U. S. REGIONAL SOYBEAN LABORATORY
URBANA, ILLINOIS

# RESULTS OF THE COOPERATIVE UNIFORM SOYBEAN TESTS, 1948

# PART I. NORTH CENTRAL STATES

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH ADMINISTRATION
BUREAU OF PLANT INDUSTRY
SOILS, AND AGRICULTURAL ENGINEERING,
DIVISION OF FORAGE CROPS AND DISEASES
COOPERATING WITH
STATE AGRICULTURAL EXPERIMENT STATIONS

MARCH, 1949
RSLM 150

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1948

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Compiled by

Staff of the U. S. Regional Soybean Laboratory

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1/ This annual report of activity at the Soybean Laboratory, as well as of that at the state stations with which the Laboratory cooperates, is a progress report and as such may contain statements which may or may not be verified by subsequent experiments. The fact that any statement has been made herein does not necessarily constitute publication. For this reason citation to particular statements in the Report should not be published unless permission has been granted previously by the Laboratory or the state station concerned.

## INTRODUCTION

The U. S. Regional Soybean Laboratory was started in 1936 as a cooperative project by the U. S. Department of Agriculture and the twelve Agricultural Experiment Stations of the North Central States. In 1942 the work was expanded to include twelve of the Southern States.

The work of the Laboratory has been directed toward the breeding of improved varieties and strains of soybeans for industrial use, and uniform nurseries have been grown extensively in the North Central States for the purpose of evaluating the new strains produced through the breeding program. Several superior strains have resulted from this breeding and selection work, among them being Lincoln, Hawkeye, Monroe, Adams, and Wabash. Another strain, adapted to the northern part of the North Central Region, is being considered for release this year.

Nine uniform test groups have been established, the first five of which include strains of proper maturity for the North Central States. The other four groups contain strains adapted to the southern part of the United States, and a summary of performance of these will be found in Part II of this report, which is published separately.

Uniform Test, Group 0, contains the strains that will bloom and mature under the longer days encountered during summer in the Dakotas, Minnesota, and northern Wisconsin. Group I contains strains generally adapted to South Dakota, the southern parts of Minnesota, Wisconsin, and Michigan, and the northern part of Ohio. Groups II, III, and IV, respectively, include strains adapted to locations farther south in the North Central States and to other areas of similar latitude. In general, each group is arranged to include strains differing in maturity by not over 10 to 15 days. Maturity of the strains is expressed as so many days earlier or later than some well-known check or reference variety in the group.

Temperature and rainfall graphs with brief statements of weather conditions at many of the 1948 nursery locations are presented to aid in interpreting the performance of strains under climatic conditions occurring in each locality. The spring of 1948 was characterized by a general drought at planting time, resulting in uneven emergence at many nursery locations. Summer weather conditions were generally favorable following the spring drought, and nursery, as well as commercial yields, were high. However, much hand labor was necessary to keep weeds under control in many of the nurseries. An unusually severe occurrence of brown stem rot (cephalosporium gregatum) was noted in the central part of the soybean belt, probably due to the cold weather in early August. Fields showing severe early symptoms suffered a reduction in yield and seed size.

COOPERATING AGENCIES AND PERSONNEL
FOR THE
NORTH CENTRAL REGION

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Ohio Agricultural Experiment Station
Agronomy Department: J. L. Haynes, L. E. Thatcher

Purdue Agricultural Experiment Station
Agronomy Department: G. H. Cutler, H. H. Kramer

South Dakota Agricultural Experiment Station
Agronomy Department: M. W. Adams

Wisconsin Agricultural Experiment Station
Agronomy Department: J. H. Torrie

## LOCATION OF COOPERATIVE NURSERIES

| Location | Cooperator | Uniform Group Tests | | | | | Prel. Tests | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 0 | I | II | III | IV | 0 | I | III | IV |
| Ottawa, Ontario | Central Exp. Farm | x | | | | | x | | | |
| Ithaca, N.Y. | N.Y. Agr. Exp. Sta. | x | x | | | | | x | | |
| State College, Pa. | Pa. Agr. Exp. Sta. | | x | x | | | | | | |
| Lancaster, Pa. | Tobacco Substa., Pa.A.E.S. | | | | x | x | | | | |
| Georgetown, Del. | Georgetown Substa., Del.A.E.S. | | | | x | x | | | | |
| Beltsville, Md. | Forage Crops & Diseases, U.S.D.A. | | | | x | x | | | | |
| Blacksburg, Va. | Va. Agr. Exp. Sta. | | | | x | x | | | | |
| Holgate, Ohio | N.W. Br., Ohio Agr. Exp. Sta. | | x | x | | | | | | |
| Troy, Ohio | Miami Co. Exp. Farm | | | x | | | | | | |
| Paulding, Ohio | Paulding Co. Exp. Farm | | x | | | | | | | |
| Columbus, Ohio | Ohio State University | | x | x | x | | | | | |
| Walkerton, Ind. | Elburt Place | | | x | | | x | | | |
| Bluffton, Ind. | Gerald and Homer Bayless | | | x | | | | | | |
| Lafayette, Ind. | Purdue Agr. Exp. Sta. | | | x | x | | | | x | |
| Greenfield, Ind. | Benjamin Roney | | | x | x | | | | | |
| Worthington, Ind. | Frederic Sloan | | | x | x | x | | | | |
| Vincennes, Ind. | Charles Schenk | | | | | x | | | | |
| Evansville, Ind. | Bernard Wagner | | | | | x | | | | x |
| Spooner, Wis. | Spooner Br., Wis. A.E.S. | x | | | | | x | | | |
| Eau Claire, Wis. | Eau Claire County Farm | x | x | | | | x | | | |
| Madison, Wis. | Wis. Agr. Exp. Sta. | | x | x | | | | x | | |
| Compton, Ill. | Clarence Ackland | | x | x | | | | x | | |
| Urbana, Ill. | Ill. Agr. Exp. Sta. | | | x | x | x | | | x | |
| Clayton, Ill. | Russell S. Davis | | | | x | x | | | | |
| Stonington, Ill. | Frank Garwood & Sons | | | | x | x | | | x | |
| Edgewood, Ill. | John Wilson | | | | x | x | | | | |
| Freeburg, Ill. | Loren Wilderman | | | | x | x | | | | x |
| Eldorado, Ill. | Cyril Wagner | | | | x | x | | | | x |
| Stoneville, Miss. | Delta Branch, Miss. A.E.S. | | | | | | | | | x |
| Morris, Minn. | Branch, Minn. Agr. Exp. Sta. | x | | | | | | | | |
| Waseca, Minn. | S.E. Branch, Minn. Agr.Exp.Sta. | | x | | | | | x | | |
| Cresco, Iowa | Howard Co. Agr. Exp. Assn. | | x | | | | | | | |
| Kanawha, Iowa | N. Iowa Agr. Exp. Assn. | | x | x | | | | x | | |
| Marcus, Iowa | John Sand | | | x | | | | | | |
| Hudson, Iowa | Strayer Seed Farms | | | x | | | | | | |
| Ames, Iowa | Iowa Agr. Exp. Sta. | | | x | x | | | | | |
| Ottumwa, Iowa | A. E. Newquist | | | | x | | | | x | |
| Shelbyville, Mo. | Ralph Van Houten & Son | | | | x | x | | | | |
| Columbia, Mo. | Mo. Agr. Exp. Sta. | | | | x | x | | | x | x |
| Norborne, Mo. | Marvin Moentmann | | | | x | x | | | | |
| Fargo, N.D. | N.D. Agr. Exp. Sta. | x | | | | | x | | | |
| Rosholt, N.D. | Irvin Voss | x | | | | | x | | | |
| Brookings, S.D. | S.D. Agr. Exp. Sta. | | x | | | | | | | |
| Centerville, S.D. | Ben Paulson | | | x | | | | | | |
| Lincoln, Nebr. | Nebr. Agr. Exp. Sta. | | | x | x | | | | | |
| Manhattan, Kans. | Kans. Agr. Exp. Sta. | | | | x | x | | | | |
| Stillwater, Okla. | Okla. Agr. Exp. Sta. | | | | | | | | | x |
| Corvallis, Ore. | Ore. Agr. Exp. Sta. | x | | | | | | | | |


MAP OF THE NORTH CENTRAL STATES SHOWING LOCATION OF THE COOPERATIVE UNIFORM SOYBEAN TESTS, 1948

## METHODS

All Uniform Tests have been planted in replicated rod-row plots, using either a lattice or a randomized block design with four replications. Row widths used at the different test locations have varied from 18 to 42 inches, depending upon the width in common use or the equipment available for handling the crop. Seeding rates have also varied with locations, the most prevalent rates being 150 to 200 viable seeds per row. Rates within this range have given satisfactory stands throughout the region under normal soil and weather conditions at planting time.

Yields were taken on individual replications after the seed had been dried to a uniform moisture content basis.

Chemical composition was determined for each strain at each location in Group 0, Group I, the Preliminary Groups, and for some locations in Groups II, III, and IV. Chemical composition was determined for the remaining locations in Groups II, III, and IV on composite samples prepared by combining equal weights of seed from each location. The location composites were prepared by combining equal weights of seed of each of the strains in a Group Test at an individual location. Percentage composition of the seed is expressed on a dry basis (moisture free). Seed weight for each strain was determined on the variety composite or by individual locations, and was recorded as weight (in grams) per 100 seeds.

Lodging notes were recorded on a scale of 1 to 5 according to the following criteria:

1 Almost all plants erect
2 Either all plants leaning slightly, or a few plants down
3 Either all plants leaning moderately, or 25% to 50% of the plants down
4 Either all plants leaning considerably, or 50% to 80% of the plants down
5 All plants down badly

Height was determined as the average length of plants in a plot from the ground to the top extremity at time of maturity.

Maturity was taken as the date when the leaves had dropped, the pods were ripe, and the stems were fairly dry. Maturity in all summaries is expressed as days earlier (-) or later (+) than a standard or reference variety. Reference varieties used for the different Uniform Tests are as follows: Group 0, Mandarin. (Ottawa); Group I, Mandarin (Ottawa); Group II, Richland; Group III, Lincoln; and Group IV, Gibson.

Seed Quality was rated from 1 to 5 according to the following scale:

| | | |
|---|---|---|
| 1 Very good | 3 Fair | 5 Very poor |
| 2 Good | 4 Poor | |

The factors considered in estimating seed quality were: Development of seed; wrinkling; damage; and color for the variety.

Calculating Means. In most cases where the lodging and seed quality notes were 1, indicating no difference between strains at a location, these locations were not included in the mean.

Strain Designation. In order to simplify strain designations and indicate state of origin for entries in the Uniform Tests, the following code letters to precede strain numbers have been agreed upon in meetings of experiment station agronomists collaborating with the U. S. Regional Soybean Laboratory.

| Code Letter | State | Code Letter | State |
|---|---|---|---|
| L | Illinois | Au | Alabama |
| C | Indiana | R | Arkansas |
| A | Iowa | Fl | Florida |
| K | Kansas | Ga | Georgia |
| E | Michigan | La | Louisiana |
| M | Minnesota | D | Mississippi |
| S | Missouri | N | North Carolina |
| U | Nebraska | Ok | Oklahoma |
| F | North Dakota | SC | South Carolina |
| H | Ohio | UT | Tennessee |
| B | South Dakota | TS | Texas |
| W | Wisconsin | V | Virginia |

## UNIFORM TEST, GROUP O

The origin of the strains in the Uniform Test, Group O, is as follows:

| Strain | Source or Originating Agency | Origin |
|---|---|---|
| Capital | Central Exp. Farm, Ottawa | Sel. from Strain 171 x A.K. (Harrow) |
| Flambeau | Wis. Agr. Exp. Sta. | Sel. from Manchu |
| Goldsoy | Ontario Agr. College | Sel. from O.A.C. 211 |
| Kabott | Central Exp. Farm, Ottawa | Sel. from Intr. from Ninguta, Manchuria |
| Mandarin (Ottawa) | Central Exp. Farm, Ottawa | Sel. from Mandarin |
| Montreal Manchu | T. B. MacCauley, Montreal | Sel. from Manchu |
| O-255 | Central Exp. Farm, Ottawa | Sel. from Strain 171 x A.K. (Harrow) |
| W4-610 | Wis. A.E.S. & U.S.R.S.L. | Sel. from Richland x Kabott |
| W4-631 | Wis. A.E.S. & U.S.R.S.L. | Sel. from Richland x Kabott |
| W5S-4142 | Wis. A.E.S. & U.S.R.S.L. | Sel. from Kabott x Goldsoy |
| W5S-4143 | Wis. A.E.S. & U.S.R.S.L. | Sel. from Mukden x Pagoda |
| W6S-339 | Wis. A.E.S. & U.S.R.S.L. | Sel. from Cayuga x Kabott |

Data from eight locations are presented in tables 1-4. Yields were highest at Ottawa, Ontario, and lowest at Rosholt, South Dakota. Some difficulty was experienced by dry weather at emergence but yields in general were good and the tests should be reliable. Killing frosts did not occur until after maturity. This test is designed for strains earlier than Mandarin (Ottawa) and the six new entries were of the correct maturity range. Testing these new strains in the Preliminary Group O at four locations in 1947 helped to establish their correct maturity. Maturity is one of the most important characteristics in the area in which Group O is grown and yields must be considered in relation to maturity. Compared to the check strains of comparable maturity, none of the new entries is very exciting. O-255 is equal to Mandarin in yield and maturity and is somewhat superior in oil content and height. It does lodge somewhat more, however. This is perhaps the best of the new entries. The other new entries are earlier and closer to Flambeau in maturity. None of these is equal to comparable check strains in yield but W4-610 and W4-631 are higher in oil content. The new selections are inferior to Mandarin (Ottawa) in lodging resistance, but are superior to the other check varieties in this respect.

Six varieties have been in this test for three years (tables 5 and 6). Of these, Capital and Montreal Manchu have yielded slightly more than Mandarin and have averaged slightly earlier in maturity. Capital has yielded best at Ottawa, Ithaca, and Rosholt, and Montreal Manchu has yielded best at Spooner, Eau Claire, Fargo, Park River, and Corvallis. These varieties are somewhat taller and lodge more than Mandarin. Capital has about one percent more oil than the other five strains in this test and this is a definite advantage. Goldsoy, Flambeau, and Kabott have yielded about as might be expected for their maturity. In relation to the three later strains, Goldsoy has been at the top in yield at Morris and Fargo.

Table 1. Summary of agronomic and chemical data for the strains in the Uniform Test, Group 0, 1948.

| Strain | Mean Yield Bu/A. | Maturity[1] | Lodging | Height Inches | Seed Quality | Seed Weight | Percentage of Protein | Percentage of Oil | Iodine Number of Oil |
|---|---|---|---|---|---|---|---|---|---|
| No. of Tests | 8 | 5 | 5 | 7 | 5 | 8 | 8 | 8 | 8 |
| Montreal Manchu | 28.4 | - 0.4 | 2.6 | 32 | 1.0 | 16.6 | 41.9 | 19.2 | 133.0 |
| Capital | 27.8 | - 1.2 | 2.8 | 33 | 1.8 | 13.4 | 40.1 | 20.7 | 132.1 |
| Mandarin (Ottawa) | 27.0 | 0 | 1.1 | 29 | 1.6 | 18.5 | 42.7 | 19.1 | 129.7 |
| O-255 | 26.9 | + 0.6 | 1.5 | 32 | 2.2 | 13.7 | 40.1 | 19.7 | 132.4 |
| Goldsoy | 24.8 | - 6.8 | 2.2 | 25 | 2.2 | 19.5 | 41.9 | 19.2 | 132.9 |
| Flambeau | 24.7 | - 9.2 | 2.6 | 29 | 1.7 | 15.9 | 41.1 | 19.7 | 130.3 |
| W4-610 | 24.4 | - 5.4 | 1.8 | 28 | 2.1 | 19.1 | 40.9 | 20.3 | 129.8 |
| W5S-4142 | 24.1 | - 9.8 | 2.5 | 27 | 1.7 | 20.3 | 40.3 | 19.9 | 130.9 |
| W6S-339 | 23.8 | -11.0 | 1.4 | 27 | 1.6 | 16.9 | 40.8 | 18.6 | 131.0 |
| W4-631 | 23.4 | - 7.4 | 1.4 | 28 | 1.7 | 18.0 | 41.0 | 20.3 | 130.1 |
| Kabott | 23.2 | -11.6 | 1.7 | 25 | 1.8 | 20.9 | 41.7 | 19.4 | 130.4 |
| W5S-4143 | 23.0 | - 9.0 | 1.2 | 31 | 2.1 | 16.0 | 42.5 | 19.3 | 124.7 |
| Mean | 25.1 | | 1.9 | 29 | 1.8 | 17.4 | 41.3 | 19.6 | 130.6 |

[1] Days earlier (-) or later (+) than Mandarin (Ottawa). Mandarin (Ottawa) required 124 days to mature.

Table 2. Summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group 0, 1948.

| Strain | Mean of 8 Tests | Ottawa Ontario | Ithaca N. Y. | Spooner Wis. | Eau Claire Wis. | Morris Minn. | Fargo N. D. | Rosholt S. D. | Corvallis Ore. |
|---|---|---|---|---|---|---|---|---|---|
| Montreal Manchu | 28.4 | 40.8 | 22.8 | 31.3 | 29.4 | 26.2 | 28.6 | 16.4 | 31.3 |
| Capital | 27.8 | 44.0 | 24.0 | 32.2 | 25.6 | 24.0 | 26.1 | 17.8 | 28.4 |
| Mandarin(Ottawa) | 27.0 | 35.6 | 23.8 | 33.1 | 28.9 | 24.2 | 28.3 | 15.3 | 26.6 |
| 0-255 | 26.9 | 38.6 | 16.6 | 30.3 | 25.1 | 28.6 | 29.2 | 16.9 | 30.2 |
| Goldsoy | 24.8 | 32.4 | 21.7 | 23.7 | 24.8 | 28.4 | 28.8 | 18.8 | 19.7 |
| Flambeau | 24.7 | 33.2 | 18.1 | 26.4 | 25.0 | 26.4 | 26.6 | 16.3 | 25.4 |
| W4-610 | 24.4 | 33.1 | 19.4 | 26.9 | 25.9 | 27.0 | 24.4 | 14.7 | 23.8 |
| W5S-4142 | 24.1 | 36.1 | 17.1 | 23.5 | 25.1 | 25.8 | 25.3 | 18.1 | 21.7 |
| W6S-339 | 23.8 | 36.5 | 18.5 | 24.4 | 23.7 | 25.5 | 24.7 | 17.2 | 19.6 |
| W4-631 | 23.4 | 36.0 | 18.9 | 24.7 | 23.7 | 26.2 | 23.7 | 14.0 | 20.2 |
| Kabott | 23.2 | 35.7 | 16.0 | 22.8 | 24.2 | 24.0 | 26.8 | 14.9 | 20.9 |
| W5S-4143 | 23.0 | 38.9 | 17.0 | 21.3 | 24.8 | 23.9 | 21.7 | 13.3 | 22.9 |
| Mean | 25.1 | 36.7 | 19.5 | 26.7 | 25.5 | 25.9 | 26.2 | 16.1 | 24.2 |
| Coef. of Var. (%) | | -- | -- | -- | -- | -- | -- | 12.0 | -- |
| Bu.Nec.for Sig.(5%) | | 4.5 | -- | -- | -- | 2.8 | -- | 3.3 | -- |

| | Yield Rank | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Montreal Manchu | 2 | 3 | 3 | 1 | 5 | 3 | 6 | 1 |
| Capital | 1 | 1 | 2 | 4 | 10 | 7 | 3 | 3 |
| Mandarin(Ottawa) | 9 | 2 | 1 | 2 | 9 | 4 | 8 | 4 |
| 0-255 | 4 | 11 | 4 | 5 | 1 | 1 | 5 | 2 |
| Goldsoy | 12 | 4 | 9 | 8 | 2 | 2 | 1 | 11 |
| Flambeau | 10 | 8 | 6 | 7 | 4 | 6 | 7 | 5 |
| W4-610 | 11 | 5 | 5 | 3 | 3 | 10 | 10 | 6 |
| W5S-4142 | 6 | 9 | 10 | 5 | 7 | 8 | 2 | 8 |
| W6S-339 | 5 | 7 | 8 | 11 | 8 | 9 | 4 | 12 |
| W4-631 | 7 | 6 | 7 | 11 | 5 | 11 | 11 | 10 |
| Kabott | 8 | 12 | 11 | 10 | 10 | 5 | 9 | 9 |
| W5S-4143 | 3 | 10 | 12 | 8 | 12 | 12 | 12 | 7 |

Table 3. Summary of maturity data, days earlier (-) or later (+) than Mandarin (Ottawa), and lodging for the strains in the Uniform Test, Group O, 1948.

| Strain | Mean of 5 Tests[1] | Ottawa Ontario | Spooner Wis. | Eau Claire Wis. | Morris Minn. | Fargo N. D. | Rosholt S. D. | Corvallis Oregon |
|---|---|---|---|---|---|---|---|---|
| Montreal Manchu | - 0.4 | - 2 | - 1 | +1 | 0 | +3 | 0 | 0 |
| Capital | - 1.2 | - 5 | 0 | +1 | +1 | +9 | 0 | - 3 |
| Mandarin (Ottawa) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O-255 | + 0.6 | - 4 | - 3 | -2 | +2 | +3 | +3 | +10 |
| Goldsoy | - 6.8 | - 9 | -10 | -2 | -3 | +1 | +4 | -10 |
| Flambeau | - 9.2 | -12 | -10 | -5 | -5 | -3 | -3 | -14 |
| W4-610 | - 5.4 | - 6 | - 6 | -1 | -2 | -5 | +3 | -12 |
| W5S-4142 | - 9.8 | -12 | - 9 | -5 | -5 | -6 | +4 | -18 |
| W6S-339 | -11.0 | -16 | -15 | -5 | -5 | -8 | 0 | -14 |
| W4-631 | - 7.4 | - 8 | - 7 | -3 | -3 | -7 | +3 | -16 |
| Kabott | -11.6 | -14 | -13 | -6 | -5 | -9 | +3 | -20 |
| W5S-4143 | - 9.0 | -13 | -10 | -4 | -4 | -7 | 0 | -14 |
| Date planted | | 5/20 | 5/31 | 5/22 | 5/28 | 6/8 | 5/28 | 5/17 |
| Mand. (Ott.) matured | | 10/1 | 9/29 | 9/14 | 9/13 | 9/21 | 9/26 | 10/5 |
| Days to mature | 124 | 134 | 121 | 115 | 108 | 105 | 121 | 141 |

| | Mean of 5 Tests | Lodging | | | | |
|---|---|---|---|---|---|---|
| Montreal Manchu | 2.6 | 3.0 | 2.3 | 2.8 | 3.8 | 1.0 |
| Capital | 2.8 | 3.5 | 2.0 | 3.1 | 4.1 | 1.2 |
| Mandarin (Ottawa) | 1.1 | 1.0 | 1.0 | 1.5 | 1.0 | 1.0 |
| O-255 | 1.5 | 1.0 | 1.3 | 2.4 | 1.0 | 1.8 |
| Goldsoy | 2.2 | 1.8 | 2.0 | 1.9 | 4.3 | 1.0 |
| Flambeau | 2.6 | 3.0 | 1.8 | 2.7 | 3.6 | 1.8 |
| W4-610 | 1.8 | 1.8 | 1.5 | 2.0 | 2.9 | 1.0 |
| W5S-4142 | 2.5 | 3.3 | 2.3 | 2.1 | 4.0 | 1.0 |
| W6S-339 | 1.4 | 1.0 | 1.0 | 1.4 | 2.8 | 1.0 |
| W4-631 | 1.4 | 1.0 | 1.3 | 1.6 | 1.9 | 1.0 |
| Kabott | 1.7 | 1.5 | 1.8 | 1.6 | 2.6 | 1.0 |
| W5S-4143 | 1.2 | 1.0 | 1.0 | 1.1 | 1.9 | 1.2 |
| Mean | 1.9 | 1.9 | 1.6 | 2.0 | 2.8 | 1.2 |

[1] Fargo and Rosholt not included in the mean.

