Table 1. Early flowering triploid hop pollinators.

<table>
<thead>
<tr>
<th>Reg. No.</th>
<th>Genotype</th>
<th>Pedigree†</th>
<th>Flowering time</th>
<th>Pollen quantity</th>
<th>Disease resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>USDA 21189M</td>
<td>[XS x (Fu x EG-ECS)] x OP</td>
<td>Early</td>
<td>Very good</td>
<td>Good</td>
</tr>
<tr>
<td>10</td>
<td>USDA 21190M</td>
<td>[XS x (Fu x EG-ECS)] x OP</td>
<td>Very early</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>USDA 21191M</td>
<td>[XS x (Fu x EG-ECS)] x OP</td>
<td>Very early</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>USDA 21192M</td>
<td>[XS x (Fu x EG-ECS)] x OP</td>
<td>Very early</td>
<td>Good</td>
<td></td>
</tr>
</tbody>
</table>

† XS = Unknown Seedling; Fu = Fuggle; EG = Early Green; ECS = Early Cluster Seedling; OP = Open Pollinated.

REGISTRATION OF EARLY FLOWERING DOWNY MILDEW RESISTANT TRIPLOID HOP POLLINATORS†
(Reg. Nos. 9, 10, 11, 12)

Alfred Haunold, C.E. Horner, and Gail B. Nickerson†

Early flowering female hop (Humulus lupulus L.) cultivars such as ‘Fuggle’ in Oregon frequently are only partially pollinated due to inadequate synchronization of flowering time with males. In previous publications, the feasibility of using triploid pollinators for yield stimulation of female hop cultivars was demonstrated (Haunold 1975; Haunold and Nickerson 1979). Eight medium-early to late flowering triploid pollinators, respectively, were found to be best suited for pollinating medium to late flowering female hop cultivars under Oregon conditions (Haunold et al. 1979).

The present paper describes four early flowering triploid pollinators—USDA 21189M, USDA 21190M, USDA 21191M, and USDA 21192M—that are suitable for stimulating early flowering diploid hop cultivars to produce higher cone yields in western Oregon.

The four pollinators originated from open-pollinated seed collected in 1970 from an open-pollinated seedling of the early flowering triploid hop genotype USDA 56008. They are sibs of four triploid hop pollinators registered previously as Reg. No. GP 10 to 13 (Haunold et al. 1979). All have been tested in nursery plots near Corvallis, Ore., since 1973 and in commercial Oregon Fuggle yards since 1978. They are vigorous monococious, mostly male genotypes that produce ample amounts of pollen from late June to about mid-July in western Oregon. USDA 21189M and 21192M typically produce sidearms 60 to 100 cm in length. The sidearms of USDA 21190M generally are somewhat shorter (50 to 75 cm), while those of USDA 21191M normally vary from 30 to 60 cm in length. All produce good secondary and tertiary laterals with ample amounts of pollen that is easily dispersed by wind.

The four genotypes are resistant to crown infection by hop downy mildew caused by Pseudoperonospora humuli (Mij. et Tak.) G.W. Wils. (Table 1), as judged from field performance in 2-hill nursery plots near Corvallis, Ore., since 1973 and in replicated greenhouse tests under high inoculum levels. Some downy mildew symptoms have been noticed occasionally in early spring before pruning, which probably originated from buds near the previous year. Perennial crowns, however, remain free of systemic downy mildew infection.

In early spring all four genotypes show vigorous growth, with large numbers of moderately coarse shoots and hooked hairs. Shoots are trained easily and supported by a string to reach the top of the trellis by June. Leaves generally have three, five, or seven lobes with moderately deep lobing and pronounced serration.

USDA 21191 is the earliest flowering one of the four and may be partly responsible for the shorter sidearms.

The four triploid pollinators listed in Table 1 also have been recommended for female hop cultivars such as ‘Fuggle’ and ‘New Hampshire’ to stimulate higher cone yields and production in western Oregon. They have not been tested in other hop growing areas, but probably could be useful as a source of pollen for stimulating early flowering hops in such areas, where the low amount of seed set (about 2%) does not cause problems to the grower.

The Oregon Agricultural Experiment Station, Corvallis, Ore., in cooperation with the USDA will maintain planting stock of USDA 21189M, 21190M, 21191M, and 21192M. Sib samples will be supplied to research institutions and interested growers upon written request.

REFERENCES

REGISTRATION OF ATLANTIC COASTAL PANICGRASS†
(Reg. No. 82)

C. R. Belcher, W. Curtis Sharp, R. W. Hitsch, and F. H. Webb†

‘ATLANTIC’ coastal panicgrass (Panicum americanum Hitchc. & Chase) P. G. Palmer was developed by the Soil Conservation Service at Broomall, PA, in cooperation with the USDA-ARS, and is resistant to heavy downy mildew caused by Pseudoperonospora humuli. It is a medium-early flowering triploid genotype that is resistant to high inoculum levels of downy mildew.