
Peas recovered from plots of 48 square feet of drilled rows.

<table>
<thead>
<tr>
<th>Variety</th>
<th>Percentage Recovery of Shelled Peas</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Resistant</td>
</tr>
<tr>
<td>Peas left on vines</td>
<td>98.4</td>
</tr>
<tr>
<td>Peas lost in cleaning</td>
<td>1.3</td>
</tr>
</tbody>
</table>

*This high value was due to a large number of small wilted pods, which passed through the screen unopened.

The viner. These recoveries are considerably better than secured in previous experience with hand picking and shelling by usual farm labor.

This viner may be used without modification for dry beans and small-seeded types of lima beans. For the large-seeded types of lima beans a larger mesh screen can be substituted.

Complete working drawings and specifications are available upon request. — M. V. Marion, (Physical Science Aid), W. C. Kelly (Horticulturist), G. F. Somers (Plant Physiologist), and C. S. Brandt (Soil Scientist), U. S. Plant, Soil, and Nutrition Laboratory, Ithaca, N. Y.

EFFECT OF MALEIC HYDRAZIDE IN DELAYING FLOWERING IN CORN

Naylor reported that maleic hydrazide produced male sterile corn with normal ears when applied at a concentration of 0.025% at the time the plants were 30 to 40 inches high. Moore found that sweet corn treated at a critical stage with 600 ppm maleic hydrazide produced sterile tassels and stubby ears with functional silks. Pollen from control plants produced normal kernels on these small ears. Naylor also pointed out the possibilities of producing a pollen-sterile parent in the production of seed corn.

Since maleic hydrazide has been shown to delay flowering in corn as well as in other plants, its use to delay pollen production or silking in one of the parents used in producing seed corn would have practical application in making it possible to utilize parents differing widely in time of flowering. With this view in mind, studies were undertaken at the Kentucky Agricultural Experiment Station in 1949 and 1950 to determine the effect of maleic hydrazide in delaying flowering in various inbred lines and the single cross WF9 × 38–11. Preliminary trials in 1949 using 0.2, 0.1, and 0.05% maleic hydrazide formulated as a water soluble sodium salt containing 30% active ingredient were used with Nytron detergent added as a wetting agent. Application in one test when WF9 was 2 feet tall and 3 feet tall and in another test just prior to tasseling. One method was to spray the plant and in another 10 cc of the material was dropped in the leaf whorl. One additional method used with the varieties was to soak the seed in a 0.01% solution for 4 hours just prior to planting.

Single row plots of approximately 20 plants were grown for each treatment, the corn being under normal conditions in the field. The soaking method only 2 plants of each variety developed. The concentration was always heavy and killed the seedlings before they emerged. Subsequent tests grown in sand in the greenhouse showed no effect on the amount or time of flowering. After 1 month the plants grown from seed soaked in the 0.2% concentration for 30 minutes were dead. Plants grown from seed soaked in the 0.1% concentration for 30 minutes were severely stunted. With the lower concentration the plants were about as normal as the checks but were somewhat shorter.

In the field tests, anthocyanin pigmentation, showing 2 weeks following the various treatments, was much heavier in inbred WF9. Spray-produced much heavier pigmentation, progressing as the concentration of maleic hydrazide was increased.

Days to flowering were determined as the number of days from planting to the date when all plants in the row had tasseled, shed pollen, or both. Anthers were examined at pollen shedding to determine the degree of pollen sterility. Yields were determined on the basis of all ears produced by each treatment and adjusted to 18% moisture. The single cross WF9 × 38–11 was delayed approximately 4 days in flowering with 2000 ppm, but at 4000 ppm sterile ears were produced and ear formation was prevented. Ear shoots were produced at all of the lower nodes, and the single cross WF9 × 38–11 was delayed in silking, plant height, and yield were directly proportional to the concentrations applied. AGRONOMY JOURNAL

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