Table 4. Summary of height data and percentage oil for the strains in the Uniform Test, Group 0, 1948.

| Strain | Mean of 7 Tests | Ottawa Ontario | Ithaca N. Y. | Spooner Wis. | Eau Claire Wis. | Morris Minn. | Fargo N. D. | Rosholt S. D. | Corvallis Ore. |
|---|---|---|---|---|---|---|---|---|---|
| Montreal Manchu | 32 | 42 | | 32 | 31 | 33 | 24 | 31 | 33 |
| Capital | 33 | 41 | | 31 | 33 | 34 | 24 | 34 | 36 |
| Mandarin(Ottawa) | 29 | 37 | | 28 | 28 | 29 | 24 | 26 | 30 |
| O-255 | 32 | 39 | | 32 | 27 | 34 | 24 | 34 | 36 |
| Goldsoy | 25 | 35 | | 24 | 23 | 26 | 22 | 23 | 21 |
| Flambeau | 29 | 42 | | 28 | 28 | 30 | 23 | 28 | 26 |
| W4-610 | 28 | 39 | | 28 | 27 | 30 | 24 | 27 | 22 |
| W5S-4142 | 27 | 36 | | 29 | 25 | 28 | 24 | 22 | 22 |
| W6S-339 | 27 | 38 | | 27 | 26 | 30 | 24 | 24 | 21 |
| W4-631 | 28 | 39 | | 30 | 29 | 30 | 23 | 24 | 23 |
| Kabott | 25 | 35 | | 25 | 25 | 27 | 21 | 22 | 21 |
| W5S-4143 | 31 | 45 | | 32 | 30 | 31 | 24 | 30 | 27 |
| Mean | 29 | 39 | | 29 | 28 | 30 | 23 | 27 | 27 |

| | Mean of 8 Tests | Percentage Oil | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Montreal Manchu | 19.2 | 20.6 | 19.0 | 18.9 | 19.6 | 18.4 | 20.2 | 17.8 | 19.2 |
| Capital | 20.7 | 22.1 | 20.5 | 20.2 | 22.2 | 19.9 | 21.0 | 19.6 | 19.9 |
| Mandarin(Ottawa) | 19.1 | 19.9 | 19.9 | 18.9 | 19.9 | 18.6 | 20.1 | 17.0 | 18.3 |
| O-255 | 19.7 | 20.8 | 20.0 | 19.7 | 20.2 | 19.2 | 20.7 | 18.0 | 18.7 |
| Goldsoy | 19.2 | 19.2 | 19.8 | 18.5 | 19.2 | 18.9 | 20.8 | 18.4 | 18.6 |
| Flambeau | 19.7 | 20.7 | 19.3 | 19.4 | 20.1 | 19.0 | 20.8 | 19.1 | 19.3 |
| W4-610 | 20.3 | 20.9 | 20.9 | 19.9 | 20.6 | 19.9 | 20.9 | 19.0 | 20.0 |
| W5S-4142 | 19.9 | 20.1 | 20.3 | 18.9 | 19.7 | 19.1 | 21.5 | 20.3 | 19.1 |
| W6S-339 | 18.6 | 19.6 | 19.2 | 18.2 | 18.6 | 18.3 | 18.1 | 18.7 | 18.1 |
| W4-631 | 20.3 | 20.8 | 20.3 | 19.6 | 20.8 | 19.3 | 20.7 | 20.3 | 20.6 |
| Kabott | 19.4 | 19.6 | 19.5 | 18.8 | 19.9 | 18.9 | 20.1 | 19.6 | 18.9 |
| W5S-4143 | 19.3 | 20.4 | 19.5 | 18.4 | 19.8 | 18.5 | 19.3 | 19.1 | 19.3 |
| Mean | 19.6 | 20.4 | 19.9 | 19.1 | 20.1 | 19.0 | 20.4 | 18.9 | 19.2 |

Table 5. Three-year summary of agronomic and chemical data for the strains in the Uniform Test, Group O, 1946-48.

| Strain | Mean Yield Bu/A. | Maturity[1] | Lodging | Height Inches | Seed Quality | Seed Weight | Percentage of Protein | Percentage of Oil | Iodine Number of Oil |
|---|---|---|---|---|---|---|---|---|---|
| No. of Tests | 25 | 16 | 13 | 22 | 16 | 25 | 26 | 26 | 26 |
| Capital | 25.9 | - 2.0 | 2.5 | 30 | 2.1 | 12.7 | 40.1 | 20.6 | 133.6 |
| Montreal Manchu | 25.8 | - 2.3 | 2.1 | 31 | 1.5 | 16.1 | 41.5 | 19.4 | 134.3 |
| Mandarin (Ottawa) | 24.8 | 0 | 1.2 | 27 | 2.3 | 17.7 | 42.2 | 19.6 | 131.2 |
| Goldsoy | 23.3 | - 6.9 | 2.3 | 24 | 2.2 | 18.4 | 42.2 | 19.3 | 134.2 |
| Flambeau | 22.6 | -10.9 | 2.3 | 27 | 2.0 | 15.4 | 40.0 | 19.6 | 131.6 |
| Kabott | 21.5 | -12.1 | 1.8 | 24 | 1.8 | 19.4 | 42.4 | 19.4 | 132.1 |
| Mean | 24.0 | | 2.0 | 27 | 2.0 | 16.6 | 41.4 | 19.7 | 132.8 |

[1] Days earlier (-) or later (+) than Mandarin (Ottawa). Mandarin (Ottawa) required 125 days to mature.

Table 6. Three-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group O, 1946-48.

| Strain | Mean of 25 Tests | Ottawa Ont. | Ithaca N. Y. | Spooner Wis. | Eau Claire Wis. | St. Paul Minn. | Morris Minn. | Fargo N.D. | Park River N.D. | Rosholt S.D. | Corvallis Ore. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Years Tested | | 1946-1948 | 1946-1948 | 1946-1948 | 1947-1948 | 1946-1947 | 1946-1948 | 1946-1948 | 1946-1947 | 1947-1948 | 1946-1948 |
| Capital | 25.9 | 37.2 | 28.3 | 22.3 | 24.2 | 17.4 | 23.1 | 23.2 | 24.1 | 17.7 | 24.4 |
| Montreal Manchu | 25.8 | 35.8 | 26.5 | 23.1 | 26.1 | 17.8 | 23.2 | 25.5 | 24.7 | 15.1 | 25.8 |
| Mandarin (Ott.) | 24.8 | 31.8 | 27.1 | 23.0 | 25.0 | 18.6 | 22.7 | 23.8 | 21.9 | 14.4 | 23.6 |
| Goldsoy | 23.3 | 30.5 | 25.0 | 18.2 | 22.2 | 14.8 | 24.0 | 25.5 | 23.5 | 15.7 | 17.8 |
| Flambeau | 22.6 | 30.0 | 21.4 | 19.9 | 22.5 | 14.2 | 23.9 | 22.7 | 22.9 | 13.8 | 19.7 |
| Kabott | 21.5 | 30.0 | 22.3 | 19.8 | 19.5 | 15.7 | 20.1 | 21.6 | 23.5 | 11.6 | 18.3 |
| Mean | 24.0 | 32.6 | 25.1 | 21.1 | 23.3 | 16.4 | 22.8 | 23.7 | 23.4 | 14.7 | 21.6 |
| | | Yield Rank | | | | | | | | | |
| Capital | | 1 | 1 | 3 | 3 | 3 | 4 | 4 | 2 | 1 | 2 |
| Montreal Manchu | | 2 | 3 | 1 | 1 | 2 | 3 | 1 | 1 | 3 | 1 |
| Mandarin (Ott.) | | 3 | 2 | 2 | 2 | 1 | 5 | 3 | 6 | 4 | 3 |
| Goldsoy | | 4 | 4 | 6 | 5 | 5 | 1 | 1 | 3 | 2 | 6 |
| Flambeau | | 5 | 6 | 4 | 4 | 6 | 2 | 5 | 5 | 5 | 4 |
| Kabott | | 5 | 5 | 5 | 6 | 4 | 6 | 6 | 3 | 6 | 5 |

## PRELIMINARY TEST, GROUP O

The origin of the strains in the Preliminary Test, Group O, is as follows:

| Strain | Source or Originating Agency | Origin |
|---|---|---|
| Capital | Central Exp. Farm, Ottawa | Sel. from Strain 171 x A.K. (Harrow) |
| Flambeau | Wis. Agr. Exp. Station | Sel. from Manchu |
| Mandarin (Ottawa) | Central Exp. Farm, Ottawa | Sel. from Mandarin |
| Pridesoy | Twin City Seed Co., Minneapolis | Unknown |
| Pridesoy 57 | Twin City Seed Co., Minneapolis | Sel. from Pridesoy |
| M8 | Minn. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Linc. x Rich.) |
| M9 | Minn. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Linc. x Rich.) |
| M11 | Minn. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Linc. x Rich.) |
| M305-2 | Central Exp. Farm, Ottawa | Sel. from variety Moscow |
| O-10 | Central Exp. Farm, Ottawa | Sel. from a natural cross in Manchu |
| W5-2070 | Wis. A.E.S. & U.S.R.S.L. | Sel. from Mukden x Kabott |
| W5-2260 | Wis. A.E.S. & U.S.R.S.L. | Sel. from Ontario x Richland |
| W6S-326 | Wis. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x Pagoda |
| W6S-338 | Wis. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x Pagoda |
| W6S-341 | Wis. A.E.S. & U.S.R.S.L. | Sel. from Cayuga x Kabott |
| W6S-441 | Wis. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Linc. x Rich.) |
| W6S-457 | Wis. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Linc. x Rich.) |

Preliminary Group O was grown at 6 locations in 1948. In general, these were good tests, the one at Ottawa yielding the most (Table 8). One of the new entries, Pridesoy 57, is being distributed in quantity by the Twin City Seed Company of Minneapolis. This strain has proven to be distinctly superior to the ordinary Pridesoy but apparently is inferior to Mandarin (Ottawa) in yield, lodging resistance, height, seed quality, and percentage of oil (Table 7). The majority of the experimental entries have not proven to be better yielders than the check strains of comparable maturity but several have been superior in lodging resistance and percentage of oil. Since maturity is such an important question in Group O territory, the strains in this test must be evaluated with this in mind. The individual maturity data are presented in Table 9.

Of the later entries, the most promising appear to be W5-2260, M8, and M9. Of the strains earlier than Mandarin, O-10 is the best yielding but it is low in oil. W5-2070 is about as early as Flambeau and stands up better but has a somewhat lower oil content. M305-2 did not yield as well in 1948 as it did in 1947. O-10, W5-2070, and M305-2 have been tested for two years in this group.

Table 7. Summary of agronomic and chemical data for the strains in the Preliminary Test, Group 0, 1948.

| Strain | Mean Yield Bu/A. | Maturity[1] | Lodging | Height Inches | Seed Quality | Seed Weight | Percentage of Protein | Percentage of Oil | Iodine Number of Oil |
|---|---|---|---|---|---|---|---|---|---|
| No. of Tests | 6 | 5 | 5 | 5 | 4 | 6 | 6 | 6 | 6 |
| Capital | 31.7 | + 0.4 | 3.2 | 34 | 1.3 | 14.6 | 39.7 | 21.2 | 131.5 |
| Mandarin (Ottawa) | 31.3 | 0 | 1.5 | 29 | 1.3 | 19.6 | 41.7 | 20.0 | 128.6 |
| W5-2260 | 30.3 | + 0.4 | 1.9 | 30 | 1.8 | 18.3 | 38.6 | 20.5 | 128.3 |
| M8 | 29.7 | + 0.8 | 2.4 | 32 | 1.5 | 16.9 | 38.9 | 21.0 | 131.8 |
| M11 | 29.4 | + 2.4 | 2.4 | 34 | 1.5 | 16.1 | 39.3 | 21.2 | 132.9 |
| M9 | 28.8 | 0 | 2.1 | 31 | 1.8 | 17.3 | 39.9 | 21.6 | 132.0 |
| W6S-441 | 28.7 | + 0.2 | 2.7 | 33 | 1.4 | 15.4 | 40.3 | 20.7 | 132.6 |
| 0-10 | 28.6 | - 3.8 | 2.5 | 32 | 1.8 | 16.0 | 42.6 | 19.3 | 134.1 |
| W6S-326 | 27.3 | + 0.4 | 1.7 | 32 | 1.6 | 16.8 | 39.5 | 21.4 | 131.3 |
| Pridesoy 57 | 27.3 | - 1.8 | 1.6 | 27 | 1.4 | 16.3 | 42.8 | 18.9 | 131.4 |
| W6S-338 | 27.1 | - 0.6 | 2.1 | 31 | 2.3 | 16.5 | 41.9 | 18.5 | 133.3 |
| W6S-457 | 26.8 | + 0.6 | 2.2 | 31 | 1.8 | 15.0 | 39.4 | 20.8 | 133.5 |
| Flambeau | 26.7 | - 6.8 | 3.0 | 30 | 1.8 | 15.6 | 40.9 | 19.8 | 129.8 |
| W5-2070 | 26.6 | - 5.4 | 1.6 | 34 | 2.3 | 16.2 | 42.9 | 19.3 | 123.0 |
| M305-2 | 25.9 | - 4.4 | 1.6 | 28 | 2.4 | 20.4 | 40.8 | 18.5 | 129.5 |
| Pridesoy | 25.6 | - 1.0 | 1.6 | 28 | 1.5 | 14.7 | 43.4 | 18.5 | 132.2 |
| W6S-341 | 25.1 | -10.2 | 1.6 | 27 | 1.8 | 16.7 | 40.3 | 19.3 | 130.0 |
| Mean | 28.0 | | 2.1 | 31 | 1.7 | 16.6 | 40.8 | 20.0 | 130.9 |

[1] Days earlier (-) or later (+) than Mandarin (Ottawa). Mandarin (Ottawa) required 116 days to mature.

Table 8. Summary of yield in bushels per acre and yield rank for the strains in the Preliminary Test, Group O, 1948.

| Strain | Mean of 6 Tests | Ottawa Ontario | Walker-ton Ind. | Spooner Wis. | Eau Claire Wis. | Fargo N.D. | Rosholt S.D. |
|---|---|---|---|---|---|---|---|
| Capital | 31.7 | 41.3 | 29.8 | 33.4 | 30.7 | 26.6 | 28.4 |
| Mandarin (Ottawa) | 31.3 | 35.1 | 37.7 | 31.6 | 30.9 | 27.2 | 25.0 |
| W5-2260 | 30.3 | 37.3 | 36.5 | 33.1 | 26.9 | 17.3 | 20.9 |
| M8 | 29.7 | 40.1 | 32.4 | 32.8 | 30.4 | 21.7 | 21.0 |
| M11 | 29.4 | 38.5 | 31.3 | 32.2 | 25.0 | 25.2 | 24.1 |
| M9 | 28.8 | 34.6 | 31.0 | 34.1 | 29.7 | 20.0 | 23.4 |
| W6S-441 | 28.7 | 38.9 | 29.1 | 32.2 | 27.2 | 23.5 | 21.3 |
| O-10 | 28.6 | 36.5 | 28.7 | 33.6 | 29.3 | 21.5 | 21.8 |
| W6S-326 | 27.3 | 33.1 | 27.2 | 32.2 | 29.0 | 20.4 | 21.9 |
| Pridesoy 57 | 27.3 | 31.2 | 31.7 | 30.3 | 27.0 | 20.7 | 22.9 |
| W6S-338 | 27.1 | 34.4 | 27.9 | 30.8 | 24.9 | 23.0 | 21.8 |
| W6S-457 | 26.8 | 34.6 | 29.4 | 31.3 | 27.0 | 20.1 | 18.1 |
| Flambeau | 26.7 | 34.9 | 25.4 | 27.6 | 26.9 | 22.7 | 22.4 |
| W5-2070 | 26.6 | 36.0 | 27.0 | 27.6 | 28.7 | 18.4 | 21.6 |
| M305-2 | 25.9 | 32.3 | 27.0 | 24.2 | 24.0 | 22.9 | 24.7 |
| Pridesoy | 25.6 | 27.9 | 31.7 | 29.2 | 25.3 | 23.0 | 16.3 |
| W6S-341 | 25.1 | 32.7 | 21.4 | 24.2 | 28.1 | 22.5 | 21.4 |
| Mean | 28.0 | 35.3 | 29.7 | 30.6 | 27.7 | 22.2 | 22.2 |
| Coef. of Var. (%) | | -- | 9.8 | -- | -- | -- | 18.2 |
| Bu. Nec. for Sig. (5%) | | 3.4 | 4.1 | -- | -- | -- | -- |

| | Yield Rank | | | | | |
|---|---|---|---|---|---|---|
| Capital | 1 | 8 | 3 | 2 | 3 | 1 |
| Mandarin (Ottawa) | 8 | 1 | 9 | 1 | 2 | 2 |
| W5-2260 | 5 | 2 | 4 | 12 | 1 | 15 |
| M8 | 2 | 3 | 5 | 3 | 11 | 14 |
| M11 | 4 | 7 | 6 | 15 | 4 | 4 |
| M9 | 10 | 6 | 1 | 4 | 16 | 5 |
| W6S-441 | 3 | 10 | 6 | 9 | 5 | 13 |
| O-10 | 6 | 11 | 2 | 5 | 12 | 9 |
| W6S-326 | 13 | 13 | 6 | 6 | 14 | 8 |
| Pridesoy 57 | 16 | 4 | 12 | 10 | 13 | 6 |
| W6S-338 | 12 | 12 | 11 | 16 | 6 | 9 |
| W6S-457 | 11 | 9 | 10 | 10 | 15 | 16 |
| Flambeau | 9 | 16 | 14 | 12 | 9 | 7 |
| W5-2070 | 7 | 14 | 14 | 7 | 17 | 11 |
| M305-2 | 15 | 14 | 16 | 17 | 8 | 3 |
| Pridesoy | 17 | 4 | 13 | 14 | 6 | 17 |
| W6S-341 | 14 | 17 | 16 | 8 | 10 | 12 |

Table 9. Summary of maturity data, days earlier (-) or later (+) than Mandarin (Ottawa), and percentage oil for the strains in the Preliminary Test, Group 0, 1948.

| Strain | Mean of 5 Tests[1] | Ottawa Ontario | Walker-ton Ind. | Spooner Wis. | Eau Claire Wis. | Fargo N.D. | Rosholt S.D. |
|---|---|---|---|---|---|---|---|
| Capital | + 0.4 | - 3 | -1 | 0 | +1 | + 5 | 0 |
| Mandarin (Ottawa) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| W5-2260 | + 0.4 | - 1 | +2 | - 3 | +2 | + 2 | +4 |
| M8 | + 0.8 | - 1 | +3 | + 1 | +2 | - 1 | +8 |
| M11 | + 2.4 | + 2 | +5 | + 1 | +3 | + 1 | +3 |
| M9 | 0 | - 1 | +2 | - 1 | +2 | - 2 | +9 |
| W6S-441 | + 0.2 | - 2 | +2 | + 1 | +1 | - 1 | +5 |
| O-10 | - 3.8 | - 5 | -2 | - 6 | -1 | - 5 | +7 |
| W6S-326 | + 0.4 | + 2 | +1 | - 2 | +2 | - 1 | +3 |
| Pridesoy 57 | - 1.8 | - 3 | 0 | - 4 | 0 | - 2 | +8 |
| W6S-338 | - 0.6 | - 2 | -1 | 0 | 0 | 0 | +1 |
| W6S-457 | + 0.6 | - 2 | +1 | + 1 | +3 | 0 | 0 |
| Flambeau | - 6.8 | -11 | -5 | -10 | -3 | - 5 | -3 |
| W5-2070 | - 5.4 | -10 | -3 | - 9 | -1 | - 4 | +3 |
| M305-2 | - 4.4 | - 4 | -3 | - 7 | -2 | - 6 | +3 |
| Pridesoy | - 1.0 | - 1 | 0 | - 5 | +3 | - 2 | 0 |
| W6S-341 | -10.2 | -17 | -6 | -15 | -3 | -10 | +5 |
| Date planted | | 5/20 | 6/18 | 5/31 | 5/22 | 6/8 | 5/28 |
| Mand. (Ott.) matured | | 9/29 | 10/1 | 9/29 | 9/12 | 9/23 | 9/26 |
| Days to mature | 116 | 132 | 105 | 121 | 113 | 107 | 121 |
| | Mean of 6 Tests | | | Oil | | | |
| Capital | 21.2 | 21.8 | 20.3 | 20.8 | 21.3 | 21.4 | 21.3 |
| Mandarin (Ottawa) | 20.0 | 19.9 | 20.2 | 19.5 | 20.2 | 19.9 | 20.0 |
| W5-2260 | 20.5 | 21.4 | 20.4 | 20.6 | 20.7 | 21.4 | 18.7 |
| M8 | 21.0 | 21.1 | 21.0 | 20.5 | 21.3 | 21.9 | 20.3 |
| M11 | 21.2 | 21.4 | 20.5 | 20.5 | 21.1 | 22.5 | 20.9 |
| M9 | 21.6 | 21.7 | 21.4 | 20.5 | 22.3 | 22.4 | 21.4 |
| W6S-441 | 20.7 | 21.3 | 20.2 | 20.4 | 20.7 | 21.3 | 20.0 |
| O-10 | 19.3 | 19.9 | 19.0 | 19.4 | 19.5 | 19.5 | 18.2 |
| W6S-326 | 21.4 | 21.7 | 20.9 | 20.6 | 22.6 | 22.1 | 20.6 |
| Pridesoy 57 | 18.9 | 19.1 | 19.5 | 17.8 | 20.3 | 19.8 | 16.8 |
| W6S-338 | 18.5 | 18.2 | 17.9 | 18.5 | 18.2 | 19.4 | 18.9 |
| W6S-457 | 20.8 | 21.7 | 20.5 | 21.2 | 20.8 | 20.9 | 19.6 |
| Flambeau | 19.8 | 19.7 | 18.6 | 19.7 | 20.1 | 20.7 | 19.9 |
| W5-2070 | 19.3 | 20.0 | 18.5 | 19.9 | 19.9 | 19.0 | 18.5 |
| M305-2 | 18.5 | 18.2 | 18.4 | 18.0 | 19.2 | 18.7 | 18.5 |
| Pridesoy | 18.5 | 18.1 | 18.1 | 18.8 | 19.3 | 19.2 | 17.7 |
| W6S-341 | 19.3 | 19.8 | 19.4 | 18.8 | 19.1 | 18.8 | 20.0 |
| Mean | 20.0 | 20.3 | 19.7 | 19.7 | 20.4 | 20.5 | 19.5 |

[1] Rosholt not included in the mean.

## UNIFORM TEST, GROUP I

The origin of the strains in the Uniform Test, Group I, is as follows:

| Strain | Source or Originating Agency | Origin |
|---|---|---|
| Earlyana | Purdue Agr. Exp. Sta. | Sel. from a natural hybrid |
| Habaro | U.S. Dept. of Agriculture | Sel. from P. I. 20405 |
| Mandarin (Ottawa) | Central Exp. Farm, Ottawa | Sel. from Mandarin |
| Wis. Manchu 3 | Wis. Agr. Exp. Sta. | Sel. from Manchu |
| A3K-884 | Iowa A.E.S. & U.S.R.S.L. | Sel. from Mukden x Richland |
| A6K-937 | Iowa A.E.S. & U.S.R.S.L. | Sel. from A3K-884 |
| Monroe (H5S) | Ohio A.E.S. & U.S.R.S.L. | Sel. from Mukden x Mandarin |
| H2804 | Ohio A.E.S. & U.S.R.S.L. | Sel. from Richland x Scioto |
| H6403 | Ohio A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Linc. x Rich.) |
| M1 | Minn. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Linc. x Rich.) |
| M4 | Minn. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Linc. x Rich.) |
| W5-2175 | Wis. A.E.S. & U.S.R.S.L. | Sel. from Mandarin x L6-12 |
| W5-2307 | Wis. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x Richland |
| W5-3638 | Wis. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x Richland |

Group I was planted at two new locations, State College, Pennsylvania, and Paulding, Ohio. Dry weather at planting resulted in such irregular stands that the St. Paul test was abandoned. The pure line selection, A6K-937, and the original strain, A3K-884, were entered in this test in 1948. A3K-884 has the highest average yield for the four-year period 1945-1948 (table 14). The selection appears to be equal to or better than its parent (tables 10-13). A6K-937 is superior to Earlyana in yield, resistance to lodging, seed quality, and oil content. The history of this selection from the Mukden x Richland cross was given in detail in the 1947 report. An initial increase of fifteen pounds of seed of A6K-937 was produced in Iowa for further increase in 1949. The other seven new entries varied from 2 to 11 days later than Mandarin. H6403 and W5-2307 may prove to be too late for this group since they averaged later than Earlyana. All of these had satisfactory resistance to lodging and most of them were tall enough. H6403 and W5-3638 seem to be the best of the later strains although W5-3638 lodges more than it should for its height. M1 appears to be the best of the earlier strains. It yielded almost as much as H6403 and was 5 days earlier. M4 and W5-2175 were earlier than the other selections and did not yield as well.

Of the 6 strains which have been in for 4 years, A3K-884 has yielded better than anything else (tables 14-15). It is slightly earlier than Earlyana, more resistant to lodging, and higher in oil content. The strain H5S, from the cross Mukden x Mandarin, has been named Monroe, and seed was increased in 1948 to 1700 bushels in Ohio, 100 bushels in Wisconsin, and 55 bushels in Minnesota. The origin of H5S was described in detail in the 1947 report. Monroe has been tested for 6 years (tables 16 and 17). This variety has yielded slightly less than Earlyana and is about 5 days earlier. Monroe is just as tall as Earlyana but stands up better and has better quality seed. It is being released as a strain to precede wheat in Northern Ohio.

