THE INFLUENCE OF SPACE AND ARRANGEMENT ON
THE PRODUCTION OF SOYBEAN PLANTS

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THE soybean, like any other crop which is being produced in its
border area of adaptation, presents many special problems, the
answers to which must be sought in the area where the production of
the crop is being attempted. This paper is the report of a study of the
effect of space and arrangement of plants on the production of soy-
bens in the northeastern range of their production. This is only one
of many problems which might be studied with interest and profit.
Further information is needed on varieties, inoculation, fertilization,
cultivation, the effect of length of day, and utilization.

Accepting the recommendations of the corn belt investigators as
to the best method of distribution of the seed of soybeans for maxi-
mum production, cultivated rows 36 inches apart were used in the
beginning as a standard method in the experimental work at the New
York State College of Agriculture. By 1930 the width of row had been
reduced to 28 inches, to the advantage of increased production. A
solid drill varietal test was established in 1931 to include the more
promising varieties for grain. Both cultivated rows, 28 inches apart,
and solid drills, with rows 8 inches apart, have been used in varietal
trials continuously since that date. Table 1 gives the results in bushels
per acre for three of the several strains in these tests.

<table>
<thead>
<tr>
<th>Year</th>
<th>Cayuga</th>
<th>Seneca</th>
<th>65344</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>28 in.</td>
<td>8 in.</td>
<td>Differ</td>
</tr>
<tr>
<td>1931</td>
<td>26.8</td>
<td>38.6</td>
<td>11.8</td>
</tr>
<tr>
<td>1932</td>
<td>25.0</td>
<td>37.4</td>
<td>12.4</td>
</tr>
<tr>
<td>1933</td>
<td>26.5</td>
<td>38.3</td>
<td>11.8</td>
</tr>
<tr>
<td>1934</td>
<td>30.4</td>
<td>31.9</td>
<td>1.5</td>
</tr>
<tr>
<td>1935</td>
<td>33.3</td>
<td>34.9</td>
<td>1.6</td>
</tr>
<tr>
<td>1936</td>
<td>24.5</td>
<td>25.3</td>
<td>0.8</td>
</tr>
<tr>
<td>1937</td>
<td>28.7</td>
<td>37.0</td>
<td>8.3</td>
</tr>
<tr>
<td>Average</td>
<td>6.9</td>
<td>1.5</td>
<td></td>
</tr>
</tbody>
</table>

These results illustrate the advantage of the solid drill method over
rows wider apart when early-maturing soybean varieties are used for
the purpose of grain production. In only 3 out of 20 trials included in
the table were the yields in the 28-inch cultivated rows as large as
those in 8-inch solid drills. These three instances all occurred with

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