REGISTRATION OF GERMPLASM

conducted in growth chambers at Beltsville, Md. MSA-W4 and MSB-W4 were released on December 13, 1966, and were described as vigorous, dark green in color, resistant to potato leafhopper yellowing and rust. They had some resistance to anthracnose. They also persisted better and were more vigorous than commercial cultivars at Beltsville, Md., (5). In a field test for resistance to bacterial wilt at St. Paul, Minn., wilt indices (on a scale of 0 to 5, 0 = most resistant class) were as follows: MSA-W4 — 1.2, MSB-W4 — 3.9, 'Vernal' — 1.9, 'Ranger' — 3.3, and 'Narragansett' — 4.4.

GP 5 and 6 (MSA-A3 and MSB-A3). A8 and B8 also were the base populations for three cycles of selection for spotted alfalfa aphid resistance. Isolation of resistant plants was done by the Entomology Research Division at Bakersfield, Calif., and Tucson, Ariz. MSA-A3 and MSB-A3 were released on December 13, 1966, and were described as dark green in color, resistant to spotted alfalfa aphid, potato leafhopper yellowing, and rust. They were more persistent than commercial cultivars at Beltsville, Md., (5). MSB-A3 is very susceptible to bacterial wilt, but MSA-A3 contains some resistant plants. Both MSA-A3 and MSB-A3 were less vigorous than other releases from pools A and B, which was attributed to recombining an insufficient number of plants in the first cycle of aphid selection (5).

GP 7 (MSA-CW3). A-C4 was the base population for two cycles of bacterial wilt selection in growth chambers at Beltsville, Md., MSA-CW3 was released on March 20, 1968, and was described as vigorous, dark green in color, resistant to bacterial wilt, common leafspot, potato leafhopper yellowing, and rust. It was more persistent than commercial cultivars at Beltsville, Md., (5) and resistant to anthracnose. In a bacterial wilt field test conducted at St. Paul, Minn., wilt indices for MSA-CW3 and three cultivars were as follows: MSA-CW3 — 1.3, Vernal — 1.8, Ranger — 2.5, and Narragansett — 4.0 (on a scale of 0 to 5, 0 = no disease symptoms).

Seed increases to obtain sufficient seed for release purposes were accomplished with bee pollination under screened cages through cooperative efforts of Crops Research Division and Nevada Agricultural Experiment Station at Reno. Seeds of MSA-C4 and MSB-C4 are maintained at the U. S. Regional Pasture Research Laboratory, University Park, Pa. 16802. Seeds of MSA-A3, MSB-A3, MSA-W4, MSB-W4, and MSA-CW3 are maintained by Alfalfa Investigations, Crops Research Division, Plant Industry Station, Beltsville, Md. 20705.

Table 1. Average root rot scores and percent tolerant plants of alfalfa cultivars inoculated with Phytophthora megasperma.

<table>
<thead>
<tr>
<th>Test A66-1</th>
<th>Test A66-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score*</td>
<td>Score*</td>
</tr>
<tr>
<td>38</td>
<td>3.4</td>
</tr>
<tr>
<td>46</td>
<td>3.3</td>
</tr>
<tr>
<td>Lahontan</td>
<td>2.9</td>
</tr>
<tr>
<td>African</td>
<td>4.3</td>
</tr>
<tr>
<td>Moaps</td>
<td>4.1</td>
</tr>
<tr>
<td>Tall Tolerant</td>
<td>0.9</td>
</tr>
<tr>
<td>% Highly Tolerant</td>
<td>3.5</td>
</tr>
</tbody>
</table>

*Average score, 0 = no disease; 5 = root completely rotted, + = score of 2.0 or less.

UC 38 and UC 46 (the parent strain of UC 47) are similar to Lahontan but better than African and contain an array of genotypes ranging from susceptibility to a high level of tolerance to Phytophthora root rot. UC 47 can be used as a source from which clones having a level of tolerance plus some other characters can be isolated by using adequate screening and breeding techniques. Breeders should be able to identify the desired plant and incorporate them into new varieties.

Seed stocks are maintained by the Department of Agronomy and Range Science, University of California, Davis 95616.

Additional information relating to these germplasm sources has been published by D. C. Erwin, W. F. Lehman, and H. Stanford.1


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REGISTRATION OF CALIF. C.C.II OAT GERMLASM1

by Phytophthora megasperma, as well as resistance to alfalfa aphid, pea aphid, and downy mildew. Derived from crosses between Phytophthora-tolerant, bacterial-susceptible plants from Arabian and Phytophthora-tolerant, spotted alfalfa-resistant plants from new breeding clones. UC 38 seed was produced on selected F1 plants with parentage tracing to Arabian (50%), Lahontan (8%), and Sira (2%). UC 47 was selected for Phytophthora tolerance. UC 46 (Table 1) possesses tolerance to Phytophthora. It originated from eight parent plants of good growth that originated from a large pool of resistant plants from the Lahontan population.

UC 38 and UC 46 (the parent strain of UC 47) are similar to Lahontan but better than African and contain an array of genotypes ranging from susceptibility to a high level of tolerance to Phytophthora root rot. UC 47 can be used as a source from which clones having a level of tolerance plus some other characters can be isolated by using adequate screening and breeding techniques. Breeders should be able to identify the desired plant and incorporate them into new varieties.

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1Registered by the Crop Science Society of America on April 14, 1969.