Table 10. Summary of agronomic and chemical data for the strains in the Uniform Test, Group I, 1948.

| Strain | Mean Yield Bu/A. | Maturity[1] | Lodging | Height Inches | Seed Quality | Seed Weight | Percentage of Protein | Percentage of Oil | Iodine Number of Oil |
|---|---|---|---|---|---|---|---|---|---|
| No. of Tests | 12 | 9 | 11 | 11 | 11 | 12 | 12 | 12 | 12 |
| H6403 | 28.4 | +11.1 | 1.4 | 35 | 2.2 | 16.6 | 42.0 | 20.8 | 131.5 |
| W5-3638 | 28.1 | + 8.8 | 1.7 | 33 | 2.3 | 15.5 | 41.4 | 21.1 | 130.9 |
| M1 | 27.9 | + 5.9 | 1.5 | 32 | 2.0 | 16.4 | 41.1 | 20.9 | 129.2 |
| A6K-937 | 27.6 | + 9.1 | 1.5 | 33 | 1.6 | 15.7 | 40.5 | 21.3 | 126.1 |
| H2804 | 27.5 | +10.7 | 1.7 | 35 | 2.0 | 17.2 | 42.2 | 20.6 | 132.8 |
| A3K-884 | 27.3 | + 9.0 | 1.3 | 33 | 1.8 | 16.2 | 41.1 | 21.0 | 125.8 |
| Habaro | 26.8 | + 6.4 | 1.7 | 26 | 2.1 | 18.3 | 43.1 | 19.3 | 129.2 |
| Earlyana | 26.8 | + 9.0 | 2.6 | 35 | 2.3 | 15.7 | 42.8 | 20.1 | 130.7 |
| W5-2307 | 26.7 | +11.2 | 1.4 | 34 | 2.0 | 16.7 | 40.7 | 21.0 | 128.9 |
| Monroe (H5S) | 26.4 | + 4.0 | 2.0 | 36 | 2.0 | 14.9 | 42.5 | 20.3 | 128.1 |
| W5-2175 | 26.4 | + 2.8 | 1.6 | 34 | 2.0 | 14.6 | 41.7 | 19.9 | 130.8 |
| Wis. Manchu 3 | 25.8 | + 8.3 | 2.5 | 35 | 2.3 | 17.5 | 40.9 | 20.6 | 130.5 |
| Mandarin (Ottawa) | 25.2 | 0 | 1.2 | 25 | 1.9 | 18.4 | 42.6 | 20.0 | 126.7 |
| M4 | 24.1 | + 1.8 | 1.4 | 27 | 2.4 | 14.7 | 40.4 | 21.3 | 130.9 |
| Mean | 26.8 | | 1.7 | 32 | 2.1 | 16.3 | 41.6 | 20.6 | 129.4 |

[1] Days earlier (-) or later (+) than Mandarin (Ottawa). Mandarin (Ottawa) required 114 days to mature.

Table 11. Summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group (I), 1948.

| Strain | Mean of 12 Tests | Ithaca N. Y. | State College Pa. | Holgate Ohio | Pauld-ing Ohio | Colum-bus Ohio | Eau Claire Wis. |
|---|---|---|---|---|---|---|---|
| H6403 | 28.4 | 23.8 | 30.7 | 29.0 | 30.3 | 41.3 | 18.3 |
| W5-3638 | 28.1 | 24.6 | 31.4 | 25.5 | 28.5 | 29.7 | 21.0 |
| M1 | 27.9 | 23.8 | 32.4 | 27.9 | 28.6 | 33.7 | 20.3 |
| A6K-937 | 27.6 | 26.4 | 33.6 | 24.9 | 27.8 | 31.5 | 21.0 |
| H2804 | 27.5 | 27.0 | 31.6 | 25.5 | 27.7 | 36.2 | 17.9 |
| A3K-884 | 27.3 | 26.0 | 32.2 | 27.4 | 24.0 | 30.5 | 23.0 |
| Habaro | 26.8 | 27.4 | 35.0 | 22.6 | 25.5 | 30.6 | 23.7 |
| Earlyana | 26.8 | 23.8 | 32.2 | 23.1 | 31.8 | 24.8 | 20.1 |
| W5-2307 | 26.7 | 21.1 | 30.4 | 23.8 | 28.0 | 38.1 | 19.4 |
| Monroe (H5S) | 26.4 | 28.4 | 31.9 | 23.9 | 28.3 | 25.3 | 24.9 |
| W5-2175 | 26.4 | 22.2 | 28.1 | 25.2 | 23.2 | 33.5 | 25.5 |
| Wis. Manchu 3 | 25.8 | 21.9 | 30.4 | 23.7 | 24.4 | 21.7 | 22.2 |
| Mandarin (Ottawa) | 25.2 | 23.2 | 28.2 | 23.8 | 23.9 | 21.2 | 24.9 |
| M4 | 24.1 | 18.4 | 29.3 | 21.0 | 18.2 | 21.6 | 27.5 |
| Mean | 26.8 | 24.1 | 31.2 | 24.8 | 26.5 | 30.0 | 22.1 |
| Coef. of Var. (%) | | — | 7.1 | 11.9 | 14.0 | 12.3 | — |
| Bu.Nec.for Sig.(5%) | | — | 3.3 | 4.2 | 5.3 | 5.3 | — |

| | Yield Rank | | | | | |
|---|---|---|---|---|---|---|
| H6403 | 7 | 9 | 1 | 2 | 1 | 13 |
| W5-3638 | 6 | 8 | 4 | 4 | 9 | 8 |
| M1 | 7 | 3 | 2 | 3 | 4 | 10 |
| A6K-937 | 4 | 2 | 7 | 7 | 6 | 8 |
| H2804 | 3 | 7 | 4 | 8 | 3 | 14 |
| A3K-884 | 5 | 4 | 3 | 11 | 8 | 6 |
| Habaro | 2 | 1 | 13 | 9 | 7 | 5 |
| Earlyana | 7 | 4 | 12 | 1 | 11 | 11 |
| W5-2307 | 13 | 10 | 9 | 6 | 2 | 12 |
| Monroe (H5S) | 1 | 6 | 8 | 5 | 10 | 3 |
| W5-2175 | 11 | 14 | 6 | 13 | 5 | 2 |
| Wis. Manchu 3 | 12 | 10 | 11 | 10 | 12 | 7 |
| Mandarin (Ottawa) | 10 | 13 | 9 | 12 | 14 | 3 |
| M4 | 14 | 12 | 14 | 14 | 13 | 1 |

Table 11. (Continued)

| Strain | Madison Wis. | Compton Ill. | Waseca Minn. | Cresco Iowa | Kanawha Iowa | Brookings S. D. |
|---|---|---|---|---|---|---|
| H6403 | 25.6 | 23.8 | 28.0 | 21.8 | 35.6 | 32.5 |
| W5-3638 | 28.8 | 28.0 | 29.0 | 21.0 | 35.8 | 33.5 |
| M1 | 26.0 | 24.8 | 30.0 | 21.4 | 34.7 | 31.6 |
| A6K-937 | 26.5 | 27.4 | 27.6 | 20.8 | 31.8 | 32.2 |
| H2804 | 26.0 | 25.5 | 26.9 | 21.5 | 32.0 | 32.3 |
| A3K-884 | 24.0 | 26.3 | 29.7 | 20.1 | 33.4 | 31.0 |
| Habaro | 22.7 | 27.7 | 26.8 | 17.6 | 30.8 | 31.4 |
| Earlyana | 24.8 | 25.6 | 27.8 | 19.8 | 34.1 | 33.5 |
| W5-2307 | 25.6 | 24.2 | 28.3 | 22.4 | 32.7 | 26.5 |
| Monroe (H58) | 23.4 | 25.6 | 27.6 | 17.7 | 31.0 | 28.2 |
| W5-2175 | 22.2 | 27.4 | 27.2 | 19.5 | 31.0 | 31.2 |
| Wis. Manchu 3 | 26.6 | 28.8 | 22.3 | 21.0 | 32.0 | 34.4 |
| Mandarin (Ottawa) | 21.8 | 28.2 | 27.6 | 16.0 | 29.2 | 33.8 |
| M4 | 22.6 | 26.6 | 30.8 | 16.9 | 29.2 | 27.4 |
| Mean | 24.8 | 26.4 | 27.8 | 19.8 | 32.4 | 31.4 |
| Coef. of Var. (%) | -- | 6.7 | 5.1 | 5.8 | 7.3 | 8.4 |
| B.N.F.S. (5%) | -- | 2.5 | 4.1 | 1.6 | 3.4 | 3.8 |

| | Yield Rank | | | | | |
|---|---|---|---|---|---|---|
| H6403 | 6 | 14 | 6 | 2 | 2 | 5 |
| W5-3638 | 1 | 3 | 4 | 5 | 1 | 3 |
| M1 | 4 | 12 | 2 | 4 | 3 | 8 |
| A6K-937 | 3 | 5 | 8 | 7 | 9 | 7 |
| H2804 | 4 | 11 | 12 | 3 | 7 | 6 |
| A3K-884 | 9 | 8 | 3 | 8 | 5 | 11 |
| Habaro | 11 | 4 | 13 | 12 | 12 | 9 |
| Earlyana | 8 | 9 | 7 | 9 | 4 | 3 |
| W5-2307 | 6 | 13 | 5 | 1 | 6 | 14 |
| Monroe (H58) | 10 | 9 | 8 | 11 | 10 | 12 |
| W5-2175 | 13 | 5 | 11 | 10 | 10 | 10 |
| Wis. Manchu 3 | 2 | 1 | 14 | 5 | 8 | 1 |
| Mandarin (Ottawa) | 14 | 2 | 8 | 14 | 13 | 2 |
| M4 | 12 | 7 | 1 | 13 | 13 | 13 |

Table 12. Summary of maturity data, days earlier (-) or later (+) than Mandarin (Ottawa), and lodging for the strains in the Uniform Test, Group I, 1948.

| Strain | Mean of 9 Tests[1] | State College Pa. | Holgate Ohio | Pauld-ing Ohio | Colum-bus Ohio | Eau Claire Wis. |
|---|---|---|---|---|---|---|
| H6403 | +11.1 | +15 | +8 | 0 | | +12 |
| W5-3638 | +8.8 | +9 | +8 | -1 | | +6 |
| M1 | +5.9 | +11 | +3 | -1 | | +5 |
| A6K-937 | +9.1 | +12 | +9 | 0 | | +10 |
| H2804 | +10.7 | +7 | +7 | 0 | | +13 |
| A3K-884 | +9.0 | +12 | +7 | +1 | | +11 |
| Habaro | +6.4 | +16 | +9 | -1 | | +6 |
| Earlyana | +9.0 | +5 | +10 | +1 | | +12 |
| W5-2307 | +11.2 | +9 | +9 | +2 | | +17 |
| Monroe (H5S) | +4.0 | +8 | +7 | -1 | | +3 |
| W5-2175 | +2.8 | +5 | +3 | 0 | | +5 |
| Wis. Manchu 3 | +8.3 | +8 | +5 | -1 | | +11 |
| Mandarin (Ottawa) | 0 | 0 | 0 | 0 | | 0 |
| M4 | +1.8 | +8 | +1 | -4 | | 0 |
| Date planted | | 5/25 | 5/26 | 5/28 | | 5/22 |
| Mand.(Ott.)matured | | 9/17 | 9/16 | 9/18 | | 9/14 |
| Days to mature | 114 | 115 | 113 | 113 | | 115 |

| | Mean of 11 Tests | Lodging | | | | |
|---|---|---|---|---|---|---|
| H6403 | 1.4 | 1.0 | 1.5 | 1.5 | 1.0 | 1.3 |
| W5-3638 | 1.7 | 1.0 | 1.3 | 2.3 | 2.0 | 1.5 |
| M1 | 1.5 | 2.0 | 1.0 | 1.5 | 1.2 | 1.5 |
| A6K-937 | 1.5 | 1.0 | 1.3 | 1.8 | 2.0 | 1.3 |
| H2804 | 1.7 | 1.5 | 1.0 | 3.0 | 1.7 | 1.8 |
| A3K-884 | 1.3 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Habaro | 1.7 | 1.0 | 1.0 | 2.0 | 1.5 | 1.5 |
| Earlyana | 2.6 | 2.0 | 1.5 | 3.3 | 3.0 | 2.8 |
| W5-2307 | 1.4 | 1.0 | 1.0 | 1.3 | 2.0 | 1.0 |
| Monroe (H5S) | 2.0 | 1.0 | 1.3 | 3.5 | 2.5 | 1.5 |
| W5-2175 | 1.6 | 1.0 | 1.3 | 1.5 | 2.2 | 1.5 |
| Wis. Manchu 3 | 2.5 | 1.0 | 2.0 | 4.0 | 2.5 | 3.0 |
| Mandarin (Ottawa) | 1.2 | 1.0 | 1.0 | 1.0 | 1.2 | 1.0 |
| M4 | 1.4 | 1.5 | 1.0 | 1.0 | 1.5 | 1.5 |
| Mean | 1.7 | 1.2 | 1.1 | 2.0 | 1.8 | 1.6 |

[1]Paulding not included in the mean.

Table 12. (Continued)

| Strain | Madison Wis. | Compton Ill. | Waseca Minn. | Cresco Iowa | Kanawha Iowa | Brookings S. D. |
|---|---|---|---|---|---|---|
| H6403 | +11 | +10 | +8 | +18 | +10 | +8 |
| W5-3638 | +7 | +7 | +6 | +15 | +9 | +12 |
| M1 | +5 | +6 | +6 | +9 | +6 | +2 |
| A6K-937 | +8 | +10 | +6 | +11 | +8 | +8 |
| H2804 | +10 | +13 | +6 | +16 | +14 | +10 |
| A3K-884 | +8 | +10 | +6 | +10 | +9 | +8 |
| Habaro | +4 | +6 | +3 | +5 | +7 | +2 |
| Earlyana | +10 | +7 | +6 | +12 | +9 | +10 |
| W5-2307 | +9 | +11 | +8 | +14 | +12 | +12 |
| Monroe (H5S) | +1 | +4 | +1 | +6 | +5 | +1 |
| W5-2175 | 0 | +3 | +1 | +4 | +3 | +1 |
| Wis. Manchu 3 | +10 | +8 | +7 | +13 | +10 | +3 |
| Mandarin (Ottawa) | 0 | 0 | 0 | 0 | 0 | 0 |
| M4 | +2 | 0 | +1 | +4 | -2 | +2 |
| Date planted | 5/19 | 5/21 | 5/27 | 5/26 | 5/24 | 5/24 |
| Mand.(Ott.)matured | 9/13 | 9/7 | 9/15 | 9/12 | 9/10 | 9/30 |
| Days to mature | 117 | 109 | 111 | 109 | 109 | 129 |
| | Mean of 11 Tests | Lodging | | | | |
| H6403 | 1.5 | 2.0 | 1.0 | 1.0 | 1.0 | 2.5 |
| W5-3638 | 2.0 | 2.0 | 1.0 | 1.0 | 1.3 | 3.0 |
| M1 | 1.8 | 2.0 | 1.1 | 1.0 | 1.0 | 2.8 |
| A6K-937 | 1.3 | 2.1 | 1.0 | 1.0 | 1.0 | 3.2 |
| H2804 | 1.0 | 2.2 | 1.0 | 1.0 | 1.3 | 3.0 |
| A3K-884 | 1.0 | 2.0 | 1.0 | 1.0 | 1.0 | 3.2 |
| Habaro | 2.3 | 2.3 | 1.2 | 1.0 | 1.3 | 3.2 |
| Earlyana | 3.3 | 3.0 | 1.9 | 1.0 | 2.3 | 4.0 |
| W5-2307 | 1.3 | 2.0 | 1.1 | 1.0 | 1.3 | 2.0 |
| Monroe (H5S) | 2.0 | 2.5 | 1.2 | 1.0 | 1.5 | 3.8 |
| W5-2175 | 1.3 | 2.1 | 1.4 | 1.0 | 1.5 | 2.8 |
| Wis. Manchu 3 | 3.3 | 3.0 | 1.6 | 1.3 | 2.5 | 3.8 |
| Mandarin (Ottawa) | 1.0 | 2.0 | 1.1 | 1.0 | 1.0 | 2.0 |
| M4 | 1.0 | 2.0 | 1.2 | 1.0 | 1.0 | 2.5 |
| Mean | 1.7 | 2.2 | 1.2 | 1.0 | 1.4 | 3.0 |

Table 13. Summary of height data and percentage oil for the strains in the Uniform Test, Group I, 1948.

| Strain | Mean of 11 Tests | Ithaca N. Y. | State College Pa. | Holgate Ohio | Paulding Ohio | Columbus Ohio | Eau Claire Wis. |
|---|---|---|---|---|---|---|---|
| H6403 | 35 | | 28 | 27 | 36 | 33 | 39 |
| W5-3638 | 33 | | 27 | 23 | 35 | 31 | 36 |
| M1 | 32 | | 26 | 24 | 36 | 28 | 35 |
| A6K-937 | 33 | | 30 | 24 | 36 | 29 | 37 |
| H2804 | 35 | | 29 | 24 | 38 | 32 | 37 |
| A3K-884 | 33 | | 28 | 25 | 34 | 28 | 38 |
| Habaro | 26 | | 22 | 21 | 29 | 22 | 32 |
| Earlyana | 35 | | 31 | 26 | 36 | 31 | 38 |
| W5-2307 | 34 | | 27 | 24 | 35 | 31 | 39 |
| Monroe (H5S) | 36 | | 32 | 26 | 44 | 30 | 38 |
| W5-2175 | 34 | | 29 | 26 | 36 | 32 | 38 |
| Wis. Manchu 3 | 35 | | 31 | 25 | 35 | 30 | 39 |
| Mandarin (Ottawa) | 25 | | 23 | 20 | 30 | 22 | 28 |
| M4 | 27 | | 24 | 22 | 28 | 25 | 30 |
| Mean | 32 | | 28 | 24 | 35 | 29 | 36 |

| | Mean of 12 Tests | Percentage Oil | | | | | |
|---|---|---|---|---|---|---|---|
| H6403 | 20.8 | 20.3 | 20.2 | 21.3 | 20.6 | 20.9 | 20.1 |
| W5-3638 | 21.1 | 21.0 | 21.1 | 20.7 | 20.6 | 20.6 | 19.9 |
| M1 | 20.9 | 20.1 | 20.5 | 20.6 | 20.5 | 20.8 | 20.9 |
| A6K-937 | 21.3 | 21.1 | 20.9 | 21.5 | 21.7 | 21.0 | 20.1 |
| H2804 | 20.6 | 20.0 | 20.7 | 20.8 | 21.0 | 21.0 | 19.8 |
| A3K-884 | 21.0 | 21.0 | 20.5 | 21.2 | 21.1 | 21.0 | 19.6 |
| Habaro | 19.3 | 19.6 | 18.6 | 18.9 | 18.9 | 19.1 | 19.1 |
| Earlyana | 20.1 | 19.8 | 19.5 | 19.9 | 20.2 | 20.1 | 19.1 |
| W5-2307 | 21.0 | 20.3 | 21.3 | 21.1 | 21.1 | 21.4 | 19.5 |
| Monroe (H5S) | 20.3 | 19.7 | 19.5 | 19.9 | 20.2 | 20.4 | 20.3 |
| W5-2175 | 19.9 | 20.6 | 20.5 | 19.0 | 19.0 | 20.0 | 19.4 |
| Wis. Manchu 3 | 20.6 | 19.5 | 20.1 | 21.0 | 20.5 | 20.5 | 20.2 |
| Mandarin (Ottawa) | 20.0 | 20.4 | 20.7 | 19.4 | 19.2 | 19.8 | 19.8 |
| M4 | 21.3 | 21.0 | 21.1 | 20.7 | 20.2 | 21.4 | 22.1 |
| Mean | 20.6 | 20.3 | 20.4 | 20.4 | 20.3 | 20.6 | 20.0 |

Table 13. (Continued)

| Strain | Madi-son Wis. | Comp-ton Ill. | Waseca Minn. | Cresco Iowa | Kana-wha Iowa | Brook-ings S. D. |
|---|---|---|---|---|---|---|
| H6403 | 36 | 41 | 33 | 28 | 39 | 42 |
| W5-3638 | 37 | 39 | 34 | 27 | 37 | 38 |
| M1 | 34 | 38 | 32 | 25 | 37 | 37 |
| A6K-937 | 36 | 40 | 30 | 28 | 38 | 39 |
| H2804 | 37 | 42 | 34 | 27 | 39 | 41 |
| A3K-884 | 35 | 40 | 30 | 27 | 39 | 40 |
| Habaro | 29 | 31 | 24 | 19 | 28 | 34 |
| Earlyana | 37 | 40 | 36 | 29 | 43 | 43 |
| W5-2307 | 36 | 41 | 33 | 28 | 40 | 39 |
| Monroe (H5S) | 36 | 47 | 32 | 29 | 41 | 46 |
| W5-2175 | 33 | 39 | 32 | 28 | 37 | 40 |
| Wis. Manchu 3 | 37 | 42 | 32 | 30 | 39 | 41 |
| Mandarin (Ottawa) | 26 | 30 | 23 | 20 | 26 | 31 |
| M4 | 28 | 32 | 25 | 20 | 27 | 33 |
| Mean | 34 | 39 | 31 | 26 | 36 | 39 |

| | Percentage Oil | | | | | |
|---|---|---|---|---|---|---|
| H6403 | 21.0 | 21.3 | 20.7 | 20.7 | 21.5 | 20.7 |
| W5-3638 | 21.9 | 21.9 | 21.2 | 21.0 | 22.2 | 20.7 |
| M1 | 21.3 | 21.4 | 21.1 | 21.4 | 21.8 | 20.1 |
| A6K-937 | 21.5 | 21.7 | 21.4 | 21.8 | 23.0 | 20.4 |
| H2804 | 20.8 | 20.7 | 20.5 | 20.6 | 21.3 | 20.2 |
| A3K-884 | 20.9 | 21.5 | 21.0 | 21.5 | 22.2 | 20.0 |
| Habaro | 19.1 | 19.8 | 20.4 | 19.3 | 20.2 | 18.8 |
| Earlyana | 20.1 | 20.7 | 20.0 | 20.9 | 20.9 | 19.4 |
| W5-2307 | 21.7 | 21.5 | 21.2 | 21.5 | 21.7 | 19.9 |
| Monroe (H5S) | 20.7 | 20.6 | 20.7 | 21.1 | 21.2 | 19.2 |
| W5-2175 | 19.4 | 20.7 | 20.1 | 20.4 | 20.5 | 19.1 |
| Wis. Manchu 3 | 21.2 | 21.5 | 21.1 | 20.8 | 21.4 | 19.8 |
| Mandarin (Ottawa) | 18.9 | 20.7 | 20.6 | 20.0 | 20.7 | 19.3 |
| M4 | 21.4 | 21.8 | 21.7 | 21.3 | 22.0 | 20.6 |
| Mean | 20.7 | 21.1 | 20.8 | 20.9 | 21.5 | 19.9 |

Table 14. Four-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group I, 1945-48.

| Strain | Mean of 43 Tests | Ithaca N. Y. | Strongsville Ohio | Wooster Ohio | Columbus Ohio | East Lansing Mich. | Eau Claire Wis. |
|---|---|---|---|---|---|---|---|
| Years Tested | | 1946-1948 | 1945 | 1945-1947 | 1945-1948 | 1945-1946 | ~~1945~~ 1947-48 |
| A3K-884 | 28.3 | 24.6 | 20.4 | 28.9 | 38.9 | 32.0 | 24.7 |
| Monroe (H5S) | 27.1 | 26.4 | 22.4 | 28.7 | 35.9 | 30.5 | 24.8 |
| Earlyana | 26.8 | 24.3 | 18.7 | 27.6 | 34.3 | 27.8 | 21.0 |
| Wis. Manchu 3 | 26.7 | 21.5 | 22.5 | 27.7 | 34.3 | 26.0 | 23.6 |
| Habaro | 26.6 | 26.0 | 20.0 | 28.3 | 37.7 | 27.3 | 22.4 |
| Mandarin (Ottawa) | 26.5 | 23.9 | 21.6 | 27.4 | 34.3 | 28.0 | 23.8 |
| Mean | 27.0 | 24.5 | 20.9 | 28.1 | 35.9 | 28.6 | 23.4 |
| | | | | Yield Rank | | | |
| A3K-884 | | 3 | 4 | 1 | 1 | 1 | 2 |
| Monroe (H5S) | | 1 | 2 | 2 | 3 | 2 | 1 |
| Earlyana | | 4 | 6 | 5 | 4 | 4 | 6 |
| Wis. Manchu 3 | | 6 | 1 | 4 | 4 | 6 | 4 |
| Habaro | | 2 | 5 | 3 | 2 | 5 | 5 |
| Mandarin (Ottawa) | | 5 | 3 | 6 | 4 | 3 | 3 |

Table 15. Four-year summary of agronomic and chemical data for the strains in the Uniform Test, Group I, 1945-48.

| Strain | Mean Yield Bu/A. | Maturity[1] | Lodging | Height Inches | Seed Quality | Seed Weight | Percentage of Protein | Percentage of Oil | Iodine Number of Oil |
|---|---|---|---|---|---|---|---|---|---|
| No. of Tests | 43 | 29 | 39 | 38 | 32 | 43 | 43 | 43 | 43 |
| A3K-884 | 28.3 | + 9.0 | 1.7 | 34 | 1.7 | 15.9 | 41.7 | 20.4 | 128.1 |
| Monroe (H5S) | 27.1 | + 5.6 | 2.1 | 36 | 1.7 | 14.5 | 42.9 | 19.9 | 130.4 |
| Earlyana | 26.8 | + 9.7 | 2.8 | 36 | 2.1 | 15.1 | 43.0 | 20.0 | 132.7 |
| Wis. Manchu 3 | 26.7 | +10.3 | 2.9 | 35 | 2.2 | 17.0 | 41.4 | 20.2 | 133.1 |
| Habaro | 26.6 | + 8.3 | 2.2 | 28 | 1.9 | 17.7 | 43.3 | 19.2 | 131.5 |
| Mandarin (Ottawa) | 26.5 | 0 | 1.3 | 26 | 1.7 | 17.9 | 42.7 | 19.9 | 128.7 |
| Mean | 27.0 | | 2.2 | 33 | 1.9 | 16.4 | 42.5 | 19.9 | 130.8 |

[1] Days earlier (-) or later (+) than Mandarin (Ottawa). Mandarin (Ottawa) required 112 days to mature.

