fescues, Kentucky bluegrass and annual bluegrass. Dur-
ing the test, the plot received about one inch of water a week and was mowed regularly.

By the end of June, the Dacthal had provided 99% control. Areas devoid of Veronica were apparent where large clumps had been growing. Continued observation showed no redevelopment of the weed.

In a similar test at a golf course in Northern Idaho, 150 square feet of fairway turf were treated with only 6 pounds per acre of active Dacthal. The ground was 95% healthy, actively growing Veronica, 4% plantain, and 1% dandelion. By October, visual observation showed 99% control of the Veronica.

At the Ohio golf course, Dacthal was applied at 9, 12, and 15 pounds active ingredient per acre to plots in the rough that were heavily populated and dominated by Veronica. Some Kentucky bluegrass and fine-leaved fescues were also present. The applications were made on August 1st.

Results of Evaluations Made on September 24

<table>
<thead>
<tr>
<th>PERCENT CONTROL</th>
<th>RATE (active)</th>
<th>CONTROL</th>
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</thead>
<tbody>
<tr>
<td>9 pounds per acre</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>12 pounds per acre</td>
<td>50</td>
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<tr>
<td>15 pounds per acre</td>
<td>65</td>
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Although the results of this test were not as significant as previous results, the plots may have been mowed soon after application, thus removing much

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2,4-D/2,4,5-T showed only 5% control with the Dacthal giving 85%.

A similar test was made on the state capital lawn at Olympia, Washington. On July 14th, 9, 12, and 15 pounds per acre of Dacthal were applied as a wettable powder, 12 pounds active Dacthal as a 5% granule, and several rates of picloram, picloram +2,4-D, DSMA, and MSMA. All treatments were replicated four times on 100-square-foot plots. On September 6th visual evaluations showed the following:

None of the other chemicals gave adequate control. The best of these showed an average of only 42.5% effectiveness, which really only suppressed the Veronica, rather than killing it.

According to Neidlinger, Diamond Shamrock plans further tests in 1968 to determine exactly how Dacthal affects the Veronica plant physiologically. Field tests will also be made to establish the proper rate and time of application for optimum control under a variety of conditions.

Although Veronica is not presently on the Dacthal label, it is hoped this data will be sufficient to add Veronica to the label in the near future.

Chemicals Control Weeds In Bermudagrass Stands

Herbicides can give control of weeds in new bermudagrass stands. Dr. Elwyn Deal, agronomist, University of Maryland, College Park, Md., reports no evident damage to the plants.

Winter survival the first year after sprigging (planting small sections of the plant) proved excellent. Grass was sprayed with DMPA (Zytron). Where DCPA (Dacthal) was used, Deal reports winter survival was almost as good, but weed control was slightly poorer.

Deal said that Simazine, in the Maryland tests, severely injured sprigs, and almost all grass died out during the winter. However, this chemical did give excellent weed control. Another chemical, bensulide (Betasan or Pre-San) caused no visible damage to the plants during the first few weeks, but stolon (runner) development suffered even during the second season.

Plots fumigated with methyl-bromide, before sprigging showed good weed control and the bermudagrass survived well through the winter. Trifluralin (Treflan) worked lightly into the soil with a rototiller after planting gave good weed control but caused some stunting and retarded grass root growth.

Deal says that all the chemicals except methyl-bromide and trifluralin were applied to Tufcote bermudagrass plots seven days after planting.

Quality of Water Important In Irrigation

Turf specialists in greater numbers are beginning to check the quality of water used on turf areas. This can help eliminate many of the so-called grass problems, according to Dr. Robert W. Miller, agronomist at the Ohio State University, Columbus, O.

Miller says that excessive concentrations of inorganic salts, boron which is toxic to plant growth in many instances, organic toxic compounds, and high sodium concentrations may prove troublesome.

All water used for irrigation contains inorganic salts derived from rock, soil, or other solid phase materials through which water percolates, according to Miller. The concentration of these will determine the suitability of any water supply for irrigation purposes on turf. Thus, the need for a laboratory check is evident before turf problems arise.