conducted in growth chambers at Beltsville, Md. MSA-W4 and MSB-W4 were released on December 15, 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, MSA-W3 = 1.9, 'Vernal' = 1.9, 'Ranger' = 3.5, 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). MSA-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).

Seeds increase 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. 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.


LITERATURE CITED

REGISTRATION OF PHYTOPHTHORA-TOLERANT ALFALFA GERMPLASM,
UC 38 AND UC 47
(Reg. Nos. GP 8 and GP 9)
W. F. Lehman, D. C. Erwin, and E. H. Stanford

UC 38 (GP 8) and UC 47 (GP 9) germplasm sources were developed by the University of California, Department of Agronomy and Range Science, Davis, and Department of Plant Pathology, Riverside. They were released in January 1967. UC 38 and UC 47 are two closely related non-winterhardy germplasm sources segregating for tolerance to a root rot causal by Phytophthora megasperma, as well as resistance to the spotted alfalfa aphid, pea aphid, and downy mildew. They originate from crosses between Phytophthora-tolerant, spotted alfalfa aphid-susceptible plants from Arabian and Phytophthora-susceptible, spotted alfalfa aphid-resistant plants from non-winterhardy breeding clones. UC 38 seed was produced on about 614 unselected F1 plants with parentage tracing to African (40%), Arabian (56%), Lahontan (8%), and Sirsa (2%). Parent clones of UC 47 were selected for Phytophthora tolerance from UC 46. UC 46 (Table 1) possesses tolerance to Phytophthora root rot. It originated from eight parent plants of good agronomic type. Parentage traces to African (62%), Arabian (28%), Lahontan (9%), and Sirsa (1%).

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

<table>
<thead>
<tr>
<th>Test</th>
<th>M5-1</th>
<th>M5-3</th>
<th>Score</th>
<th>% Tolerant</th>
<th>Score</th>
<th>% Tolerant</th>
<th>Score</th>
<th>% Tolerant</th>
</tr>
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<tbody>
<tr>
<td>UC 38</td>
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<td></td>
<td></td>
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<tr>
<td>UC 46</td>
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</tr>
<tr>
<td>Lahontan</td>
<td>1.7</td>
<td>3.2</td>
<td>3.3</td>
<td>0.3</td>
<td></td>
<td>2.9</td>
<td>3.3</td>
<td>0.3</td>
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</tbody>
</table>

Average score, 0 = no disease; 5 = root completely rotted. Tolerant plants had a score of 2.5 or less.

UC 38 and UC 46 (the parent strain of UC 47) have a tolerance similar to Lahontan but better than African and Moapa. Tolerance of UC 47 is similar to that of UC 46. UC 38 and UC 47 contain an array of genotypes ranging from susceptibility to a high level of tolerance to Phytophthora root rot and are intended as a source from which clones having a level of Phytophthora tolerance plus some other characters can be obtained. By using adequate screening and breeding techniques plant breeders should be able to identify the desired plants and combine them into new varieties.

Seed stocks are maintained by the Department of Agronomy and Range Science, University of California, Davis, California. Additional information relating to these germplasm sources has been published by D. C. Erwin, W. F. Lehman, and E. H. Stanford.

REGISTRATION OF CALIF. C.C. II OAT GERMPLASM
(Reg. No. GP 3)
C. A. Suneson

Calif. C.C. II (Avena sativa L. and Avena byzantina K. Koch) is a contributory type of gene pool into which all of the non-wild-type segregates from cultivar x A. sativa crosses made here since 1947 have been put. The cultivar parents were always

1 Registered by the Crop Science Society of America. Received April 14, 1969.
2 Associate Agronomist, University of California Imperial Valley Field Station, El Centro; Plant Pathologist, University of California, Riverside; and Agronomist, University of California, Davis 95616.
3 Tested and described previously under designations Expt 38 and Expt 47.

REGISTRATION OF GERMLASM