Table 14. (Continued)

| Strain | Madison Wis. | Compton Ill. | St. Paul Minn. | Waseca Minn. | Cresco Iowa | Kanawha Iowa | Brookings S. D. |
|---|---|---|---|---|---|---|---|
| Years Tested | 1945-1948 | 1946-1948 | 1945 1947 | 1945-1948 | 1945-1948 | 1945-1948 | 1945-1948 |
| A3K-884 | 28.7 | 30.1 | 26.1 | 29.1 | 19.1 | 32.7 | 24.5 |
| Monroe (H5S) | 27.4 | 28.6 | 23.8 | 28.1 | 18.4 | 31.0 | 21.4 |
| Earlyana | 28.0 | 29.9 | 21.8 | 28.4 | 18.9 | 32.4 | 23.2 |
| Wis. Manchu 3 | 28.7 | 31.1 | 24.8 | 26.4 | 18.9 | 31.6 | 22.3 |
| Habaro | 27.5 | 29.6 | 19.4 | 26.5 | 17.5 | 31.0 | 22.2 |
| Mandarin (Ottawa) | 24.7 | 28.9 | 28.9 | 27.1 | 18.8 | 29.9 | 24.5 |
| Mean | 27.5 | 29.7 | 24.1 | 27.6 | 18.6 | 31.4 | 23.0 |
| | Yield Rank | | | | | | |
| A3K-884 | 1 | 2 | 2 | 1 | 1 | 1 | 1 |
| Monroe (H5S) | 5 | 6 | 4 | 3 | 5 | 4 | 6 |
| Earlyana | 3 | 3 | 5 | 2 | 2 | 2 | 3 |
| Wis. Manchu 3 | 1 | 1 | 3 | 6 | 2 | 3 | 4 |
| Habaro | 4 | 4 | 6 | 5 | 6 | 4 | 5 |
| Mandarin (Ottawa) | 6 | 5 | 1 | 4 | 4 | 6 | 1 |

Table 16. Six-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group I, 1943-48.

| Strain | Mean of 61 Tests | Ithaca N. Y. | Strongsville Ohio | Wooster Ohio | Columbus Ohio | East Lansing Mich. | Eau Claire Wis. |
|---|---|---|---|---|---|---|---|
| Years Tested | | 1946-1948 | 1943-1945 | 1943 1945-47 | 1945-1948 | 1944-1946 | 1943-45 1947-48 |
| Wis. Manchu 3 | 27.3 | 21.5 | 25.3 | 29.0 | 34.3 | 25.9 | 21.6 |
| Earlyana | 27.3 | 24.3 | 24.8 | 29.2 | 34.3 | 26.8 | 20.2 |
| Habaro | 27.1 | 26.0 | 25.4 | 29.6 | 37.7 | 26.6 | 21.0 |
| Monroe (H5S) | 27.0 | 26.4 | 26.2 | 29.4 | 35.9 | 27.7 | 21.9 |
| Mandarin (Ottawa) | 26.5 | 23.9 | 25.8 | 29.2 | 34.3 | 25.9 | 21.3 |
| Mean | 27.0 | 24.4 | 25.5 | 29.3 | 35.3 | 26.4 | 21.2 |
| | | Yield Rank | | | | | |
| Wis. Manchu 3 | | 5 | 4 | 5 | 3 | 3 | 2 |
| Earlyana | | 3 | 5 | 3 | 3 | 2 | 5 |
| Habaro | | 2 | 3 | 1 | 1 | 5 | 4 |
| Monroe (H5S) | | 1 | 1 | 2 | 2 | 1 | 1 |
| Mandarin (Ottawa) | | 4 | 2 | 3 | 3 | 3 | 3 |

Table 17. Six-year summary of agronomic and chemical data for the strains in the Uniform Test, Group I, 1943-48.

| Strain | Mean Yield Bu/A. | Maturity[1] | Lodging | Height Inches | Seed Quality | Seed Weight | Percentage of Protein | Percentage of Oil | Iodine Number of Oil |
|---|---|---|---|---|---|---|---|---|---|
| No. of Tests | 61 | 45 | 56 | 56 | 45 | 61 | 61 | 61 | 61 |
| Wis. Manchu 3 | 27.3 | +10.7 | 2.8 | 35 | 2.0 | 17.0 | 41.4 | 20.2 | 133.7 |
| Earlyana | 27.3 | +10.8 | 2.8 | 36 | 2.0 | 15.1 | 42.8 | 19.9 | 133.5 |
| Habaro | 27.1 | + 8.4 | 2.0 | 29 | 1.8 | 18.2 | 43.4 | 19.1 | 132.0 |
| Monroe (H5S) | 27.0 | + 6.0 | 2.1 | 36 | 1.6 | 14.7 | 42.8 | 19.8 | 131.0 |
| Mandarin (Ottawa) | 26.5 | 0 | 1.4 | 26 | 1.7 | 18.1 | 42.9 | 19.8 | 128.7 |
| Mean | 27.0 | | 2.2 | 32 | 1.8 | 16.6 | 42.7 | 19.8 | 131.8 |

[1] Days earlier (-) or later (+) than Mandarin (Ottawa). Mandarin (Ottawa) required 112 days to mature.

Table 16. (Continued)

| Strain | Madison Wis. | Compton Ill. | St. Paul Minn. | Waseca Minn. | Cresco Iowa | Kanawha Iowa | Brookings S. D. |
|---|---|---|---|---|---|---|---|
| Years Tested | 1943-1948 | 1946-1948 | 1943-45 1947 | 1943-1948 | 1944-1948 | 1944-1948 | 1943-1948 |
| Wis. Manchu 3 | 29.2 | 31.1 | 27.6 | 28.4 | 19.6 | 33.1 | 23.5 |
| Earlyana | 28.1 | 29.9 | 26.2 | 29.8 | 19.6 | 34.0 | 24.5 |
| Habaro | 27.6 | 29.6 | 24.9 | 29.4 | 18.2 | 32.5 | 23.6 |
| Monroe (H5S) | 27.2 | 28.6 | 27.4 | 29.4 | 18.9 | 32.0 | 21.2 |
| Mandarin (Ottawa) | 25.2 | 28.9 | 28.0 | 29.2 | 19.2 | 30.6 | 24.6 |
| Mean | 27.5 | 29.6 | 26.8 | 29.2 | 19.1 | 32.4 | 23.5 |
| | Yield Rank | | | | | | |
| Wis. Manchu 3 | 1 | 1 | 2 | 5 | 1 | 2 | 4 |
| Earlyana | 2 | 2 | 4 | 1 | 1 | 1 | 2 |
| Habaro | 3 | 3 | 5 | 2 | 5 | 3 | 3 |
| Monroe (H5S) | 4 | 5 | 3 | 2 | 4 | 4 | 5 |
| Mandarin (Ottawa) | 5 | 4 | 1 | 4 | 3 | 5 | 1 |

PRELIMINARY TEST, GROUP I

| Strain | Source or Originating Agency | Origin |
|---|---|---|
| Harly | Central Exp.Farm, Ottawa | Sel. from Mandarin x A.K. (Harrow) |
| Mandarin (Ottawa) | Central Exp.Farm, Ottawa | Sel. from Mandarin |
| Mandarin Rogue | Iowa Agr. Exp. Sta. | Regue in Mandarin |
| A6K-937 | Iowa A.E.S. & U.S.R.S.L. | Sel. from A3K884 (Mukden x Rich.) |
| A6K-549 | Iowa A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Linc. x Rich.) |
| A6K-0649 | Iowa A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Linc. x Rich.) |
| A6K-1428 | Iowa A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Linc. x Rich.) |
| A6K-1521 | Iowa A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Linc. x Rich.) |
| A6K-1810 | Iowa A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Linc. x Rich.) |
| Cornell 1069-4-1-1-4-2 | N. Y. Agr. Exp. Sta. | Sel. from a natural cross in Seneca |
| Cornell 1136-5-3-1 | N. Y. Agr. Exp. Sta. | Sel. from a natural cross in Seneca |
| Cornell 1175 | N. Y. Agr. Exp. Sta. | Sel. from a natural cross in Seneca |
| Cornell 1196 | N. Y. Agr. Exp. Sta. | Sel. from a natural cross in Seneca |
| L6-8091 | Ill. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Linc. x Rich.) |
| L6-8144 | Ill. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x Richland |
| L6-8148 | Ill. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x Richland |
| L6-8174 | Ill. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Linc. x Rich.) |
| L6-8179 | Ill. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Linc. x Rich.) |
| L6-8275 | Ill. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Linc. x Rich.) |
| M6 | Minn. A.E.S.& U.S.R.S.L. | Sel. from Lincoln x (Linc. x Rich.) |
| M7 | Minn. A.E.S.& U.S.R.S.L. | Sel. from Mandarin x Richland |
| M10 | Minn.A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Linc. x Rich.) |
| W4-3190 | Wis. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Linc. x Rich.) |
| W4-4018 | Wis. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Linc. x Rich.) |
| W5-3346 | Wis. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Linc. x Rich.) |
| W5-3372 | Wis. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Linc. x Rich.) |
| W5-3633 | Wis. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Linc. x Rich.) |

The Preliminary Group I test was grown at five locations in 1948. Growing conditions were generally good and the plots were grown on fields of good fertility. The test at Compton suffered severe hail injury August 14 and yields and seed quality were severely affected. There may have been some differential effects but a study of the yield ranks in table 20 indicates that this field was no more out of line than any other. In spite of the hail, Compton yields were only a few bushels below Ithaca, Madison, and Waseca. Kanawha had the highest yields of all.

The 25 new entries in this test came from five states and Canada. This group is designed to include strains later than Mandarin and earlier than Earlyana. Earlyana has averaged about 11 days later than Mandarin. None of the new strains were too early for the test and only two were later than Earlyana. In general there were more late entries than early. One of the early entries is the new variety Harly, a selection from Mandarin x A.K. (Harrow) developed by the Harrow (Ontario) Station. This was four days later than Mandarin and was the tallest strain in the test. The results of this and other tests this year indicate that breeders have succeeded very well in combining height and earliness. In spite of its height, Harly stands up very well. Although this strain looked very good at several locations, it did not prove to be as high a yielder as Mandarin at 4 of the five locations. Mandarin Rogue, a tall selection from Mandarin, had about the same maturity, height, and oil content as Harly but did not yield nor stand as well. Of the four strains entered from New York, Cornell 1196 had the best oil content but it is quite late and did not yield as well as it should have for its maturity. Cornell 1136-5-3-1 is probably the best of the Cornell strains as it is fairly early and stands up satisfactorily. The eighteen strains tracing back to the cross Lincoln x Richland showed good resistance to lodging and good oil content. They ranged from 3 to 11 days later than Mandarin. M6, M10, and A6K-1428 were outstanding in oil content. Strain A6K-549 had the highest yield and was the most consistent yielder. It is interesting to note that there was very little variation in yield among the upper half of the strains and no appreciable correlation between yield and maturity.

Table 18. Summary of agronomic and chemical data for the strains in the Preliminary Test, Group I, 1948.

| Strain | Mean Yield Bu/A | Maturity[1] | Lodging | Height | Seed Quality | Seed Weight | Percentage of Protein | Percentage of Oil | Iodine Number of Oil |
|---|---|---|---|---|---|---|---|---|---|
| No. of Tests | 5 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 |
| A6K-549 | 30.4 | +9.0 | 1.6 | 38 | 2.0 | 16.5 | 41.0 | 21.5 | 130.7 |
| L6-8179 | 29.7 | +8.0 | 1.5 | 34 | 1.6 | 16.2 | 41.1 | 21.4 | 128.2 |
| Cornell 1069-4-1-1-4-2 | 29.7 | +9.8 | 2.1 | 34 | 1.3 | 18.4 | 40.5 | 21.1 | 129.0 |
| W4-4018 | 29.6 | +8.3 | 1.5 | 36 | 1.6 | 15.8 | 40.5 | 21.5 | 130.1 |
| W5-3633 | 29.5 | +7.3 | 1.8 | 34 | 2.0 | 17.1 | 40.5 | 21.7 | 131.8 |
| M10 | 29.4 | +8.8 | 1.5 | 33 | 1.5 | 16.6 | 38.9 | 22.5 | 130.4 |
| L6-8174 | 29.3 | +8.0 | 1.5 | 33 | 1.8 | 15.6 | 39.9 | 21.3 | 129.6 |
| Cornell 1136-5-3-1 | 29.3 | +6.8 | 1.5 | 31 | 1.8 | 18.7 | 40.7 | 21.0 | 127.4 |
| W4-3190 | 29.1 | +4.8 | 1.5 | 35 | 1.9 | 16.4 | 40.9 | 21.3 | 129.7 |
| W5-3372 | 29.1 | +9.3 | 1.4 | 36 | 2.1 | 15.1 | 39.1 | 21.8 | 131.0 |
| W5-3346 | 29.1 | +9.5 | 1.5 | 32 | 1.9 | 16.3 | 39.7 | 21.1 | 128.7 |
| A6K-0649 | 29.0 | +6.3 | 1.5 | 37 | 2.7 | 16.7 | 41.0 | 21.1 | 129.6 |
| A6K-1810 | 28.9 | +8.8 | 1.6 | 37 | 1.5 | 16.6 | 40.7 | 21.2 | 131.1 |
| A6K-937 | 28.8 | +7.5 | 1.4 | 36 | 1.3 | 16.1 | 40.2 | 21.8 | 126.4 |
| L6-8091 | 28.3 | +6.8 | 1.3 | 33 | 2.1 | 17.6 | 41.1 | 21.5 | 132.2 |
| A6K-1428 | 28.1 | +7.3 | 1.6 | 36 | 2.6 | 16.3 | 39.9 | 22.3 | 131.4 |
| M6 | 28.0 | +6.5 | 1.4 | 33 | 1.9 | 15.9 | 39.5 | 22.2 | 129.6 |
| L6-8275 | 27.8 | +2.8 | 1.3 | 33 | 2.1 | 15.0 | 40.8 | 21.3 | 131.6 |
| L6-8144 | 27.8 | +10.8 | 1.4 | 39 | 1.9 | 16.2 | 39.7 | 21.5 | 132.0 |
| Cornell 1196 | 27.7 | +12.5 | 2.6 | 34 | 1.3 | 16.1 | 39.8 | 21.8 | 132.1 |
| L6-8148 | 27.6 | +9.5 | 1.2 | 38 | 1.6 | 16.6 | 39.5 | 21.6 | 130.9 |
| A6K-1521 | 27.4 | +6.5 | 1.6 | 37 | 2.4 | 16.4 | 40.6 | 21.5 | 131.4 |
| M7 | 27.0 | +6.0 | 1.4 | 34 | 2.1 | 18.6 | 41.5 | 20.4 | 128.0 |
| Cornell 1175 | 26.4 | +13.8 | 2.1 | 40 | 1.8 | 14.0 | 41.2 | 19.9 | 135.5 |
| Mandarin (Ottawa) | 26.2 | 0 | 1.1 | 26 | 1.6 | 19.4 | 42.6 | 20.1 | 125.8 |
| Harly | 25.6 | +3.8 | 1.6 | 41 | 1.5 | 14.7 | 42.8 | 20.0 | 127.7 |
| Mandarin Rogue | 24.0 | +3.8 | 2.1 | 39 | 2.5 | 14.8 | 43.1 | 20.2 | 129.5 |
| Mean | 28.3 | | 1.6 | 35 | 1.9 | 16.4 | 40.6 | 21.3 | 130.1 |

[1]Days earlier (-) or later (+) than Mandarin (Ottawa). Mandarin (Ottawa) required 111 days to mature.

Table 19. Summary of yield in bushels per acre for the strains in the Preliminary Test, Group I, 1948.

| Strain | Mean of 5 Tests | Ithaca N. Y. | Madison Wis. | Compton Ill. | Waseca Minn. | Kanawha Iowa |
|---|---|---|---|---|---|---|
| A6K-549 | 30.4 | 30.5 | 28.7 | 25.0 | 29.7 | 37.9 |
| L6-8179 | 29.7 | 28.7 | 27.9 | 26.0 | 28.7 | 37.3 |
| Cornell 1069-4-1-1-4-2 | 29.7 | 28.1 | 26.6 | 23.9 | 30.9 | 38.8 |
| W4-4018 | 29.6 | 27.5 | 28.4 | 24.9 | 29.0 | 38.4 |
| W5-3633 | 29.5 | 28.9 | 29.2 | 25.9 | 26.5 | 36.8 |
| M10 | 29.4 | 24.9 | 27.0 | 24.6 | 32.4 | 38.2 |
| L6-8174 | 29.3 | 27.6 | 26.5 | 27.0 | 29.6 | 35.7 |
| Cornell 1136-5-3-1 | 29.3 | 28.2 | 28.0 | 24.7 | 29.1 | 36.3 |
| W4-3190 | 29.1 | 27.7 | 27.8 | 26.7 | 28.6 | 34.9 |
| W5-3372 | 29.1 | 23.9 | 28.3 | 24.8 | 27.6 | 41.0 |
| W5-3346 | 29.1 | 24.1 | 25.4 | 24.0 | 33.5 | 38.3 |
| A6K-0649 | 29.0 | 26.1 | 27.1 | 25.9 | 31.6 | 34.4 |
| A6K-1810 | 28.9 | 26.2 | 28.4 | 23.7 | 30.4 | 35.7 |
| A6K-937 | 28.8 | 28.0 | 30.1 | 24.0 | 28.0 | 34.1 |
| L6-8091 | 28.3 | 24.6 | 26.4 | 25.2 | 29.2 | 35.9 |
| A6K-1428 | 28.1 | 27.7 | 26.8 | 24.6 | 26.2 | 35.2 |
| M6 | 28.0 | 24.2 | 27.2 | 22.0 | 28.1 | 38.3 |
| L6-8275 | 27.8 | 23.6 | 28.5 | 25.4 | 28.2 | 33.4 |
| L6-8144 | 27.8 | 26.5 | 26.7 | 22.8 | 28.0 | 34.8 |
| Cornell 1196 | 27.7 | 27.1 | 24.3 | 24.3 | 25.0 | 37.7 |
| L6-8148 | 27.6 | 25.9 | 25.6 | 20.2 | 31.4 | 34.9 |
| A6K-1521 | 27.4 | 26.5 | 27.0 | 23.9 | 25.8 | 33.9 |
| M7 | 27.0 | 27.2 | 23.5 | 23.2 | 28.8 | 32.1 |
| Cornell 1175 | 26.4 | 26.8 | 25.1 | 20.6 | 23.1 | 36.2 |
| Mandarin (Ottawa) | 26.2 | 25.5 | 23.9 | 24.5 | 26.8 | 30.5 |
| Harly | 25.6 | 23.8 | 26.2 | 21.2 | 26.3 | 30.4 |
| Mandarin Rogue | 24.0 | 22.8 | 21.4 | 21.6 | 25.6 | 28.6 |
| Mean | 28.3 | 26.4 | 26.7 | 24.1 | 28.4 | 35.7 |
| Coef. of Var. (%) | | — | — | 7.0 | 6.0 | 9.4 |
| Bu. Nec. for Sig. (5%) | | 2.9 | — | 2.4 | 4.8 | 4.7 |

Table 20. Summary of yield rank for the strains in the Preliminary Test, Group I, 1948.

| Strain | Ithaca N. Y. | Madison Wis. | Compton Ill. | Waseca Minn. | Kanawha Iowa |
|---|---|---|---|---|---|
| A6K-549 | 1 | 3 | 8 | 7 | 7 |
| L6-8179 | 3 | 9 | 3 | 13 | 9 |
| Cornell 1069-4-1-1-4-2 | 5 | 17 | 18 | 5 | 2 |
| W4-4018 | 10 | 5 | 9 | 11 | 3 |
| W5-3633 | 2 | 2 | 4 | 21 | 10 |
| M10 | 20 | 13 | 12 | 2 | 6 |
| L6-8174 | 9 | 18 | 1 | 8 | 14 |
| Cornell 1136-5-3-1 | 4 | 8 | 11 | 10 | 11 |
| W4-3190 | 7 | 10 | 2 | 14 | 17 |
| W5-3372 | 24 | 7 | 10 | 19 | 1 |
| W5-3346 | 23 | 22 | 16 | 1 | 4 |
| A6K-0649 | 17 | 12 | 4 | 3 | 20 |
| A6K-1810 | 16 | 5 | 20 | 6 | 14 |
| A6K-937 | 6 | 1 | 16 | 17 | 21 |
| L6-8091 | 21 | 19 | 7 | 9 | 13 |
| A6K-1428 | 7 | 15 | 12 | 23 | 16 |
| M8 | 22 | 11 | 23 | 16 | 4 |
| L6-8275 | 26 | 4 | 6 | 15 | 23 |
| L6-8144 | 14 | 16 | 22 | 17 | 19 |
| Cornell 1196 | 12 | 24 | 15 | 26 | 8 |
| L6-8148 | 18 | 21 | 27 | 4 | 17 |
| A6K-1521 | 14 | 13 | 18 | 24 | 22 |
| M7 | 11 | 26 | 21 | 12 | 24 |
| Cornell 1175 | 13 | 23 | 26 | 27 | 12 |
| Mandarin (Ottawa) | 19 | 25 | 14 | 20 | 25 |
| Harly | 25 | 20 | 25 | 22 | 26 |
| Mandarin Rogue | 27 | 27 | 24 | 25 | 27 |

Table 21. Summary of maturity data, days earlier (-) or later (+) than Mandarin (Ottawa), for the strains in the Preliminary Test, Group I, 1948.

| Strain | Mean of 4 Tests | Madison Wis. | Compton Ill. | Waseca Minn. | Kanawha Iowa |
|---|---|---|---|---|---|
| A6K-549 | + 9.0 | + 9 | +11 | +6 | +10 |
| L6-8179 | + 8.0 | + 6 | +10 | +6 | +10 |
| Cornell 1069-4-1-1-4-2 | + 9.8 | + 9 | +12 | +6 | +12 |
| W4-4078 | + 8.3 | + 5 | + 9 | +8 | +11 |
| W5-3333 | + 7.3 | + 5 | + 8 | +6 | +10 |
| M10 | + 8.8 | + 6 | +10 | +8 | +11 |
| L6-8174 | + 8.0 | + 6 | +10 | +6 | +10 |
| Cornell 1136-5-3-1 | + 6.8 | + 4 | +11 | +4 | + 8 |
| W4-3190 | + 4.8 | + 3 | + 5 | +4 | + 7 |
| W5-3372 | + 9.3 | + 7 | +11 | +8 | +11 |
| W5-3346 | + 9.5 | + 8 | +10 | +8 | +12 |
| A6K-0649 | + 6.3 | + 6 | + 7 | +6 | + 6 |
| A6K-1810 | + 8.8 | + 8 | +10 | +6 | +11 |
| A6K-937 | + 7.5 | + 5 | +10 | +6 | + 9 |
| L6-8091 | + 6.8 | + 5 | + 8 | +4 | +10 |
| A6K-1428 | + 7.3 | + 6 | + 9 | +6 | + 8 |
| M6 | + 6.5 | + 6 | + 8 | +4 | + 8 |
| L6-8275 | + 2.8 | + 1 | + 4 | +1 | + 5 |
| L6-8144 | +10.8 | +11 | +11 | +8 | +13 |
| Cornell 1196 | +12.5 | +11 | +16 | +8 | +15 |
| L6-8148 | + 9.5 | + 9 | +10 | +8 | +11 |
| A6K-1521 | + 6.5 | + 6 | + 8 | +6 | + 6 |
| M7 | + 6.0 | + 4 | + 7 | +4 | + 9 |
| Cornell 1175 | +13.8 | +13 | +19 | +8 | +15 |
| Mandarin (Ottawa) | 0 | 0 | 0 | 0 | 0 |
| Harly | + 3.8 | + 1 | + 6 | +1 | + 7 |
| Mandarin Rogue | + 3.8 | + 3 | + 6 | 0 | + 6 |
| Date planted | | 5/19 | 5/21 | 5/27 | 5/24 |
| Mand. (Ott.) matured | | 9/13 | 9/6 | 9/15 | 9/9 |
| Days to mature | 111 | 117 | 108 | 111 | 108 |

Table 22. Summary of percentage oil for the strains in the Preliminary Test, Group I, 1948.

