soils, prolific fruit set, medium maturity, determinate plant habit and uniform ripening immature green fruit (uuv). It was not selected for processing-type fruit quality as Hawaii has no tomato processing industry.

The use of 'Kewalo' as a parent in making F₁ hybrids with other bacterial wilt resistant lines is suggested in part by its 'Anahu' ancestry. Hybrids made from the latter have been widely adapted in Hawaii and elsewhere in these latitudes where a combination of hybrid vigor and multiple disease resistance is needed. 'Anahu' hybrids have consistently outyielded all others in every trial at the Hawaii AES since 1959 (4, 5) and were tested in the Southern Tomato Exchange Program as STEP 314, 351, 352, 483, 484, and 537 during the same period with similar results. 'Kewalo' hybrids seen to date follow the general pattern of 'Anahu' hybrids by improving vigor, longevity, fruitfulness, and disease resistance but with little disturbance of the various horticultural characters of the other parent.

The 'Kewalo' hybrid which performed best for commercial type fruit in Hawaii was hybrid 'BNW-21' ('Kewalo x 'Venus'). 'Saturn', 'Venus' and other bacterial wilt resistant lines susceptible to root knot do not survive well in fields infested with both these diseases. The effect of root knot galling as interfering with the expression of resistance to bacterial wilt has been well established (2). This suggests a need for the addition of the Mi gene to most bacterial wilt lines or hybrids.

Availability
Seed samples of 'Kewalo' are available. Trial samples of 'Kewalo' F₁ hybrids have been sent to some overseas cooperators. Additional seed of hybrid 'BNW-21' is expected by 1975. Address inquiries to: University of Hawaii, Dept. of Horticulture, Seedman, 3190 Maile Way, Honolulu, Hawaii 96822.

Literature Cited

'Great Northern Valley' Dry Bean
D. P. Coyne and M. L. Schuster
University of Nebraska, Lincoln

Common blight, caused by the bacterium Xanthomonas phaseoli (E. F. Smith) Dowson, is one of the most serious seed-borne bacterial diseases of beans, Phaseolus vulgaris L. Recommended controls are use of certified disease-free seed and rotation. There is no satisfactory chemical control. Great Northern (GN) cultivars 'Tara' (2) and 'Jules' (3) have high tolerance to X. phaseoli and high yield but combine the disadvantages of late maturity and vigorous vines, the latter creating conditions favorable for white mold. These 2 cultivars were derived by pedigree selection from the cross of the late maturing, common blight tolerant GN Nebraska #1 sel. 27 line with the early maturing susceptible 'GN 1140'. The reaction to X. phaseoli was inherited quantitatively (4) while maturity was inherited qualitatively (1). Linkage occurred between genes controlling common blight tolerance and late maturity (4).

Origin
Genes controlling early maturity in 'GN 1140' were transferred using 6 backcrosses to the recurrent parent GN Nebraska #1, sel. 27. Earliness and a high level of common blight tolerance were recombined using this breeding procedure.

Description
'GN Valley' (tested as GN Expt.-M) is similar to the standard 'GN UI #59' in plant habit, seed size, seed shape, and oven baking quality, but matures only 2 to 4 days earlier. Common blight tolerance of 'GN Valley' is similar to 'GN Tara' and yield is superior to 'GN UI #59' and 'GN 1140' under conditions favorable for common blight (Table 1). Yield of 'GN Valley' is comparable to standard GN cultivars in the absence or in the presence of a moderate level of this disease (unpublished data from 3 years of trials).

Outstanding characteristics and uses
'GN Valley' is considered superior to 'GN Tara' and 'GN Jules' because it matures approx a week earlier and has less vine growth. Its tolerance to X. phaseoli is superior to 'GN 1140' and 'GN UI #59'. The introduction of this cultivar can reduce crop losses due to disease and may permit an expansion of the bean seed industry in Nebraska.

Availability
The Nebraska Foundation Seed Division, University of Nebraska, Lincoln, Nebraska plans to produce foundation seed from 770 kg of breeder seed in 1974. Samples of seed for trial may be obtained from that source.

Literature Cited

Table 1. Yield, disease reaction, and no. of days to maturity of 'GN Valley' and standard cultivars 'GN 1140' and 'GN UI #59' under severe levels of common blight in 1971, 1972, Nebraska.

<table>
<thead>
<tr>
<th>Cultivar</th>
<th>1971</th>
<th>1972</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Scottsbluff</td>
<td>Scottsbluff</td>
</tr>
<tr>
<td></td>
<td>Tons/ha (Bu/acre)</td>
<td>Tons/ha (Bu/acre)</td>
</tr>
<tr>
<td>GN Valley</td>
<td>3.2</td>
<td>(46.9 a)</td>
</tr>
<tr>
<td>GN 1140</td>
<td>2.4</td>
<td>(35.9 b)</td>
</tr>
<tr>
<td>GN UI #59</td>
<td>2.8</td>
<td>(41.4 b)</td>
</tr>
</tbody>
</table>

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2. Professor, Department of Horticulture and Forestry and Professor, Department of Plant Pathology, University of Nebraska.
3. 'GN Valley' (tested as GN Expt.-M) is similar to the standard 'GN UI #59' in plant habit, seed size, seed shape, and oven baking quality, but matures only 2 to 4 days earlier. Common blight tolerance of 'GN Valley' is similar to 'GN Tara' and yield is superior to 'GN UI #59' and 'GN 1140' under conditions favorable for common blight (Table 1). Yield of 'GN Valley' is comparable to standard GN cultivars in the absence or in the presence of a moderate level of this disease (unpublished data from 3 years of trials).
4. Mean separation within columns by Duncan's multiple range test, 5% level.

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