| Strain | Mean of 5 Tests | Ithaca N. Y. | Madison Wis. | Compton Ill. | Waseca Minn. | Kanawha Iowa |
|---|---|---|---|---|---|---|
| A6K-549 | 21.5 | 20.6 | 22.0 | 21.5 | 21.0 | 22.3 |
| L6-8179 | 21.4 | 19.6 | 22.1 | 21.8 | 20.8 | 22.5 |
| Cornell 1069-4-1-1-4-2 | 21.1 | 19.2 | 21.7 | 21.9 | 21.2 | 21.5 |
| W4-4018 | 21.5 | 20.3 | 21.7 | 21.9 | 21.0 | 22.6 |
| W5-3533 | 21.7 | 20.7 | 22.1 | 22.1 | 21.3 | 22.5 |
| M10 | 22.5 | 21.0 | 22.4 | 22.7 | 22.4 | 23.8 |
| L6-8174 | 21.3 | 19.9 | 21.4 | 21.8 | 21.1 | 22.5 |
| Cornell 1136-5-3-1 | 21.0 | 19.1 | 21.7 | 21.1 | 21.3 | 21.9 |
| W4-3190 | 21.3 | 19.8 | 21.6 | 21.5 | 21.4 | 22.3 |
| W5-3372 | 21.8 | 20.1 | 22.4 | 22.1 | 21.9 | 22.4 |
| W5-3346 | 21.1 | 20.0 | 20.8 | 21.4 | 21.1 | 22.4 |
| A6K-0649 | 21.1 | 20.4 | 21.0 | 21.3 | 21.0 | 21.6 |
| A6K-1810 | 21.2 | 19.2 | 22.2 | 21.7 | 20.9 | 22.2 |
| A6K-937 | 21.8 | 20.5 | 22.0 | 21.9 | 21.8 | 22.6 |
| L6-8091 | 21.5 | 19.8 | 22.1 | 21.8 | 21.3 | 22.3 |
| A6K-1428 | 22.3 | 21.2 | 22.6 | 22.6 | 21.8 | 23.3 |
| M6 | 22.2 | 20.7 | 22.9 | 22.3 | 22.1 | 22.9 |
| L6-8275 | 21.3 | 20.1 | 21.7 | 21.3 | 21.3 | 22.0 |
| L6-8144 | 21.5 | 20.4 | 21.5 | 21.7 | 21.3 | 22.7 |
| Cornell 1196 | 21.8 | 20.8 | 21.8 | 22.4 | 21.5 | 22.6 |
| L6-8148 | 21.6 | 20.3 | 21.2 | 22.1 | 21.7 | 22.8 |
| A6K-1521 | 21.5 | 20.4 | 21.5 | 22.2 | 21.0 | 22.6 |
| M7 | 20.4 | 19.7 | 20.1 | 20.7 | 20.7 | 21.0 |
| Cornell 1175 | 19.9 | 19.0 | 19.9 | 20.4 | 19.2 | 20.8 |
| Mandarin (Ottawa) | 20.1 | 19.3 | 19.3 | 20.4 | 20.7 | 20.6 |
| Harly | 20.0 | 18.1 | 21.2 | 19.8 | 19.6 | 21.1 |
| Mandarin Rogue | 20.2 | 18.8 | 20.3 | 20.7 | 20.2 | 20.8 |
| Mean | 21.3 | 20.0 | 21.5 | 21.6 | 21.1 | 22.2 |

## UNIFORM TEST, GROUP II

The origin of the strains in the Uniform Test, Group II, is as follows:

| Strain | Source or Originating Agency | Origin |
|---|---|---|
| Bavender Special | Mr. Bavender, Whitten, Iowa | Farmer's Selection |
| Earlyana | Purdue Agr. Exp. Sta. | Sel. from a natural hybrid |
| Hawkeye | Iowa A.E.S. & U.S.R.S.L. | Sel. from Mukden x Richland |
| Korean | Dominion Exp. Sta., Ontario | Introduction from Orient |
| Lincoln | Ill. A.E.S. & U.S.R.S.L. | Sel. from Mandarin x Manchu |
| Richland | Purdue Agr. Exp. Sta. | P. I. 70502-2 |
| A5-2683 (Adams) | Iowa A.E.S. & U.S.R.S.L. | Sel. from Illini x Dunfield |
| A6K-937 | Iowa A.E.S. & U.S.R.S.L. | Sel. from Mukden x Richland |
| C789 | Purdue A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Rich. x Earlyana) |
| C790 | Purdue A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Rich. x Earlyana) |
| C791 | Purdue A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Rich. x Earlyana) |
| H6150 | Ohio A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Linc. x Rich.) |
| L4-8066 | Ill. A.E.S. & U.S.R.S.L. | Sel. from Seneca x L7-1355 |
| L4-8090 | Ill. A.E.S. & U.S.R.S.L. | Sel. from Seneca x Hudson Manchu |
| L6-8144 | Ill. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x Richland |
| L6-8182 | Ill. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Linc. x Rich.) |
| L6-8474 | Ill. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Linc. x Rich.) |
| L6-8622 | Ill. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Linc. x Rich.) |

Group II was grown at two new locations, State College, Pennsylvania, and Troy, Ohio, in 1948. Eight of the eleven new strains traced to Lincoln x Richland parentage. These new strains ranged from Earlyana to Lincoln in maturity (tables 23-26). H6150, in addition to being highest in average yield, was also second in oil content. Adams averaged slightly higher in yield than Lincoln, just as it did in 1947. In 1948 Adams yielded more than Lincoln at 9 of the 18 locations. Strain A6K-937, which has had a good record in Group I, was added to Group II to gain additional information on its range of adaptation.

Study of the maturity and yield data indicated a correlation of .786 when yield was calculated based on the regression of yield on maturity (table 23). Bavender Special, L6-8182, H6150, Adams, Hawkeye, and L4-8066 were the highest yielding varieties for their maturity.

Seven varieties have been in Group II for two years (tables 27 and 28). Of these, Bavender Special has had the highest yield and Adams the highest oil content. Adams has averaged .4% higher in oil content and .5 bushels higher in yield than Lincoln. It is interesting to note that Adams has actually averaged taller than Lincoln in Group II, whereas in Group III Adams has been shorter than Lincoln. This is probably part of the general picture of the better performance of Adams in Group II territory than in Group III territory. In relation to Lincoln, Adams has been later in Group II than in Group III. The Korean variety has yielded about as it should for its maturity.

Hawkeye has been tested in this group for six years and has averaged 3.8 bushels more than Richland (tables 29 and 30). Although it is a week earlier than Lincoln, it has averaged only a bushel less in yield and has been just as high in oil content. It would seem that Hawkeye should replace Richland anywhere it is grown and probably will replace some Lincoln at the northern limits of Lincoln distribution.

Table 23. Summary of agronomic and chemical data for the strains in the Uniform Test, Group II, 1948.

| Strain | Mean Yield Bu/A | Adj. Yield Bu/A | Yield Rank | Maturity[1] | Lodging | Height Inches | Seed Quality | Seed Weight | Percentage of Protein | Percentage of Oil | Iodine Number of Oil |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. of Tests | 18 | | | 14 | 18 | 18 | 18 | 18 | 18 | 18 | 18 |
| H6150 | 34.3 | 32.6 | 3 | +4.9 | 2.0 | 38 | 1.8 | 17.3 | 40.1 | 21.8 | 130.0 |
| Bav.Spec. | 34.2 | 33.0 | 1 | +3.5 | 3.1 | 37 | 2.0 | 16.3 | 41.5 | 20.2 | 134.6 |
| Adams | 34.1 | 32.6 | 3 | +4.2 | 2.0 | 40 | 1.2 | 14.9 | 40.8 | 21.9 | 129.5 |
| Lincoln | 33.9 | 31.7 | 7 | +6.2 | 2.1 | 39 | 1.6 | 14.6 | 41.1 | 21.2 | 132.2 |
| C790 | 33.3 | 30.8 | 10 | +6.9 | 1.7 | 41 | 1.4 | 15.2 | 40.8 | 21.0 | 132.5 |
| L6-8622 | 33.1 | 30.9 | 9 | +6.3 | 2.0 | 39 | 1.4 | 14.2 | 41.2 | 21.3 | 131.2 |
| C791 | 32.8 | 30.6 | 13 | +6.1 | 2.1 | 42 | 1.8 | 15.1 | 40.9 | 21.2 | 133.6 |
| Hawkeye | 32.7 | 32.6 | 3 | +0.2 | 1.5 | 37 | 1.3 | 17.8 | 41.1 | 21.3 | 125.1 |
| L6-8182 | 32.5 | 33.0 | 1 | -1.4 | 1.3 | 35 | 1.8 | 14.2 | 40.7 | 20.9 | 132.4 |
| L4-8066 | 31.9 | 32.0 | 6 | -0.4 | 2.0 | 42 | 1.8 | 15.7 | 41.2 | 20.8 | 127.2 |
| C789 | 31.7 | 29.7 | 16 | +5.6 | 1.6 | 40 | 1.6 | 14.2 | 41.5 | 20.7 | 130.6 |
| L6-8474 | 31.5 | 30.7 | 12 | +2.3 | 1.6 | 39 | 1.7 | 16.0 | 41.1 | 21.7 | 131.8 |
| A6K-937 | 29.4 | 31.1 | 8 | -4.9 | 1.5 | 34 | 1.9 | 15.4 | 41.8 | 21.0 | 123.5 |
| L6-8144 | 29.3 | 29.9 | 14 | -1.7 | 1.6 | 38 | 2.0 | 16.1 | 40.3 | 21.4 | 129.4 |
| Richland | 29.2 | 29.2 | 17 | 0 | 1.6 | 34 | 1.7 | 16.9 | 40.7 | 21.0 | 125.5 |
| Earlyana | 29.0 | 30.8 | 10 | -5.0 | 2.7 | 37 | 2.2 | 15.0 | 43.0 | 20.3 | 128.9 |
| Korean | 28.8 | 29.8 | 15 | -2.8 | 1.7 | 30 | 2.2 | 22.9 | 43.2 | 20.4 | 126.4 |
| L4-8090 | 28.1 | 28.3 | 18 | -0.7 | 1.8 | 43 | 1.3 | 14.1 | 41.7 | 20.6 | 128.8 |
| Mean | 31.7 | | | | 1.9 | 38 | | 15.9 | 41.3 | 21.0 | 129.6 |

[1]Days earlier (-) or later (+) than Richland. Richland required 123 days to mature.

Table 24. Summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group II, 1948.

| Strain | Mean of 18 Tests | State College Pa. | Holgate Ohio | Troy Ohio | Columbus Ohio | Walkerton Ind. | Bluffton Ind. | Lafayette Ind. | Greenfield Ind. | Worthington Ind. |
|---|---|---|---|---|---|---|---|---|---|---|
| H6150 | 34.3 | 31.9 | 30.9 | 36.2 | 35.5 | 34.5 | 35.7 | 54.2 | 40.2 | 42.4 |
| Bavender Spec. | 34.2 | 39.0 | 28.3 | 35.6 | 25.4 | 32.3 | 37.0 | 63.2 | 36.9 | 38.7 |
| Adams (A5-2683) | 34.1 | 32.2 | 30.7 | 34.8 | 35.3 | 30.8 | 37.9 | 52.0 | 38.8 | 37.1 |
| Lincoln | 33.9 | 33.6 | 31.8 | 32.5 | 34.7 | 31.4 | 34.5 | 54.0 | 38.9 | 36.6 |
| C790 | 33.3 | 33.3 | 30.5 | 35.8 | 35.3 | 28.0 | 33.8 | 54.0 | 39.0 | 37.6 |
| L6-8622 | 33.1 | 37.0 | 25.6 | 33.3 | 36.2 | 31.6 | 33.8 | 51.9 | 37.3 | 39.9 |
| C791 | 32.8 | 32.4 | 26.4 | 32.9 | 29.0 | 35.0 | 32.3 | 51.6 | 38.9 | 38.6 |
| Hawkeye | 32.7 | 34.7 | 25.6 | 37.1 | 32.9 | 33.9 | 36.6 | 49.2 | 34.9 | 39.1 |
| L6-8182 | 32.5 | 33.8 | 30.3 | 33.2 | 34.0 | 30.9 | 34.6 | 44.7 | 33.5 | 36.6 |
| L4-8066 | 31.9 | 33.5 | 25.5 | 33.0 | 29.6 | 32.6 | 31.8 | 48.3 | 38.8 | 33.9 |
| C789 | 31.7 | 29.3 | 25.9 | 30.6 | 29.5 | 34.0 | 34.3 | 52.0 | 36.9 | 40.3 |
| L6-8474 | 31.5 | 32.9 | 30.7 | 31.5 | 32.0 | 27.7 | 33.0 | 45.2 | 32.5 | 39.2 |
| A6K-937 | 29.4 | 33.6 | 24.1 | 32.2 | 26.4 | 26.2 | 32.7 | 35.9 | 29.6 | 34.3 |
| L6-8144 | 29.3 | 30.4 | 26.0 | 31.4 | 31.3 | 27.7 | 30.8 | 42.3 | 29.2 | 33.1 |
| Richland | 29.2 | 28.4 | 27.6 | 33.1 | 28.8 | 28.5 | 32.0 | 42.8 | 29.4 | 34.0 |
| Earlyana | 29.0 | 32.2 | 24.0 | 31.8 | 23.3 | 28.4 | 30.8 | 38.6 | 32.0 | 33.6 |
| Korean | 28.8 | 33.1 | 22.1 | 32.9 | 14.7 | 33.4 | 29.5 | 43.5 | 30.3 | 36.1 |
| L4-8090 | 28.1 | 28.0 | 24.5 | 29.0 | 29.0 | 26.4 | 30.8 | 39.4 | 29.2 | 31.1 |
| Mean | 31.7 | 32.7 | 27.2 | 33.2 | 30.2 | 30.8 | 33.4 | 47.9 | 34.8 | 36.8 |
| Coef. of Var. (%) | | 8.7 | 12.4 | 8.5 | 13.7 | 11.8 | 7.5 | 7.2 | 7.5 | 7.2 |
| Bu.Nec. for Sig.(5%) | | 4.0 | 4.8 | 4.0 | 5.9 | 5.2 | 3.6 | 4.5 | 3.7 | 3.7 |
| | | | | | Yield Rank | | | | | |
| H6150 | | 14 | 2 | 2 | 2 | 2 | 4 | 2 | 1 | 1 |
| Bavender Spec. | | 1 | 7 | 4 | 16 | 7 | 2 | 1 | 8 | 6 |
| Adams (A5-2683) | | 12 | 3 | 5 | 3 | 11 | 1 | 5 | 5 | 9 |
| Lincoln | | 5 | 1 | 12 | 5 | 9 | 6 | 3 | 3 | 10 |
| C790 | | 8 | 5 | 3 | 3 | 14 | 8 | 3 | 2 | 8 |
| L6-8622 | | 2 | 12 | 6 | 1 | 8 | 8 | 7 | 7 | 3 |
| C791 | | 11 | 9 | 10 | 12 | 1 | 12 | 8 | 3 | 7 |
| Hawkeye | | 3 | 12 | 1 | 7 | 4 | 3 | 9 | 10 | 5 |
| L6-8182 | | 4 | 6 | 7 | 6 | 10 | 5 | 12 | 11 | 10 |
| L4-8066 | | 7 | 14 | 9 | 10 | 6 | 14 | 10 | 5 | 15 |
| C789 | | 16 | 11 | 17 | 11 | 3 | 7 | 5 | 8 | 2 |
| L6-8474 | | 10 | 3 | 15 | 8 | 15 | 10 | 11 | 12 | 4 |
| A6K-937 | | 5 | 16 | 13 | 15 | 18 | 11 | 18 | 15 | 13 |
| L6-8144 | | 15 | 10 | 16 | 9 | 15 | 15 | 15 | 17 | 17 |
| Richland | | 17 | 8 | 8 | 14 | 12 | 13 | 14 | 16 | 14 |
| Earlyana | | 12 | 17 | 14 | 17 | 13 | 15 | 17 | 13 | 16 |
| Korean | | 9 | 18 | 10 | 18 | 5 | 18 | 13 | 14 | 12 |
| L4-8090 | | 18 | 15 | 18 | 12 | 17 | 15 | 16 | 17 | 18 |

Table 24. (Continued)

| Strain | Madison Wis. | Compton Ill. | Urbana Ill. | Kanawha Iowa | Marcus Iowa | Hudson Iowa | Ames Iowa | Centerville S. D. | Lincoln Nebr. |
|---|---|---|---|---|---|---|---|---|---|
| H6150 | 28.7 | 22.1 | 30.4 | 39.1 | 39.9 | 23.4 | 46.1 | 15.5 | 30.3 |
| Bavender Spec. | 26.0 | 24.2 | 34.1 | 39.4 | 39.3 | 28.5 | 41.6 | 14.8 | 31.5 |
| Adams (A5-2683) | 25.6 | 25.6 | 37.1 | 37.9 | 39.3 | 25.8 | 43.6 | 16.5 | 34.9 |
| Lincoln | 28.3 | 23.9 | 35.7 | 36.6 | 38.8 | 23.8 | 46.7 | 14.0 | 35.2 |
| C790 | 27.4 | 26.0 | 30.8 | 34.5 | 36.7 | 22.2 | 47.6 | 17.5 | 30.1 |
| L6-8622 | 27.4 | 22.8 | 31.8 | 39.9 | 37.7 | 23.0 | 42.1 | 13.6 | 30.6 |
| C791 | 28.0 | 24.8 | 26.0 | 37.0 | 39.1 | 23.8 | 43.6 | 14.9 | 36.3 |
| Hawkeye | 28.2 | 24.0 | 28.6 | 35.5 | 38.6 | 24.6 | 41.1 | 13.6 | 31.0 |
| L6-8182 | 31.2 | 22.3 | 31.2 | 36.4 | 35.7 | 25.1 | 44.0 | 16.8 | 31.5 |
| L4-8066 | 28.3 | 22.1 | 29.2 | 37.2 | 38.1 | 28.3 | 46.2 | 16.8 | 21.7 |
| C789 | 25.2 | 22.7 | 30.1 | 32.8 | 36.8 | 23.3 | 42.0 | 15.4 | 28.7 |
| L6-8474 | 27.6 | 22.3 | 31.3 | 31.9 | 34.8 | 24.1 | 43.4 | 17.5 | 30.0 |
| A6K-937 | 25.2 | 25.8 | 29.6 | 34.1 | 36.2 | 23.9 | 36.9 | 14.5 | 27.1 |
| L6-8144 | 26.0 | 20.2 | 28.7 | 32.1 | 33.0 | 24.0 | 40.1 | 15.1 | 25.7 |
| Richland | 23.3 | 22.7 | 28.3 | 32.5 | 32.5 | 22.0 | 35.7 | 13.7 | 29.5 |
| Earlyana | 25.7 | 22.2 | 30.7 | 34.8 | 32.3 | 23.1 | 38.4 | 13.2 | 27.4 |
| Korean | 24.8 | 25.9 | 25.3 | 32.5 | 39.0 | 26.2 | 36.4 | 11.9 | 20.6 |
| L4-8090 | 24.7 | 24.0 | 27.1 | 32.3 | 32.9 | 21.0 | 35.7 | 14.4 | 26.9 |
| Mean | 26.8 | 23.5 | 30.3 | 35.4 | 36.7 | 24.1 | 41.7 | 15.0 | 29.4 |
| Coef. of Var.(%) | — | 8.6 | 10.4 | 8.0 | 6.8 | 7.1 | 8.9 | 15.7 | 9.9 |
| B.N.f.S.(5%) | — | 2.9 | 4.4 | 4.0 | 3.5 | 2.4 | 5.3 | 3.3 | 4.1 |
| | | | | | Yield Rank | | | | |
| H6150 | 2 | 16 | 9 | 3 | 1 | 12 | 4 | 6 | 8 |
| Bavender Spec. | 10 | 6 | 3 | 2 | 2 | 1 | 11 | 10 | 4 |
| Adams (A5-2683) | 13 | 4 | 1 | 4 | 2 | 9 | 6 | 5 | 3 |
| Lincoln | 3 | 9 | 2 | 7 | 6 | 9 | 2 | 13 | 2 |
| C790 | 8 | 1 | 7 | 11 | 11 | 16 | 1 | 1 | 9 |
| L6-8622 | 8 | 10 | 4 | 1 | 9 | 15 | 9 | 15 | 7 |
| C791 | 6 | 5 | 17 | 6 | 4 | 9 | 6 | 9 | 1 |
| Hawkeye | 5 | 7 | 14 | 9 | 7 | 5 | 12 | 15 | 6 |
| L6-8182 | 1 | 13 | 6 | 8 | 13 | 4 | 5 | 3 | 4 |
| L4-8066 | 3 | 17 | 12 | 5 | 8 | 2 | 3 | 3 | 17 |
| C789 | 14 | 11 | 10 | 13 | 10 | 13 | 10 | 7 | 12 |
| L6-8474 | 7 | 13 | 5 | 18 | 14 | 6 | 8 | 1 | 10 |
| A6K-937 | 14 | 3 | 11 | 12 | 12 | 8 | 15 | 11 | 14 |
| L6-8144 | 10 | 18 | 13 | 17 | 15 | 7 | 13 | 8 | 16 |
| Richland | 18 | 11 | 15 | 14 | 17 | 17 | 17 | 14 | 11 |
| Earlyana | 12 | 15 | 8 | 10 | 18 | 14 | 14 | 17 | 13 |
| Korean | 16 | 2 | 18 | 15 | 5 | 3 | 16 | 18 | 18 |
| L4-8090 | 17 | 7 | 16 | 16 | 16 | 18 | 17 | 12 | 15 |

Table 25. Summary of maturity data, days earlier (-) or later (+) than Richland, for the strains in the Uniform Test, Group II, 1948.

| Strain | Mean of 14 Tests[1] | State College Pa. | Holgate Ohio | Troy Ohio | Walker-ton Ind. | Bluff-ton Ind. | Lafay-ette Ind. | Green-field Ind. | Worth-ington Ind. |
|---|---|---|---|---|---|---|---|---|---|
| H6150 | +4.9 | +1 | +2 | +3 | +8 | +3 | +6 | +7 | 0 |
| Bavender Special | +3.5 | +1 | +1 | +2 | +3 | +3 | +6 | +1 | -1 |
| Adams (A5-2683) | +4.2 | 0 | +2 | +4 | +2 | +6 | +10 | +5 | -1 |
| Lincoln | +6.2 | 0 | +10 | +5 | +6 | +5 | +8 | +5 | 0 |
| C790 | +6.9 | +1 | +7 | +5 | +8 | +6 | +11 | +4 | +4 |
| L6-8622 | +6.3 | +1 | +10 | +4 | +5 | +7 | +11 | +3 | +4 |
| C791 | +6.1 | +1 | +9 | +5 | +8 | +3 | +4 | +6 | +2 |
| Hawkeye | +0.2 | 0 | +2 | +1 | 0 | +1 | -1 | -3 | -2 |
| L6-8182 | -1.4 | 0 | -1 | -2 | +6 | -1 | -3 | -3 | -2 |
| L4-8066 | -0.4 | +1 | +3 | +3 | +2 | -1 | 0 | -1 | -3 |
| C789 | +5.6 | +1 | +9 | +4 | +7 | +5 | +8 | +5 | +2 |
| L6-8474 | +2.3 | 0 | +3 | +1 | +4 | +1 | +5 | +2 | -1 |
| A6K-937 | -4.9 | -3 | -2 | -1 | -5 | -10 | -4 | -7 | -7 |
| L6-8144 | -1.7 | +1 | +1 | +1 | -4 | -2 | -3 | -4 | -4 |
| Richland | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Earlyana | -5.0 | -8 | -3 | -2 | -6 | -9 | -4 | -7 | -4 |
| Korean | -2.8 | 0 | 0 | -1 | -4 | -2 | -6 | -2 | -5 |
| L4-8090 | -0.7 | +1 | -1 | +1 | 0 | -1 | -3 | -3 | -5 |
| Date planted | | 5/25 | 5/25 | 5/25 | 6/3 | 5/22 | 5/20 | 5/21 | 6/9 |
| Richland matured | | 10/1 | 9/27 | 9/24 | 10/3 | 9/28 | 9/15 | 9/29 | 9/22 |
| Days to mature | 123 | 129 | 125 | 122 | 122 | 129 | 118 | 131 | 105 |

[1]State College, Centerville, and Lincoln not included in the mean.

Table 25. (Continued)

| Strain | Madi-son Wis. | Compton Ill. | Urbana Ill. | Kanawha Iowa | Marcus Iowa | Hudson Iowa | Ames Iowa | Center-ville Iowa | Lincoln Nebr. |
|---|---|---|---|---|---|---|---|---|---|
| H6150 | +6 | +5 | +9 | +4 | +2 | +5 | +8 | +10 | -1 |
| Bavender Special | +5 | +4 | +8 | +3 | +1 | +4 | +9 | +8 | -6 |
| Adams (A5-2683) | +4 | +3 | +4 | +3 | +3 | +4 | +10 | +10 | 0 |
| Lincoln | +8 | +5 | +9 | +6 | +4 | +6 | +10 | +9 | +1 |
| C790 | +5 | +7 | +12 | +9 | +3 | +6 | +10 | +11 | 0 |
| L6-8622 | +4 | +5 | +11 | +6 | +3 | +6 | +9 | +2 | -2 |
| C791 | +4 | +7 | +11 | +7 | +3 | +6 | +10 | -4 | -2 |
| Hawkeye | +1 | +2 | +1 | 0 | 0 | 0 | +1 | +2 | -2 |
| L6-8182 | -1 | 0 | -1 | -2 | -7 | 0 | -3 | +4 | -2 |
| L4-8066 | +1 | -1 | +3 | 0 | +1 | 0 | -1 | -1 | +1 |
| C789 | +5 | +4 | +9 | +4 | +3 | +4 | +9 | +5 | -2 |
| L6-8474 | +4 | +2 | +3 | +2 | +2 | +3 | +1 | +2 | -2 |
| A6K-937 | -2 | -6 | -3 | -5 | -8 | -4 | -5 | -7 | -1 |
| L6-8144 | 0 | -2 | -1 | 0 | -4 | 0 | -2 | +7 | -1 |
| Richland | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Earlyana | -3 | -8 | -4 | -6 | -7 | -3 | -4 | -7 | -3 |
| Korean | -1 | -3 | -3 | -3 | -4 | -2 | -3 | +3 | -2 |
| L4-8090 | +1 | -3 | 0 | 0 | +1 | 0 | +3 | +9 | -2 |
| Date planted | 5/19 | 5/21 | 5/27 | 5/24 | 5/18 | 5/26 | 5/13 | 5/27 | 5/25 |
| Richland matured | 9/23 | 9/23 | 9/14 | 9/25 | 9/26 | 9/20 | 9/20 | 10/1 | 10/11 |
| Days to mature | 127 | 125 | 110 | 124 | 131 | 117 | 130 | 127 | 139 |

Table 26. Summary of lodging and height data for the strains in the Uniform Test, Group II, 1948.

| Strain | Mean of 18 Tests | State College Pa. | Holgate Ohio | Troy Ohio | Columbus Ohio | Walkerton Ind. | Bluffton Ind. | Lafayette Ind. | Greenfield Ind. | Worthington Ind. |
|---|---|---|---|---|---|---|---|---|---|---|
| H6150 | 2.0 | 2.0 | 1.2 | 2.0 | 2.0 | 1.4 | 1.6 | 1.5 | 2.0 | 2.5 |
| Bavender Spec. | 3.1 | 1.5 | 1.7 | 2.5 | 3.0 | 1.9 | 2.3 | 3.0 | 3.1 | 3.4 |
| Adams (A5-2683) | 2.0 | 1.0 | 1.0 | 2.0 | 2.0 | 1.1 | 1.5 | 1.5 | 1.9 | 3.0 |
| Lincoln | 2.1 | 1.0 | 1.0 | 2.5 | 2.0 | 1.1 | 1.5 | 1.9 | 1.9 | 3.3 |
| C790 | 1.7 | 1.0 | 1.0 | 1.7 | 1.7 | 1.2 | 1.0 | 1.3 | 1.4 | 2.0 |
| L6-8622 | 2.0 | 2.0 | 1.0 | 1.5 | 2.0 | 1.3 | 1.4 | 2.3 | 1.6 | 1.3 |
| C791 | 2.1 | 1.5 | 1.0 | 2.2 | 2.5 | 1.1 | 1.5 | 1.5 | 1.5 | 2.1 |
| Hawkeye | 1.5 | 1.0 | 1.0 | 1.7 | 1.2 | 1.0 | 1.0 | 1.0 | 1.5 | 1.8 |
| L6-8182 | 1.3 | 1.0 | 1.2 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.3 | 2.0 |
| L4-8066 | 2.0 | 1.5 | 1.0 | 2.5 | 2.2 | 1.0 | 1.4 | 1.5 | 1.6 | 3.0 |
| C789 | 1.6 | 1.0 | 1.0 | 1.5 | 2.5 | 1.1 | 1.1 | 1.0 | 1.3 | 1.6 |
| L6-8474 | 1.6 | 1.0 | 1.0 | 1.7 | 1.7 | 1.0 | 1.0 | 1.3 | 1.3 | 1.6 |
| A6K-937 | 1.5 | 1.0 | 1.0 | 1.5 | 2.2 | 1.0 | 1.0 | 1.0 | 1.5 | 2.5 |
| L6-8144 | 1.6 | 1.5 | 1.2 | 1.5 | 2.0 | 1.0 | 1.3 | 1.1 | 1.4 | 1.9 |
| Richland | 1.6 | 1.0 | 1.0 | 1.5 | 1.5 | 1.0 | 1.1 | 1.3 | 1.4 | 2.1 |
| Earlyana | 2.7 | 2.0 | 1.7 | 2.7 | 3.0 | 1.9 | 2.3 | 2.4 | 2.0 | 4.0 |
| Korean | 1.7 | 1.0 | 1.2 | 2.0 | 1.0 | 1.3 | 1.3 | 1.0 | 1.1 | 3.1 |
| L4-8090 | 1.8 | 1.5 | 1.0 | 1.5 | 1.7 | 1.1 | 1.1 | 1.4 | 1.4 | 2.8 |
| Mean | 1.9 | 1.3 | 1.2 | 1.8 | 1.9 | 1.2 | 1.4 | 1.5 | 1.6 | 2.4 |
| | Height | | | | | | | | | |
| H6150 | 38 | 34 | 29 | 37 | 38 | 38 | 38 | 40 | 35 | 37 |
| Bavender Spec. | 37 | 32 | 28 | 34 | 32 | 38 | 35 | 41 | 37 | 35 |
| Adams (A5-2683) | 40 | 38 | 27 | 39 | 36 | 37 | 40 | 41 | 38 | 40 |
| Lincoln | 39 | 37 | 28 | 38 | 37 | 37 | 39 | 43 | 37 | 39 |
| C790 | 41 | 36 | 29 | 40 | 38 | 38 | 42 | 44 | 40 | 41 |
| L6-8622 | 39 | 39 | 29 | 39 | 37 | 38 | 40 | 39 | 38 | 39 |
| C791 | 42 | 40 | 31 | 43 | 38 | 41 | 43 | 44 | 40 | 42 |
| Hawkeye | 37 | 35 | 25 | 36 | 30 | 35 | 36 | 38 | 34 | 38 |
| L6-8182 | 35 | 32 | 25 | 32 | 33 | 34 | 35 | 37 | 31 | 35 |
| L4-8066 | 42 | 41 | 33 | 44 | 35 | 40 | 41 | 42 | 40 | 41 |
| C789 | 40 | 36 | 28 | 40 | 35 | 36 | 40 | 42 | 37 | 41 |
| L6-8474 | 39 | 37 | 30 | 33 | 37 | 37 | 39 | 41 | 34 | 38 |
| A6K-937 | 34 | 30 | 26 | 33 | 26 | 28 | 32 | 33 | 34 | 33 |
| L6-8144 | 38 | 34 | 28 | 38 | 35 | 35 | 36 | 38 | 33 | 36 |
| Richland | 34 | 32 | 26 | 31 | 28 | 32 | 32 | 35 | 31 | 32 |
| Earlyana | 37 | 31 | 28 | 35 | 33 | 38 | 37 | 38 | 37 | 38 |
| Korean | 30 | 29 | 22 | 29 | 20 | 28 | 29 | 31 | 26 | 31 |
| L4-8090 | 43 | 41 | 32 | 42 | 36 | 41 | 42 | 44 | 38 | 43 |
| Mean | 38 | 35 | 28 | 37 | 34 | 36 | 38 | 40 | 36 | 37 |

Table 26. (Continued)

| Strain | Madison Wis. | Compton Ill. | Urbana Ill. | Kanawha Iowa | Marcus Iowa | Hudson Iowa | Ames Iowa | Centerville S. D. | Lincoln Nebr. |
|---|---|---|---|---|---|---|---|---|---|
| H6150 | 2.0 | 2.0 | 2.1 | 1.8 | 2.4 | 1.8 | 3.0 | 1.2 | 3.2 |
| Bavender Spec. | 4.3 | 2.8 | 3.4 | 2.8 | 4.1 | 3.3 | 5.0 | 3.0 | 3.8 |
| Adams (A5-2683) | 2.3 | 2.4 | 2.4 | 1.8 | 2.4 | 1.8 | 3.1 | 2.2 | 2.8 |
| Lincoln | 2.5 | 1.9 | 2.3 | 2.1 | 2.8 | 2.5 | 3.0 | 1.8 | 3.5 |
| C790 | 1.8 | 2.5 | 2.0 | 2.0 | 1.8 | 2.0 | 3.0 | 1.2 | 2.5 |
| L6-8622 | 2.0 | 2.5 | 1.9 | 1.8 | 1.9 | 2.5 | 3.3 | 1.5 | 3.5 |
| C791 | 2.3 | 2.0 | 2.8 | 2.3 | 2.5 | 3.0 | 3.5 | 2.3 | 3.0 |
| Hawkeye | 1.5 | 2.1 | 2.4 | 1.3 | 1.5 | 1.3 | 2.6 | 1.0 | 1.8 |
| L6-8182 | 1.3 | 1.9 | 1.6 | 1.0 | 1.5 | 1.0 | 2.0 | 1.0 | 1.8 |
| L4-8066 | 1.8 | 2.1 | 2.4 | 1.5 | 2.4 | 2.0 | 3.0 | 2.0 | 2.8 |
| C789 | 2.0 | 2.0 | 2.1 | 1.5 | 2.0 | 1.3 | 2.9 | 1.2 | 2.5 |
| L6-8474 | 2.0 | 2.0 | 1.9 | 1.4 | 2.0 | 1.0 | 2.6 | 1.5 | 2.0 |
| A6K-937 | 1.5 | 2.0 | 1.8 | 1.0 | 2.0 | 1.0 | 2.6 | 1.0 | 1.8 |
| L6-8144 | 1.8 | 2.0 | 1.8 | 1.1 | 1.5 | 1.0 | 2.6 | 1.2 | 2.5 |
| Richland | 1.8 | 2.3 | 1.8 | 1.1 | 2.0 | 1.3 | 2.9 | 1.2 | 1.8 |
| Earlyana | 4.0 | 2.4 | 2.8 | 2.1 | 3.1 | 2.8 | 3.6 | 2.2 | 3.2 |
| Korean | 2.3 | 2.0 | 1.8 | 1.6 | 2.4 | 1.8 | 3.1 | 1.5 | 1.8 |
| L4-8090 | 2.0 | 2.3 | 2.4 | 1.4 | 2.5 | 1.8 | 3.0 | 1.5 | 2.2 |
| Mean | 2.2 | 2.2 | 2.2 | 1.6 | 2.3 | 1.8 | 3.0 | 1.6 | 2.6 |
| | Height | | | | | | | | |
| H6150 | 41 | 41 | 44 | 47 | 43 | 38 | 41 | 37 | 30 |
| Bavender Spec. | 39 | 41 | 43 | 47 | 43 | 36 | 45 | 35 | 29 |
| Adams (A5-2683) | 42 | 44 | 45 | 50 | 46 | 39 | 50 | 39 | 30 |
| Lincoln | 39 | 43 | 45 | 49 | 45 | 39 | 47 | 35 | 32 |
| C790 | 42 | 44 | 47 | 47 | 45 | 39 | 48 | 41 | 30 |
| L6-8622 | 39 | 43 | 44 | 48 | 45 | 37 | 46 | 35 | 31 |
| C791 | 42 | 45 | 47 | 52 | 49 | 41 | 50 | 40 | 34 |
| Hawkeye | 40 | 40 | 41 | 48 | 43 | 36 | 43 | 37 | 27 |
| L6-8182 | 39 | 39 | 41 | 44 | 42 | 34 | 42 | 34 | 28 |
| L4-8066 | 42 | 47 | 48 | 53 | 48 | 42 | 50 | 39 | 29 |
| C789 | 40 | 44 | 45 | 48 | 45 | 38 | 47 | 38 | 31 |
| L6-8474 | 41 | 44 | 46 | 48 | 46 | 39 | 45 | 36 | 32 |
| A6K-937 | 37 | 41 | 36 | 43 | 42 | 34 | 41 | 34 | 26 |
| L6-8144 | 41 | 44 | 40 | 47 | 44 | 38 | 46 | 39 | 26 |
| Richland | 36 | 40 | 34 | 43 | 40 | 34 | 39 | 32 | 27 |
| Earlyana | 37 | 43 | 41 | 48 | 43 | 36 | 45 | 36 | 27 |
| Korean | 33 | 35 | 30 | 39 | 40 | 32 | 36 | 31 | 24 |
| L4-8090 | 44 | 48 | 52 | 57 | 50 | 41 | 53 | 38 | 35 |
| Mean | 40 | 43 | 43 | 48 | 44 | 37 | 45 | 36 | 29 |

Table 27. Two-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group II, 1947-48.

| Strain | Mean of 37 Tests | Holgate Ohio | Columbus Ohio | Walkerton Ind. | Bluffton Ind. | Lafayette Ind. | Greenfield Ind. | Worthington Ind. | Madison Wis. |
|---|---|---|---|---|---|---|---|---|---|
| Bavender Spec. | 32.8 | 24.3 | 38.1 | 29.8 | 38.9 | 53.5 | 41.1 | 38.6 | 29.1 |
| Adams (A5-2683) | 32.3 | 22.8 | 44.0 | 32.8 | 37.4 | 46.3 | 41.2 | 36.8 | 28.0 |
| Lincoln | 31.8 | 22.9 | 43.1 | 33.1 | 36.3 | 48.0 | 40.5 | 37.2 | 29.0 |
| Hawkeye | 31.3 | 23.3 | 39.8 | 33.8 | 36.3 | 45.5 | 38.5 | 38.0 | 28.7 |
| Korean | 28.8 | 20.6 | 27.8 | 31.5 | 33.9 | 41.2 | 36.6 | 33.7 | 28.0 |
| Earlyana | 27.7 | 23.1 | 29.5 | 26.2 | 32.0 | 35.1 | 34.6 | 31.3 | 26.3 |
| Richland | 27.6 | 21.5 | 34.1 | 26.5 | 32.5 | 38.6 | 34.6 | 33.2 | 25.0 |
| Mean | 30.3 | 22.6 | 36.6 | 30.5 | 35.3 | 44.0 | 38.2 | 35.5 | 27.7 |
| | Yield Rank | | | | | | | | |
| Bavender Spec. | | 1 | 4 | 5 | 1 | 1 | 2 | 1 | 1 |
| Adams (A5-2683) | | 5 | 1 | 3 | 2 | 3 | 1 | 3 | 4 |
| Lincoln | | 4 | 2 | 2 | 3 | 2 | 3 | 4 | 2 |
| Hawkeye | | 2 | 3 | 1 | 3 | 4 | 4 | 2 | 3 |
| Korean | | 7 | 7 | 4 | 5 | 5 | 5 | 5 | 4 |
| Earlyana | | 3 | 6 | 7 | 7 | 7 | 6 | 7 | 6 |
| Richland | | 6 | 5 | 6 | 6 | 6 | 6 | 6 | 7 |

Table 28. Two-year summary of agronomic and chemical data for the strains in the Uniform Test, Group II, 1947-48.

| Strain | Mean Yield Bu/A. | Maturity[1] | Lodging | Height Inches | Seed Quality | Seed Weight | Percentage of Protein | Percentage of Oil | Iodine Number of Oil |
|---|---|---|---|---|---|---|---|---|---|
| No. of Tests | 37 | 27 | 36 | 36 | 34 | 37 | 37 | 37 | 37 |
| Bavender Spec. | 32.8 | +4.7 | 3.0 | 35 | 2.1 | 15.9 | 41.9 | 20.2 | 134.6 |
| Adams (A5-2683) | 32.3 | +5.7 | 2.0 | 38 | 1.2 | 14.3 | 40.8 | 22.0 | 129.0 |
| Lincoln | 31.8 | +7.0 | 2.1 | 37 | 1.6 | 13.8 | 41.0 | 21.6 | 132.8 |
| Hawkeye | 31.3 | +0.7 | 1.5 | 35 | 1.3 | 17.1 | 41.3 | 21.7 | 125.4 |
| Korean | 28.8 | -2.4 | 1.7 | 29 | 2.0 | 21.8 | 42.7 | 20.8 | 126.7 |
| Earlyana | 27.7 | -5.3 | 2.5 | 36 | 2.4 | 14.8 | 42.9 | 20.8 | 129.1 |
| Richland | 27.6 | 0 | 1.6 | 32 | 1.5 | 16.3 | 40.9 | 21.2 | 124.9 |
| Mean | 30.3 | | 2.1 | 35 | 1.7 | 16.3 | 41.6 | 21.2 | 128.9 |

[1] Days earlier (-) or later (+) than Richland. Richland required 124 days to mature.

Table 27. (Continued)

| Strain | Compton Ill. | Urbana Ill. | Kanawha Iowa | Marcus Iowa | Hudson Iowa | Ames Iowa | Center-ville S. D. | Lincoln Nebr. |
|---|---|---|---|---|---|---|---|---|
| Bavender Spec. | 28.9 | 34.6 | 33.6 | 33.1 | 34.5 | 38.6 | 18.1 | 24.5 |
| Adams (A5-2683) | 31.8 | 36.8 | 32.7 | 32.2 | 31.2 | 39.8 | 17.6 | 25.5 |
| Lincoln | 29.4 | 35.5 | 30.4 | 32.1 | 28.0 | 40.1 | 15.9 | 26.4 |
| Hawkeye | 31.2 | 31.2 | 30.4 | 31.2 | 28.8 | 37.0 | 16.6 | 23.6 |
| Korean | 31.4 | 29.3 | 29.0 | 30.9 | 33.3 | 32.9 | 14.5 | 17.7 |
| Earlyana | 30.1 | 30.9 | 29.7 | 26.8 | 29.9 | 32.5 | 15.6 | 19.9 |
| Richland | 26.9 | 30.6 | 27.4 | 27.3 | 24.0 | 32.4 | 16.5 | 23.6 |
| Mean | 30.0 | 32.7 | 30.5 | 30.5 | 30.0 | 36.2 | 16.4 | 23.0 |
| | Yield Rank | | | | | | | |
| Bavender Spec. | 6 | 3 | 1 | 1 | 1 | 3 | 1 | 3 |
| Adams (A5-2683) | 1 | 1 | 2 | 2 | 3 | 2 | 2 | 2 |
| Lincoln | 5 | 2 | 3 | 3 | 6 | 1 | 5 | 1 |
| Hawkeye | 3 | 4 | 3 | 4 | 5 | 4 | 3 | 4 |
| Korean | 2 | 7 | 6 | 5 | 2 | 5 | 7 | 7 |
| Earlyana | 4 | 5 | 5 | 7 | 4 | 6 | 6 | 6 |
| Richland | 7 | 6 | 7 | 6 | 7 | 7 | 4 | 4 |

Table 29. Six-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group II, 1943-48.

| Strain | Mean of 111 Tests | New Brunswick N. J. | Holgate Ohio | Columbus Ohio | East Lansing Mich. | Monroe Mich. | Walkerton Ind. | Bluffton Ind. | Lafayette Ind. | Greenfield Ind. | Worthington Ind. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Years Tested | | 1944 1946 | 1943-1948 | 1943 1945-48 | 1943-1947 | 1943 1945-46 | 1943-1948 | 1943 1945-48 | 1943-1948 | 1944-1948 | 1946-1948 |
| Lincoln | 32.7 | 24.4 | 22.8 | 40.9 | 21.2 | 31.0 | 33.0 | 37.6 | 43.5 | 38.7 | 37.9 |
| Hawkeye | 31.8 | 25.5 | 22.4 | 40.7 | 21.7 | 29.3 | 33.0 | 36.8 | 40.9 | 34.7 | 37.0 |
| Earlyana | 28.2 | 21.9 | 21.7 | 32.9 | 22.9 | 23.0 | 28.2 | 32.9 | 33.0 | 31.1 | 31.4 |
| Richland | 28.0 | 21.9 | 20.5 | 37.3 | 17.4 | 25.1 | 27.8 | 33.3 | 35.8 | 31.7 | 31.4 |
| Mean | 30.2 | 23.4 | 21.9 | 38.0 | 20.8 | 27.1 | 30.5 | 35.2 | 38.3 | 34.1 | 34.4 |
| | | | | | | Yield Rank | | | | | |
| Lincoln | | 2 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 |
| Hawkeye | | 1 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 |
| Earlyana | | 3 | 3 | 4 | 1 | 4 | 3 | 4 | 4 | 4 | 3 |
| Richland | | 3 | 4 | 3 | 4 | 3 | 4 | 3 | 3 | 3 | 3 |

Table 30. Six-year summary of agronomic and chemical data for the strains in the Uniform Test, Group II, 1943-48.

| Strain | Mean Yield Bu/A. | Maturity[1] | Lodging | Height Inches | Seed Quality | Seed Weight | Percentage of Protein | Percentage of Oil | Iodine Number of Oil |
|---|---|---|---|---|---|---|---|---|---|
| No. of Tests | 111 | 86 | 107 | 108 | 89 | 106 | 109 | 109 | 109 |
| Lincoln | 32.7 | +7.0 | 2.2 | 38 | 1.4 | 14.3 | 40.4 | 21.0 | 135.6 |
| Hawkeye | 31.8 | +0.1 | 1.6 | 35 | 1.4 | 17.1 | 41.4 | 21.0 | 128.3 |
| Earlyana | 28.2 | -5.4 | 2.7 | 36 | 2.0 | 15.2 | 42.8 | 20.5 | 131.6 |
| Richland | 28.0 | 0 | 1.6 | 32 | 1.5 | 16.5 | 40.5 | 20.5 | 128.5 |
| Mean | 30.2 | | 2.0 | 35 | 1.6 | 15.8 | 41.3 | 20.8 | 131.0 |

[1] Days earlier (-) or later (+) than Richland. Richland required 124 days to mature.

Table 29. (Continued)

| Strain | Madison Wis. | Compton Ill. | Dwight Ill. | Urbana Ill. | Kanawha Iowa | Marcus Iowa | Hudson Iowa | Ames Iowa | Centerville S. D. | Wakefield Nebr. | Lincoln Nebr. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Years Tested | 1943-1948 | 1943-1948 | 1943-1947 | 1943-1948 | 1943-1948 | 1944-1948 | 1943-1948 | 1943-1948 | 1946-1948 | 1943-45 1947 | 1946-1948 |
| Lincoln | 33.3 | 29.9 | 26.5 | 34.5 | 34.4 | 37.8 | 37.9 | 39.4 | 17.1 | 26.4 | 26.5 |
| Hawkeye | 32.5 | 29.0 | 24.8 | 32.9 | 35.1 | 35.6 | 37.3 | 39.1 | 16.8 | 26.9 | 24.5 |
| Earlyana | 28.9 | 27.5 | 21.5 | 28.6 | 33.1 | 30.0 | 33.1 | 33.7 | 16.3 | 24.7 | 21.5 |
| Richland | 27.5 | 25.6 | 22.4 | 31.9 | 30.7 | 31.7 | 29.2 | 33.5 | 17.0 | 24.9 | 24.2 |
| Mean | 30.6 | 28.0 | 23.8 | 32.0 | 33.3 | 33.8 | 34.4 | 36.4 | 16.8 | 25.7 | 24.2 |
| | Yield Rank | | | | | | | | | | |
| Lincoln | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 1 |
| Hawkeye | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 3 | 1 | 2 |
| Earlyana | 3 | 3 | 4 | 4 | 3 | 4 | 3 | 3 | 4 | 4 | 4 |
| Richland | 4 | 4 | 3 | 3 | 4 | 3 | 4 | 4 | 2 | 3 | 3 |

## UNIFORM TEST, GROUP III

The origin of the strains in the Uniform Test, Group III, is as follows:

| Strain | Source or Originating Agency | Origin |
|---|---|---|
| Adams (A5-2683) | Iowa A.E.S. & U.S.R.S.L. | Sel. from A3-176 (Illini x Dunfield) |
| Carlin | Farmer's Selection | Rogue in Dunfield |
| Chief | Ill. Agr. Exp. Sta. | Sel. from Illini x Manchu |
| Dunfield | Purdue Agr. Exp. Sta. | P.I. 36846 |
| Illini | Ill. Agr. Exp. Sta. | Sel. from A.K. |
| Lincoln | Ill. A.E.S. & U.S.R.S.L. | Sel. from Mandarin x Manchu |
| A3-176 | Iowa A.E.S. & U.S.R.S.L. | Sel. from Illini x Dunfield |
| L6-1152 | Ill. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x (Lincoln x Richland) |

Group III was grown at two new locations in 1948, Lancaster, Pennsylvania, and Norborne, Missouri. Yields were high at most locations, the whole test averaging 7 bushels higher than in 1947 (table 32).

Only two new strains were entered in 1948. Carlin is a farmer's selection from the Dunfield variety but does not resemble Dunfield. It has brown pubescence, purple flowers and is much later. It also has a very unusual grayish coloration in the seed coat, and is much more subject to mottling of the seed coat than are other common varieties. This variety is named after Carlinville, Illinois, near which it originated. It proved to be rather low in yield (tables 31 and 32) except at Lancaster, Pennsylvania; Freeburg and Eldorado, Illinois; Ottumwa, Iowa; Columbia, Missouri; and Manhattan, Kansas. It is probably best suited to the lighter soils where its pronounced tendency to lodge (table 34) is not such a serious disadvantage. Its late maturity (table 33) also will not be such a drawback on these soils. The oil content of Carlin is satisfactory but it is definitely lower than such varieties as Lincoln, Adams, and Dunfield.

L6-1152 is a selection from the backcross Lincoln x (Lincoln x Richland). This strain seems to have a good combination of ability to yield, resistance to lodging, and high oil content. The seed is rather large and in 1948 was not of as good quality as some varieties. It averaged as good as Lincoln, however, and the five-year data (table 37) show the same average seed quality for Lincoln, Chief, Adams, and Illini.

A5-2683, from the cross Dunfield x Illini, has been increased for release in Iowa under the name Adams. In 1948 Adams again proved to be slightly better than its parent, A3-176, in yield and oil content. In the two-year tables (tables 35 and 36) Adams has averaged .8 bushels higher in yield and .2% higher in oil content. It exceeded the yield of A3-176 at 14 of the 18 locations. In the two-year data (table 35) Adams has averaged two days earlier than Lincoln and .5% higher in oil content. It has about the same height and resistance to lodging as Lincoln. Adams has exceeded Lincoln in yield at 7 of the 18 locations but has averaged .8 bushels less in yield for the two-year period.

In the five-year tables (tables 37 and 38), data for A3-176 for 1944-1946 were used with data for A5-2683 for 1947-1948. Using these data, Adams has exceeded Lincoln in yield at 6 of the 20 locations (table 38). Adams has averaged 1.2 bushels less than Lincoln and 2.5 days earlier.

It is interesting to note that although Lincoln is a week earlier than Chief, it has yielded as well or better than Chief at many locations.

Table 31. Summary of agronomic and chemical data for the strains in the Uniform Test, Group III, 1948.

| Strain | Mean Yield Bu/A. | Maturity[1] | Lodging | Height Inches | Seed Quality | Seed Weight | Percentage of Protein | Percentage of Oil | Iodine Number of Oil |
|---|---|---|---|---|---|---|---|---|---|
| No. of Tests | 21 | 20 | 19 | 21 | 18 | 21 | 21 | 21 | 21 |
| L6-1152 | 36.7 | + 2.9 | 1.8 | 37 | 1.8 | 17.4 | 38.6 | 23.3 | 128.6 |
| Chief | 35.2 | + 7.7 | 2.8 | 48 | 1.5 | 12.9 | 40.2 | 21.4 | 129.9 |
| Lincoln | 34.2 | 0 | 2.4 | 39 | 1.8 | 13.5 | 40.3 | 22.1 | 132.0 |
| Adams (A5-2683) | 33.3 | - 2.8 | 2.2 | 38 | 1.4 | 14.3 | 40.2 | 22.6 | 128.2 |
| A3-176 | 32.9 | - 3.3 | 2.2 | 37 | 1.5 | 14.9 | 40.7 | 22.5 | 127.7 |
| Illini | 32.0 | + 0.7 | 3.0 | 42 | 1.5 | 13.8 | 41.1 | 21.0 | 129.7 |
| Carlin | 31.6 | +10.4 | 3.1 | 37 | 1.7 | 14.6 | 41.3 | 21.5 | 129.3 |
| Dunfield | 30.7 | - 1.1 | 3.1 | 38 | 1.8 | 15.3 | 39.4 | 22.4 | 125.0 |
| Mean | 33.3 | | 2.6 | 40 | 1.6 | 14.6 | 40.2 | 22.1 | 128.8 |

[1] Days earlier (-) or later (+) than Lincoln. Lincoln required 120 days to mature.

Table 32. Summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group III, 1948.

| Strain | Mean of 31 Tests | George-town Del. | Belts-ville Md. | Lan-caster Pa. | Blacks-burg Va. | Colum-bus Ohio | Lafay-ette Ind. | Green-field Ind. | Worth-ington Ind. | Urbana Ill. | Clay-ton Ill. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| L6-1152 | 36.7 | 13.6 | 42.1 | 27.7 | 34.4 | 38.2 | 52.7 | 35.5 | 42.9 | 39.6 | 35.0 |
| Chief | 35.2 | 16.0 | 44.1 | 34.5 | 33.6 | 40.6 | 44.9 | 37.0 | 41.4 | 34.1 | 28.4 |
| Lincoln | 34.2 | 12.6 | 38.6 | 24.5 | 37.7 | 35.9 | 44.6 | 40.0 | 39.4 | 40.6 | 27.4 |
| Adams | 33.3 | 15.8 | 39.8 | 24.6 | 32.6 | 35.2 | 47.3 | 38.0 | 37.0 | 38.0 | 22.8 |
| A3-176 | 32.9 | 15.8 | 37.1 | 26.3 | 35.6 | 34.8 | 44.5 | 37.6 | 37.1 | 34.8 | 22.8 |
| Illini | 32.0 | 15.8 | 36.4 | 25.7 | 36.4 | 39.5 | 41.6 | 37.0 | 34.2 | 33.6 | 26.0 |
| Carlin | 31.6 | 11.6 | 34.2 | 31.2 | 29.4 | 27.4 | 34.8 | 35.9 | 33.1 | 33.0 | 20.5 |
| Dunfield | 30.7 | 17.6 | 35.9 | 26.4 | 29.7 | 32.3 | 41.1 | 36.5 | 36.5 | 35.2 | 23.3 |
| Mean | 33.3 | 14.9 | 38.5 | 27.6 | 33.7 | 35.5 | 43.9 | 37.2 | 37.7 | 36.1 | 25.8 |
| Coef. of Var. (%) | | 15.0 | -- | -- | -- | 10.8 | 9.9 | 8.7 | 7.3 | 10.4 | -- |
| Bu. Nec. for Sig (5%) | | 3.1 | -- | -- | -- | 5.7 | 6.4 | Not Sig. | 4.0 | Not Sig. | -- |
| | | | | | Yield Rank | | | | | | |
| L6-1152 | | 6 | 2 | 3 | 4 | 3 | 1 | 8 | 1 | 2 | 1 |
| Chief | | 2 | 1 | 1 | 5 | 1 | 3 | 4 | 2 | 6 | 2 |
| Lincoln | | 7 | 4 | 8 | 1 | 4 | 4 | 1 | 3 | 1 | 3 |
| Adams | | 3 | 3 | 7 | 6 | 5 | 2 | 2 | 5 | 3 | 6 |
| A3-176 | | 3 | 5 | 5 | 3 | 6 | 5 | 3 | 4 | 5 | 6 |
| Illini | | 3 | 6 | 6 | 2 | 2 | 6 | 4 | 7 | 7 | 4 |
| Carlin | | 8 | 8 | 2 | 8 | 8 | 8 | 7 | 8 | 8 | 8 |
| Dunfield | | 1 | 7 | 4 | 7 | 7 | 7 | 6 | 6 | 4 | 5 |

Table 32. (Continued)

| Strain | Stonington Ill. | Edgewood Ill. | Freeburg Ill. | Eldorado Ill. | Ames Iowa | Ottumwa Iowa | Shelbyville Mo. | Columbia Mo. | Norborne Mo. | Lincoln Neb. | Manhattan Kans. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| L6-1152 | 45.9 | 42.1 | 36.6 | 35.1 | 43.8 | 45.7 | 23.4 | 23.6 | 51.4 | 31.1 | 31.3 |
| Chief | 39.8 | 41.1 | 31.5 | 34.1 | 45.1 | 42.7 | 26.4 | 21.0 | 52.6 | 23.7 | 27.6 |
| Lincoln | 40.5 | 37.9 | 27.6 | 36.0 | 43.9 | 39.9 | 24.5 | 20.1 | 44.3 | 30.8 | 31.1 |
| Adams | 38.0 | 39.9 | 26.7 | 30.9 | 43.4 | 39.0 | 25.1 | 20.1 | 39.0 | 35.1 | 32.0 |
| A3-176 | 38.4 | 37.2 | 25.6 | 32.7 | 41.9 | 38.5 | 24.1 | 17.5 | 45.1 | 32.2 | 30.9 |
| Illini | 31.0 | 35.6 | 23.0 | 30.2 | 45.8 | 39.5 | 23.9 | 18.1 | 44.0 | 25.8 | 28.1 |
| Carlin | 36.2 | 38.6 | 32.2 | 35.5 | 42.0 | 40.4 | 23.5 | 22.4 | 41.6 | 29.6 | 31.2 |
| Dunfield | 37.0 | 34.1 | 21.9 | 27.7 | 35.5 | 36.0 | 22.5 | 19.9 | 36.7 | 33.7 | 26.0 |
| Mean | 38.3 | 38.3 | 28.1 | 32.8 | 42.7 | 40.2 | 24.2 | 20.3 | 44.3 | 30.1 | 29.8 |
| C. V. (%) | 13.8 | 10.8 | 12.5 | 10.9 | 8.8 | 7.5 | 13.2 | 13.0 | 9.3 | 5.3 | -- |
| Bu/Sig. (5%) | 7.8 | N.S. | 5.2 | 5.3 | 5.5 | 4.5 | 4.7 | 3.8 | 6.1 | 2.4 | -- |
| | Yield Rank | | | | | | | | | | |
| L6-1152 | 1 | 1 | 1 | 3 | 4 | 1 | 7 | 1 | 2 | 4 | 2 |
| Chief | 3 | 2 | 3 | 4 | 2 | 2 | 1 | 3 | 1 | 8 | 7 |
| Lincoln | 2 | 5 | 4 | 1 | 3 | 4 | 3 | 4 | 4 | 5 | 4 |
| Adams | 5 | 3 | 5 | 6 | 5 | 7 | 2 | 4 | 7 | 1 | 1 |
| A3-176 | 4 | 6 | 6 | 5 | 7 | 6 | 4 | 8 | 3 | 3 | 5 |
| Illini | 8 | 7 | 7 | 7 | 1 | 5 | 5 | 7 | 5 | 7 | 6 |
| Carlin | 7 | 4 | 2 | 2 | 6 | 3 | 6 | 2 | 6 | 6 | 3 |
| Dunfield | 6 | 8 | 8 | 8 | 8 | 8 | 8 | 6 | 8 | 2 | 8 |

Table 33. Summary of maturity, days earlier (-) or later (+) than Lincoln for the strains in the Uniform Test, Group III, 1948.

| Strain | Mean of 20 Tests | George-town Del. | Belts-ville Md. | Lan-caster Pa. | Blacks-burg Va. | Lafay-ette Ind. | Green-field Ind. | Worth-ington Ind. | Urbana Ill. | Clay-ton Ill. |
|---|---|---|---|---|---|---|---|---|---|---|
| I6-1152 | + 2.9 | +2 | +2 | -4 | 0 | + 2 | -3 | + 4 | + 2 | + 2 |
| Chief | + 7.7 | +3 | +5 | +3 | +7 | +10 | +7 | +12 | + 6 | + 7 |
| Lincoln | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Adams | - 2.8 | -7 | -4 | 0 | +1 | - 1 | 0 | - 2 | - 6 | - 4 |
| A3-176 | - 3.3 | -7 | -6 | 0 | 0 | 0 | -1 | - 3 | - 7 | - 4 |
| Illini | + 0.7 | -7 | -3 | +8 | +2 | 0 | +1 | + 1 | 0 | - 1 |
| Carlin | +10.4 | +7 | +5 | +8 | +5 | +15 | +9 | +14 | +12 | +13 |
| Dunfield | - 1.1 | -7 | -7 | +3 | +5 | - 4 | 0 | + 1 | - 3 | 0 |
| Date planted | | 6/9 | 5/28 | 5/20 | 5/15 | 5/20 | 5/21 | 6/9 | 5/27 | 5/20 |
| Lincoln matured | | 9/15 | 10/1 | 10/2 | 9/22 | 9/22 | 10/5 | 9/22 | 9/24 | 9/17 |
| Days to mat. | 120 | 98 | 126 | 135 | 130 | 125 | 137 | 105 | 120 | 120 |

Table 33. (Continued)

| Strain | Stonington Ill. | Edgewood Ill. | Freeburg Ill. | Eldorado Ill. | Ames Iowa | Ottumwa Iowa | Shelbyville Mo. | Columbia Mo. | Norborne Mo. | Lincoln Nebr. | Manhattan Kans. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| I6-1152 | + 8 | + 6 | + 8 | + 6 | +2 | + 1 | +7 | + 3 | + 5 | +1 | + 4 |
| Chief | + 9 | +13 | +10 | +12 | +6 | + 7 | +4 | + 7 | + 9 | +5 | +11 |
| Lincoln | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Adams | - 5 | - 2 | - 5 | - 6 | 0 | 0 | -5 | - 4 | - 3 | 0 | - 2 |
| A3-176 | - 4 | - 5 | - 5 | - 7 | 0 | - 1 | -4 | - 4 | - 3 | 0 | - 4 |
| Illini | - 1 | 0 | + 1 | + 1 | +2 | + 2 | -1 | 0 | 0 | +2 | + 6 |
| Carlin | +14 | +14 | +14 | +11 | +7 | +11 | +8 | +13 | +10 | +1 | +17 |
| Dunfield | - 1 | + 3 | 0 | - 3 | -1 | - 1 | -1 | - 1 | 0 | -2 | - 2 |
| Date planted | 5/27 | 6/1 | 5/27 | 5/29 | 5/13 | 5/27 | 5/22 | 5/24 | 5/21 | 5/25 | 6/2 |
| Lincoln mat. | 9/21 | 9/16 | 9/13 | 9/15 | 9/30 | 9/26 | 9/19 | 9/11 | 9/15 | 10/14 | 9/18 |
| Days to mat. | 117 | 107 | 109 | 109 | 140 | 122 | 120 | 110 | 117 | 142 | 108 |

Table 34. Summary of lodging and height data for the strains in Uniform Test, Group III, 1948.

| Strain | Mean of 19 Tests[1] | George-town Del. | Belts-ville Md. | Lan-caster Pa. | Blacks-burg Va. | Colum-bus Ohio | Lafay-ette Ind. | Green-field Ind. | Worth-ington Ind. | Urbana Ill. | Clay-ton Ill. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| L6-1152 | 1.8 | 1.0 | 2.0 | 1.0 | 1.0 | 2.5 | 1.4 | 1.8 | 1.6 | 1.7 | 1.4 |
| Chief | 2.8 | 1.0 | 3.0 | 2.0 | 2.5 | 3.5 | 2.0 | 2.4 | 3.3 | 2.8 | 2.6 |
| Lincoln | 2.4 | 1.0 | 2.5 | 1.0 | 2.0 | 2.7 | 2.4 | 2.1 | 3.0 | 2.1 | 2.1 |
| Adams | 2.2 | 1.0 | 2.5 | 1.0 | 1.0 | 2.2 | 2.0 | 2.0 | 3.1 | 2.1 | 2.0 |
| A3-176 | 2.2 | 1.0 | 2.5 | 1.0 | 1.0 | 2.2 | 2.1 | 2.0 | 2.9 | 2.1 | 2.0 |
| Illini | 3.0 | 1.0 | 3.0 | 2.0 | 1.5 | 3.0 | 2.3 | 2.0 | 3.4 | 2.9 | 3.1 |
| Carlin | 3.1 | 1.0 | 3.5 | 2.0 | 3.0 | 4.0 | 3.6 | 2.6 | 3.0 | 3.3 | 2.9 |
| Dunfield | 3.1 | 1.0 | 3.5 | 1.0 | 3.0 | 3.2 | 2.8 | 2.6 | 3.5 | 2.4 | 3.3 |
| Mean | 2.6 | 1.0 | 2.8 | 1.4 | 1.9 | 2.9 | 2.3 | 2.2 | 3.0 | 2.4 | 2.4 |
| | Mean of 21 Tests | Height | | | | | | | | | |
| L6-1152 | 37 | 22 | 40 | 27 | 31 | 38 | 40 | 34 | 38 | 44 | 40 |
| Chief | 48 | 31 | 53 | 44 | 43 | 44 | 51 | 44 | 52 | 59 | 43 |
| Lincoln | 39 | 26 | 42 | 25 | 34 | 39 | 42 | 37 | 41 | 47 | 40 |
| Adams | 38 | 22 | 38 | 26 | 31 | 36 | 40 | 34 | 39 | 46 | 39 |
| A3-176 | 37 | 21 | 38 | 27 | 30 | 35 | 40 | 34 | 41 | 46 | 39 |
| Illini | 42 | 26 | 43 | 37 | 35 | 36 | 46 | 40 | 44 | 52 | 42 |
| Carlin | 37 | 23 | 39 | 34 | 34 | 36 | 40 | 35 | 35 | 44 | 36 |
| Dunfield | 38 | 24 | 38 | 40 | 34 | 34 | 41 | 36 | 39 | 45 | 37 |
| Mean | 40 | 24 | 41 | 31 | 34 | 37 | 43 | 37 | 41 | 48 | 40 |

[1] Georgetown and Columbia not included in the mean.

Table 34. (Continued)

| Strain | Stoning-ton Ill. | Edge-wood Ill. | Free-burg Ill. | Eldor-ado Ill. | Ames Iowa | Ottum-wa Iowa | Shelby-ville Mo. | Colum-bia Mo. | Nor-borne Mo. | Lin-coln Neb. | Man-hattan Kans. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| L6-1152 | 1.5 | 2.0 | 2.0 | 2.0 | 3.1 | 1.8 | 1.0 | 1.0 | 1.8 | 2.5 | 1.8 |
| Chief | 2.5 | 3.0 | 2.4 | 3.0 | 3.8 | 3.3 | 2.5 | 1.0 | 3.0 | 3.5 | 3.0 |
| Lincoln | 2.0 | 2.6 | 2.4 | 2.4 | 3.3 | 2.8 | 1.5 | 1.0 | 3.5 | 2.8 | 2.2 |
| Adams | 2.0 | 2.8 | 2.9 | 2.4 | 3.0 | 2.6 | 1.5 | 1.0 | 3.3 | 2.5 | 1.8 |
| A3-176 | 2.0 | 2.5 | 2.9 | 2.4 | 3.3 | 2.4 | 1.5 | 1.0 | 3.8 | 2.2 | 1.8 |
| Illini | 2.5 | 4.0 | 4.0 | 3.3 | 3.6 | 3.4 | 3.0 | 1.0 | 3.3 | 3.5 | 3.4 |
| Carlin | 2.9 | 3.3 | 2.9 | 3.0 | 5.0 | 3.1 | 2.0 | 1.0 | 3.0 | 4.0 | 2.5 |
| Dunfield | 2.1 | 3.0 | 3.8 | 2.6 | 4.8 | 3.1 | 2.5 | 1.0 | 4.3 | 3.8 | 3.5 |
| Mean | 2.2 | 2.9 | 2.9 | 2.6 | 3.7 | 2.8 | 1.9 | 1.0 | 3.3 | 3.1 | 2.5 |

| | Mean of 21 Tests | Height | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| L6-1152 | 35 | 38 | 41 | 39 | 47 | 43 | 37 | 26 | 41 | 31 | 35 |
| Chief | 50 | 50 | 54 | 52 | 60 | 53 | 52 | 32 | 65 | 44 | 42 |
| Lincoln | 41 | 42 | 44 | 41 | 48 | 46 | 39 | 28 | 43 | 35 | 36 |
| Adams | 37 | 40 | 42 | 40 | 52 | 48 | 39 | 26 | 43 | 35 | 37 |
| A3-176 | 36 | 39 | 41 | 39 | 54 | 44 | 39 | 25 | 44 | 34 | 36 |
| Illini | 40 | 45 | 45 | 48 | 53 | 49 | 41 | 29 | 61 | 35 | 39 |
| Carlin | 37 | 38 | 40 | 38 | 45 | 42 | 40 | 29 | 45 | 35 | 33 |
| Dunfield | 39 | 35 | 44 | 40 | 51 | 43 | 40 | 27 | 49 | 33 | 35 |
| Mean | 39 | 41 | 44 | 42 | 51 | 46 | 41 | 28 | 49 | 35 | 37 |

Table 35. Two-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group III, 1947-48.

| Strain | Mean of 40 Tests | George-town Del. | Belts-ville Md. | Colum-bus Ohio | Lafay-ette Ind. | Green-field Ind. | Worth-ington Ind. | Urbana Ill. | Clay-ton Ill. |
|---|---|---|---|---|---|---|---|---|---|
| Chief | 31.5 | 21.5 | 33.5 | 43.9 | 46.3 | 38.2 | 43.8 | 34.4 | 21.3 |
| Lincoln | 30.8 | 19.1 | 28.7 | 41.5 | 45.6 | 40.6 | 38.3 | 37.8 | 21.1 |
| Adams | 30.2 | 18.2 | 30.1 | 42.3 | 46.8 | 38.2 | 38.5 | 35.3 | 19.6 |
| A3-176 | 29.4 | 17.5 | 28.5 | 38.0 | 45.8 | 38.3 | 36.0 | 33.8 | 17.8 |
| Illini | 28.4 | 17.2 | 28.4 | 39.3 | 41.7 | 35.8 | 34.2 | 31.7 | 19.6 |
| Dunfield | 27.4 | 17.5 | 26.8 | 37.8 | 41.6 | 38.2 | 37.1 | 32.0 | 18.8 |
| Mean | 29.6 | 18.5 | 29.3 | 40.5 | 44.6 | 38.2 | 38.0 | 34.2 | 19.7 |
| | | | | | Yield Rank | | | | |
| Chief | | 1 | 1 | 1 | 2 | 3 | 1 | 3 | 1 |
| Lincoln | | 2 | 3 | 3 | 4 | 1 | 3 | 1 | 2 |
| Adams | | 3 | 2 | 2 | 1 | 3 | 2 | 2 | 3 |
| A3-176 | | 4 | 4 | 5 | 3 | 2 | 5 | 4 | 6 |
| Illini | | 6 | 5 | 4 | 5 | 6 | 6 | 6 | 3 |
| Dunfield | | 4 | 6 | 6 | 6 | 3 | 4 | 5 | 5 |

Table 36. Two-year summary of agronomic and chemical data for the strains in the Uniform Test, Group III, 1947-48.

| Strain | Mean Yield Bu/A. | Matu-rity[1] | Lodg-ing | Height Inches | Seed Qual-ity | Seed Weight | Percent-age of Protein | Percent-age of Oil | Iodine Number of Oil |
|---|---|---|---|---|---|---|---|---|---|
| No. of Tests | 40 | 35 | 35 | 38 | 35 | 39 | 39 | 39 | 39 |
| Chief | 31.5 | +7.3 | 2.7 | 45 | 1.6 | 12.6 | 40.5 | 21.4 | 130.1 |
| Lincoln | 30.8 | 0 | 2.2 | 36 | 1.8 | 13.6 | 40.4 | 22.4 | 132.6 |
| Adams | 30.2 | -1.9 | 2.1 | 35 | 1.5 | 13.9 | 40.6 | 22.9 | 129.9 |
| A3-176 | 29.4 | -2.3 | 2.1 | 34 | 1.5 | 14.7 | 41.1 | 22.7 | 129.1 |
| Illini | 28.4 | +0.6 | 2.9 | 39 | 1.6 | 13.2 | 41.4 | 21.1 | 130.5 |
| Dunfield | 27.4 | -0.5 | 2.8 | 36 | 2.0 | 15.2 | 40.1 | 22.4 | 124.5 |
| Mean | 29.6 | | 2.5 | 38 | 1.7 | 13.9 | 40.7 | 22.2 | 129.5 |

[1] Days earlier (-) or later (+) than Lincoln. Lincoln required 120 days to mature.

Table 35. (Continued)

| Strain | Stonington Ill. | Edgewood Ill. | Freeburg Ill. | Eldorado Ill. | Ames Iowa | Ottumwa Iowa | Shelbyville Mo. | Columbia Mo. | Lincoln Nebr. | Manhattan Kans. |
|---|---|---|---|---|---|---|---|---|---|---|
| Chief | 33.3 | 34.4 | 27.8 | 31.8 | 36.6 | 32.9 | 20.4 | 21.6 | 20.0 | 22.0 |
| Lincoln | 33.3 | 33.2 | 27.8 | 31.0 | 36.7 | 31.0 | 19.8 | 20.8 | 24.1 | 24.2 |
| Adams | 32.2 | 34.9 | 24.6 | 29.2 | 37.7 | 30.8 | 20.5 | 20.5 | 23.9 | 24.1 |
| A3-176 | 32.4 | 32.8 | 24.0 | 28.4 | 36.2 | 31.9 | 19.6 | 18.3 | 24.4 | 24.0 |
| Illini | 28.9 | 29.0 | 23.5 | 28.5 | 36.4 | 31.2 | 18.3 | 19.4 | 21.7 | 22.7 |
| Dunfield | 28.5 | 29.7 | 21.2 | 25.5 | 31.5 | 28.6 | 17.6 | 19.6 | 24.8 | 21.3 |
| Mean | 31.4 | 32.3 | 24.8 | 29.1 | 35.9 | 31.1 | 19.4 | 20.0 | 23.2 | 23.1 |

| | Yield Rank | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Chief | 1 | 2 | 1 | 1 | 3 | 1 | 2 | 1 | 6 | 5 |
| Lincoln | 1 | 3 | 1 | 2 | 2 | 4 | 3 | 2 | 3 | 1 |
| Adams | 4 | 1 | 3 | 3 | 1 | 5 | 1 | 3 | 4 | 2 |
| A3-176 | 3 | 4 | 4 | 5 | 5 | 2 | 4 | 6 | 2 | 3 |
| Illini | 5 | 6 | 5 | 4 | 4 | 3 | 5 | 5 | 5 | 4 |
| Dunfield | 6 | 5 | 6 | 6 | 6 | 6 | 6 | 4 | 1 | 6 |

Table 37. Five-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group III, 1944-48.

| Strain | Mean of 94 Tests | George-town Del. | Belts-ville Md. | Blacks-burg Va. | Colum-bus Ohio | Lafay-ette Ind. | Green-field Ind. | Worth-ington Ind. | Dwight Ill. | Urbana Ill. |
|---|---|---|---|---|---|---|---|---|---|---|
| Years Tested | | 1945-1948 | 1945-1948 | 1946-1948 | 1945-1948 | 1944-45 1947-48 | 1944-1948 | 1945-1948 | 1944-1947 | 1944-1948 |
| Lincoln | 30.0 | 21.4 | 31.1 | 30.3 | 37.6 | 42.8 | 37.0 | 37.6 | 24.3 | 34.9 |
| Chief | 29.3 | 23.2 | 33.7 | 29.0 | 37.6 | 42.3 | 32.5 | 42.2 | 19.3 | 31.8 |
| Adams[1] | 28.8 | 20.3 | 30.7 | 24.6 | 37.2 | 43.4 | 33.5 | 34.8 | 23.9 | 34.0 |
| Illini | 26.9 | 18.8 | 28.7 | 26.9 | 35.0 | 41.2 | 32.2 | 31.7 | 23.6 | 29.8 |
| Dunfield | 26.1 | 19.7 | 25.2 | 22.8 | 31.5 | 38.3 | 29.8 | 33.5 | 19.5 | 30.0 |
| Mean | 28.2 | 20.7 | 29.9 | 26.7 | 35.8 | 41.6 | 33.0 | 36.0 | 22.1 | 32.1 |
| | | | | | Yield Rank | | | | | |
| Lincoln | | 2 | 2 | 1 | 1 | 2 | 1 | 2 | 1 | 1 |
| Chief | | 1 | 1 | 2 | 1 | 3 | 3 | 1 | 5 | 3 |
| Adams | | 3 | 3 | 4 | 3 | 1 | 2 | 3 | 2 | 2 |
| Illini | | 5 | 4 | 3 | 4 | 4 | 4 | 5 | 3 | 5 |
| Dunfield | | 4 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 4 |

[1] Average of A3-176 (1944-46) and A5-2683 (1947-48).

Table 38. Five-year summary of agronomic and chemical data for the strains in the Uniform Test, Group III, 1944-48.

| Strain | Mean Yield Bu/A. | Matu-rity[1] | Lodg-ing | Height Inches | Seed Qual-ity | Seed Weight | Percent-age of Protein | Percent-age of Oil | Iodine Number of Oil |
|---|---|---|---|---|---|---|---|---|---|
| No. of Tests | 94 | 77 | 84 | 85 | 80 | 92 | 92 | 92 | 92 |
| Lincoln | 30.0 | 0 | 2.2 | 36 | 1.6 | 13.9 | 40.4 | 21.7 | 134.2 |
| Chief | 29.3 | +7.6 | 2.8 | 45 | 1.6 | 12.6 | 40.3 | 20.8 | 132.5 |
| Adams[2] | 28.8 | -2.5 | 2.1 | 34 | 1.6 | 14.3 | 40.5 | 22.0 | 130.9 |
| Illini | 26.9 | +1.1 | 3.0 | 39 | 1.6 | 13.7 | 40.9 | 20.5 | 132.5 |
| Dunfield | 26.1 | -0.6 | 2.9 | 36 | 2.0 | 15.1 | 39.7 | 21.7 | 127.5 |
| Mean | 28.2 | | 2.6 | 38 | 1.7 | 13.9 | 40.4 | 21.3 | 131.5 |

[1] Days earlier (-) or later (+) than Lincoln. Lincoln required 122 days to mature.

[2] Average of A3-176 (1944-46) and A5-2683 (1947-48).

Table 37. (Continued)

| Strain | Clayton Ill. | Stonington Ill. | Edgewood Ill. | Freeburg Ill. | Ames Iowa | Ottumwa Iowa | Shelbyville Mo. | Columbia Mo. | Lathrop Mo. | Lincoln Nebr. | Manhattan Kans. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Years Tested | 1944-1948 | 1944-1948 | 1944-1948 | 1944-1948 | 1944-1948 | 1944-1948 | 1945-1948 | 1944-1948 | 1945-1946 | 1944-1948 | 1944-1948 |
| Lincoln | 25.8 | 32.0 | 28.0 | 27.8 | 38.8 | 31.5 | 19.8 | 20.4 | 23.4 | 24.6 | 24.5 |
| Chief | 24.9 | 29.5 | 26.6 | 26.5 | 36.6 | 30.1 | 19.9 | 23.8 | 21.9 | 20.7 | 22.8 |
| Adams[1] | 24.2 | 31.3 | 24.9 | 24.3 | 39.9 | 31.6 | 19.7 | 21.5 | 17.7 | 25.0 | 24.9 |
| Illini | 21.7 | 28.4 | 23.0 | 21.6 | 36.6 | 29.9 | 18.2 | 18.3 | 20.2 | 22.2 | 21.9 |
| Dunfield | 23.5 | 26.7 | 25.0 | 22.8 | 33.6 | 28.6 | 18.3 | 20.5 | 18.1 | 23.6 | 22.2 |
| Mean | 24.0 | 29.6 | 25.5 | 24.6 | 37.1 | 30.3 | 19.2 | 20.9 | 20.3 | 23.2 | 23.3 |
| | Yield Rank | | | | | | | | | | |
| Lincoln | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 4 | 1 | 2 | 2 |
| Chief | 2 | 3 | 2 | 2 | 3 | 3 | 1 | 1 | 2 | 5 | 3 |
| Adams | 3 | 2 | 4 | 3 | 1 | 1 | 3 | 2 | 5 | 1 | 1 |
| Illini | 5 | 4 | 5 | 5 | 3 | 4 | 5 | 5 | 3 | 4 | 5 |
| Dunfield | 4 | 5 | 3 | 4 | 5 | 5 | 4 | 3 | 4 | 3 | 4 |

## PRELIMINARY TEST, GROUP III

The origin of the strains in the Preliminary Test, Group III, is as follows:

| Strain | Source or Origination Agency | Origin |
|---|---|---|
| Chief | Ill. Agr. Exp. Station | Sel. from Illini x Manchu |
| Lincoln | Ill. A.E.S. & U.S.R.S.L | Sel. from Mandarin x Manchu |
| Adams(A5-2683) | Iowa A.E.S. & U.S.R.S.L. | Sel. from A3-176(Illini x Dunfield) |
| A6-440 | Iowa A.E.S. & U.S.R.S.L. | Sel. from Linc. x (Lincoln x Richland) |
| A6-549 | Iowa A.E.S. & U.S.R.S.L. | Sel. from Linc. x (Lincoln x Richland) |
| C785 | Ind. A.E.S. & U.S.R.S.L. | Sel. from Linc. x (Richland x Earlyana) |
| C786 | Ind. A.E.S. & U.S.R.S.L. | Sel. from Linc. x (Richland x Earlyana) |
| C787 | Ind. A.E.S. & U.S.R.S.L. | Sel. from Linc. x (Richland x Earlyana) |
| C788 | Ind. A.E.S. & U.S.R.S.L. | Sel. from Linc. x (Richland x Earlyana) |
| L6-1503 | Ill. A.E.S. & U.S.R.S.L. | Sel. from Linc. x (Lincoln x Richland) |
| L6-1656 | Ill. A.E.S. & U.S.R.S.L. | Sel. from Linc. x (Lincoln x Richland) |
| L6-1744 | Ill. A.E.S. & U.S.R.S.L. | Sel. from Linc. x (Lincoln x Richland) |
| L6-1776 | Ill. A.E.S. & U.S.R.S.L. | Sel. from Linc. x (Lincoln x Richland) |
| L6-2132 | Ill. A.E.S. & U.S.R.S.L. | Sel. from Linc. x (Lincoln x Richland) |
| L6-5605 | Ill. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x Richland |

Preliminary Group III was planted at five locations, Ottumwa, Columbia, Urbana, Stonington, and Lafayette. Chief, Lincoln, and Adams were used as check strains. The experimental entries were from the crosses Lincoln x Richland, Lincoln x (Lincoln x Richland) and Lincoln x (Richland x Earlyana). This group is designed to extend from Lincoln to Chief, but most of these selections were closer to Chief than to Lincoln in maturity (Table 39). A6-440 and A6-549 were only slightly later than Lincoln. The yields of these experimental entries were very good, all but one of them yielding more than the check strains. The Columbia test was planted on a hardpan soil of only medium productivity and since all varieties were erect, Columbia was omitted from the lodging means. The other four locations were all on highly productive soils.

The most unusual strain in this test proved to be L6-1503 which averaged 24.1 percent oil, 1 percent higher than any other strain in the test. In table 39 it can be seen that it was above the average in lodging resistance also, but did not yield as well as L6-2132. This latter strain was consistently high in yield both on the lower level of productivity at Columbia and on the high levels elsewhere (table 40). When maturity is considered, A6-440 and A6-549 have yielded better than any other strain except L6-2132. A6-440 is outstanding in general performance in addition to its earliness and should be entered together with L6-2132 and L6-1503 in the 1949 Uniform Group III.

Table 39. Summary of agronomic and chemical data for the strains in the Preliminary Test, Group III, 1948.

| Strain | Mean Yield Bu/A. | Maturity[1] | Lodging | Height Inches | Seed Quality | Seed Weight | Percentage of Protein | Percentage of Oil | Iodine Number of Oil |
|---|---|---|---|---|---|---|---|---|---|
| No. of Tests | 5 | 5 | 4 | 5 | 4 | 5 | 5 | 5 | 5 |
| L6-2132 | 42.2 | +6.2 | 2.1 | 41 | 1.0 | 15.7 | 39.0 | 22.8 | 132.4 |
| L6-1744 | 40.0 | +9.0 | 1.9 | 43 | 1.3 | 15.1 | 38.4 | 22.3 | 132.8 |
| L6-1656 | 39.5 | +8.8 | 2.2 | 45 | 1.6 | 13.9 | 37.6 | 23.1 | 135.5 |
| L6-1503 | 38.4 | +7.8 | 1.9 | 39 | 1.3 | 16.5 | 38.2 | 24.1 | 133.8 |
| A6-440 | 38.0 | +1.4 | 1.8 | 43 | 1.3 | 15.1 | 38.6 | 22.9 | 130.5 |
| A6-549 | 37.6 | +2.0 | 2.2 | 41 | 2.0 | 13.5 | 38.7 | 21.9 | 132.4 |
| L6-5605 | 36.5 | +8.8 | 2.7 | 45 | 1.1 | 15.7 | 38.7 | 22.6 | 131.6 |
| C785 | 36.0 | +7.2 | 2.4 | 41 | 1.6 | 17.9 | 39.1 | 22.6 | 130.6 |
| L6-1776 | 35.7 | +9.2 | 2.6 | 44 | 1.8 | 16.4 | 38.5 | 22.7 | 132.5 |
| C787 | 35.6 | +9.6 | 2.5 | 46 | 1.4 | 14.3 | 39.3 | 21.8 | 135.1 |
| C786 | 34.9 | +7.2 | 2.7 | 42 | 1.3 | 17.4 | 40.4 | 21.9 | 130.2 |
| Lincoln | 34.5 | 0 | 2.3 | 41 | 1.6 | 14.0 | 38.5 | 22.7 | 133.1 |
| C788 | 34.1 | +5.4 | 1.9 | 41 | 2.0 | 15.3 | 39.8 | 22.7 | 129.3 |
| Chief | 34.0 | +8.6 | 2.7 | 51 | 1.3 | 13.0 | 38.4 | 21.7 | 130.9 |
| Adams (A5-2683) | 33.8 | -3.8 | 2.2 | 40 | 1.8 | 14.6 | 38.5 | 23.1 | 129.8 |
| Mean | 36.7 | | 2.3 | 43 | 1.5 | 15.2 | 38.8 | 22.6 | 132.0 |

[1] Days earlier (-) or later (+) than Lincoln. Lincoln required 120 days to mature.

Table 40. Summary of yield in bushels per acre and yield rank for the strains in the Preliminary Test, Group III, 1948.

| Strain | Mean of 5 Tests | Lafayette Ind. | Urbana Ill. | Stonington Ill. | Ottumwa Iowa | Columbia Mo. |
|---|---|---|---|---|---|---|
| L6-2132 | 42.2 | 55.7 | 42.5 | 40.7 | 47.6 | 24.4 |
| L6-1744 | 40.0 | 53.2 | 40.3 | 38.2 | 44.6 | 23.8 |
| L6-1656 | 39.5 | 50.7 | 41.3 | 41.5 | 39.9 | 24.0 |
| L6-1503 | 38.4 | 46.7 | 42.8 | 35.2 | 45.2 | 22.3 |
| A6-440 | 38.0 | 45.7 | 39.9 | 43.1 | 40.1 | 21.3 |
| A6-549 | 37.6 | 52.0 | 39.7 | 35.3 | 38.8 | 22.2 |
| L6-5605 | 36.5 | 45.4 | 36.3 | 36.8 | 42.3 | 21.6 |
| C785 | 36.0 | 44.6 | 38.6 | 30.4 | 43.7 | 22.7 |
| L6-1776 | 35.7 | 42.2 | 38.1 | 35.8 | 38.6 | 24.0 |
| C787 | 35.6 | 43.5 | 35.6 | 36.5 | 40.2 | 22.2 |
| C786 | 34.9 | 40.6 | 37.1 | 33.4 | 39.9 | 23.4 |
| Lincoln | 34.5 | 43.8 | 38.9 | 33.5 | 34.3 | 21.9 |
| C788 | 34.1 | 43.8 | 34.6 | 32.7 | 37.4 | 21.8 |
| Chief | 34.0 | 45.6 | 35.5 | 33.0 | 36.3 | 19.5 |
| Adams (A5-2683) | 33.8 | 43.1 | 39.1 | 30.8 | 37.9 | 18.1 |
| Mean | 36.7 | 46.4 | 38.7 | 36.0 | 40.4 | 22.2 |
| Coef. of Var. (%) | | 12.3 | -- | 13.4 | 10.6 | 8.7 |
| Bu. Nec. for Sig. (5%) | | 8.2 | -- | 6.9 | 6.1 | 2.8 |
| | | | Yield Rank | | | |
| L6-2132 | | 1 | 2 | 3 | 1 | 1 |
| L6-1744 | | 2 | 4 | 4 | 3 | 4 |
| L6-1656 | | 4 | 3 | 2 | 9 | 2 |
| L6-1503 | | 5 | 1 | 9 | 2 | 7 |
| A6-440 | | 6 | 5 | 1 | 7 | 13 |
| A6-549 | | 3 | 6 | 8 | 10 | 8 |
| L6-5605 | | 8 | 12 | 5 | 5 | 12 |
| C785 | | 9 | 9 | 15 | 4 | 6 |
| L6-1776 | | 14 | 10 | 7 | 11 | 2 |
| C787 | | 12 | 13 | 6 | 6 | 8 |
| C786 | | 15 | 11 | 11 | 8 | 5 |
| Lincoln | | 10 | 8 | 10 | 15 | 10 |
| C788 | | 10 | 15 | 13 | 13 | 11 |
| Chief | | 7 | 14 | 12 | 14 | 14 |
| Adams (A5-2683) | | 13 | 7 | 14 | 12 | 15 |

Table 41. Summary of maturity data, days earlier (-) or later (+) than Lincoln, and percentage oil for the strains in the Preliminary Test, Group III, 1948.

| Strain | Mean of 5 Tests | Lafayette Ind. | Urbana Ill. | Stonington Ill. | Ottumwa Iowa | Columbia Mo. |
|---|---|---|---|---|---|---|
| L6-2132 | +6.2 | + 6 | + 7 | + 7 | +4 | + 7 |
| L6-1744 | +9.0 | +10 | +10 | + 9 | +6 | +10 |
| L6-1656 | +8.8 | + 7 | +12 | +11 | +9 | + 5 |
| L6-1503 | +7.8 | +10 | + 8 | +10 | +3 | + 8 |
| A6-440 | +1.4 | + 6 | + 3 | + 2 | -2 | - 2 |
| A6-549 | +2.0 | + 5 | + 1 | + 2 | 0 | + 2 |
| L6-5605 | +8.8 | + 7 | +11 | + 9 | +8 | + 9 |
| C785 | +7.2 | +11 | + 5 | + 8 | +6 | + 6 |
| L6-1776 | +9.2 | +10 | +10 | +11 | +6 | + 9 |
| C787 | +9.6 | + 8 | +10 | +11 | +8 | +11 |
| C786 | +7.2 | + 8 | + 8 | +10 | +4 | + 6 |
| Lincoln | 0 | 0 | 0 | 0 | 0 | 0 |
| C788 | +5.4 | + 4 | + 5 | + 9 | +3 | + 6 |
| Chief | +8.6 | +12 | + 9 | +10 | +9 | + 3 |
| Adams (A5-2683) | -3.8 | - 5 | - 6 | - 5 | 0 | - 3 |
| Date planted | | 5/20 | 5/27 | 5/27 | 5/27 | 5/24 |
| Lincoln matured | | 9/27 | 9/24 | 9/21 | 9/25 | 9/15 |
| Days to mature | 120 | 130 | 120 | 117 | 121 | 114 |
| | | | Oil | | | |
| L6-2132 | 22.8 | 22.0 | 21.7 | 24.3 | 22.7 | 23.3 |
| L6-1744 | 22.3 | 21.4 | 21.4 | 24.1 | 22.5 | 22.2 |
| L6-1656 | 23.1 | 22.3 | 21.9 | 24.3 | 23.4 | 23.4 |
| L6-1503 | 24.1 | 23.5 | 22.9 | 24.9 | 24.1 | 24.9 |
| A6-440 | 22.9 | 22.1 | 21.9 | 24.4 | 22.7 | 23.6 |
| A6-549 | 21.9 | 21.2 | 21.0 | 23.5 | 21.6 | 22.0 |
| L6-5605 | 22.6 | 22.4 | 21.5 | 23.8 | 22.5 | 22.9 |
| C785 | 22.6 | 21.8 | 21.9 | 24.0 | 22.4 | 23.0 |
| L6-1776 | 22.7 | 22.2 | 21.6 | 24.4 | 22.4 | 22.8 |
| C787 | 21.8 | 21.8 | 20.8 | 22.9 | 21.6 | 22.0 |
| C786 | 21.9 | 21.5 | 20.9 | 22.9 | 21.5 | 22.5 |
| Lincoln | 22.7 | 22.0 | 22.0 | 24.1 | 22.4 | 22.9 |
| C788 | 22.7 | 22.5 | 21.9 | 24.0 | 22.6 | 22.5 |
| Chief | 21.7 | 21.0 | 20.6 | 22.9 | 21.7 | 22.1 |
| Adams (A5-2683) | 23.1 | 22.1 | 22.0 | 24.3 | 22.4 | 24.5 |
| Mean | 22.6 | 22.0 | 21.6 | 23.9 | 22.4 | 23.0 |

## UNIFORM TEST, GROUP IV

The origin of the strains in the Uniform Test, Group IV, is as follows:

| Strain | Source or Originating Agency | Origin |
|---|---|---|
| Chief | Ill. Agr. Exp. Station | Sel. from Illini x Manchu |
| Gibson | Purdue Agr. Exp. Station | Sel. from Midwest x Dunfield |
| Patoka | Purdue Agr. Exp. Station | Sel. from P. I. 70218-2 |
| Wabash (C463) | Purdue Agr. Exp. Sta. & U.S.R.S.L. | Sel. from Dunfield x Mansoy |
| C490 | Purdue Agr. Exp. Sta. & U.S.R.S.L. | Sel. from Patoka x X531-468-3-3-2 |
| C499 | Purdue Agr. Exp. Sta. & U.S.R.S.L. | Sel. from C143 x X531-468-3-3-2-3 |
| C500 | Purdue Agr. Exp. Sta. & U.S.R.S.L. | Sel. from C143 x X531-468-3-3-2-3 |
| C501 | Purdue Agr. Exp. Sta. & U.S.R.S.L. | Sel. from C143 x X531-468-3-3-2-3 |
| C502 | Purdue Agr. Exp. Sta. & U.S.R.S.L. | Sel. from C143 x X531-468-3-3-2-3 |
| C508 | Purdue Agr. Exp. Sta. & U.S.R.S.L. | Sel. from Patoka x L7-1355 |
| C612 | Purdue Agr. Exp. Sta. & U.S.R.S.L. | Sel. from C508 |
| L3-2010 | Ill. Agr. Exp. Sta. & U.S.R.S.L. | Sel. from C167 x L7-1355 |
| L3-3427 | Ill. Agr. Exp. Sta. & U.S.R.S.L. | Sel. from Scioto x Mukden |

Data are reported from 17 locations for Group IV in 1948 (table 42). Yields were higher than 1947 at most locations, but at Georgetown, Delaware, the test was planted on Norfolk Loamy Sand in 1948 and yielded only about half as much as the more productive Sassafras Sandy Loam used in 1947. The test at Vincennes, Indiana, also yielded less than the 1947 plot.

Data are reported for two new locations (tables 43-45), Lancaster, Pennsylvania, and Norborne, Missouri. Lancaster represents the corn and tobacco region of southeastern Pennsylvania. This is a rather productive soil and has good possibilities for soybean production. The test at Norborne, Missouri, was planted on a productive soil characteristic of the second bottom soils of central Missouri.

There were only four new strains entered in Group IV in 1948, L3-2010, C490, C501, and C612. L3-2010 had been tested in Group III and had proven to be high in oil and high in yield, but since it was as late as Chief, it was entered in Group IV in 1948. It had the highest oil content in Group IV in 1948, but was not outstanding in yield in these tests and lodged as badly as Chief. Strain C612 is a selection from C508 which has had such a good record in Group IV. C612 is just as good as even slightly better than C508. C490 and C501 proved to be low in oil and in average yield. These were the latest strains in Group IV (table 44) and for their maturity did not yield as well as they should. Of the strains carried over from 1947, Wabash (C463) showed up much better in 1948 than it had in any previous year and C502 did not do quite as well in 1948 as in 1947. C508, C499, and L3-3427 behaved about as they had formerly.

The summary of the 1947-48 data are presented in tables 46 and 48. C508 and C502 are highest in yield and oil content for the two-year period. Since these strains are also at the top in lodging resistance, they represent definitely superior germ plasm. C499 has yielded well at some locations but is rather low in oil content. L3-3427 is satisfactory in yield and has a good oil content but lodges more than is desirable. C500 is rather low in yield and has a mediocre oil content. Probably only C508 and C502 should be continued.

Only four strains have been in Group IV for the six-year period 1943-1948 (tables 47 and 49). Of these, C463, which has been named Wabash, has averaged highest in yield. The history of this strain was recorded in the 1947 report. Wabash is superior to Chief in yield, lodging resistance, seed quality, and oil content. It has averaged about a day later and is somewhat shorter. Since this strain is being released, it was thought desirable to present as much of the yield data as possible in table 47. Wabash has yielded more than Chief at 15 of the 20 locations. This strain should prove valuable in Southern Indiana, Southern Illinois, and Central Illinois, and probably in some other areas.

This strain was increased in 1948 to 4500 bushels in Indiana, 4000 bushels in Illinois, and 800 bushels in Missouri. Ample supplies of seed should be available in 1950.

Table 42. Summary of agronomic and chemical data for the strains in the Uniform Test, Group IV, 1948.

| Strain | Mean Yield Bu/A. | Maturity[1] | Lodging | Height Inches | Seed Quality | Seed Weight | Percentage of Protein | Percentage of Oil | Iodine Number of Oil |
|---|---|---|---|---|---|---|---|---|---|
| No. of Tests | 17 | 16 | 15 | 17 | 12 | 16 | 16 | 16 | 16 |
| C612 | 35.6 | +1.3 | 2.0 | 40 | 1.6 | 16.5 | 40.9 | 22.3 | 128.9 |
| C508 | 34.4 | 0 | 2.0 | 40 | 1.8 | 16.5 | 41.1 | 22.4 | 128.7 |
| Wabash (C463) | 34.2 | -2.4 | 1.8 | 43 | 1.6 | 14.6 | 40.1 | 22.2 | 128.6 |
| C499 | 34.0 | +2.6 | 2.0 | 41 | 1.3 | 17.4 | 42.3 | 21.0 | 129.8 |
| L3-3427 | 34.0 | +1.3 | 2.8 | 46 | 1.9 | 14.4 | 39.5 | 22.5 | 133.0 |
| C502 | 33.7 | -0.8 | 1.8 | 39 | 1.6 | 15.0 | 40.2 | 22.4 | 130.5 |
| L3-2010 | 32.9 | -3.6 | 2.5 | 46 | 1.8 | 13.2 | 38.2 | 22.8 | 132.3 |
| C501 | 32.8 | +4.1 | 2.4 | 43 | 1.5 | 14.8 | 41.2 | 21.3 | 130.2 |
| Chief | 32.4 | -4.7 | 2.5 | 49 | 1.9 | 13.4 | 41.4 | 21.1 | 130.2 |
| C490 | 31.5 | +4.9 | 2.2 | 39 | 1.5 | 17.2 | 42.4 | 21.2 | 130.1 |
| C500 | 30.8 | -0.1 | 1.8 | 40 | 1.5 | 17.4 | 43.3 | 21.3 | 127.2 |
| Patoka | 30.7 | -2.4 | 2.1 | 37 | 2.3 | 17.1 | 43.4 | 21.0 | 132.1 |
| Gibson | 28.9 | 0 | 2.6 | 40 | 1.5 | 14.5 | 40.5 | 20.7 | 131.2 |
| Mean | 32.8 | | 2.2 | 42 | 1.7 | 15.5 | 41.1 | 21.7 | 130.2 |

1 Days earlier (-) or later (+) than Gibson. Gibson required 131 days to mature.

Table 43. Summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group IV, 1948.

| Strain | Mean of 17 Tests | George-town Del. | Belts-ville Md. | Lan-caster Pa. | Blacks-burg Va. | Worth-ington Ind. | Vin-cennes Ind. | Evans-ville Ind. | Urbana Ill. |
|---|---|---|---|---|---|---|---|---|---|
| C612 | 35.6 | 18.9 | 38.8 | 35.0 | 31.8 | 51.9 | 24.3 | 46.5 | 39.8 |
| C508 | 34.4 | 18.9 | 44.7 | 35.7 | 30.7 | 44.7 | 23.8 | 50.9 | 38.8 |
| Wabash (C463) | 34.2 | 18.2 | 39.3 | 35.3 | 37.0 | 53.6 | 17.9 | 44.6 | 38.1 |
| C499 | 34.0 | 14.6 | 40.2 | 30.3 | 29.4 | 52.9 | 21.3 | 48.6 | 34.7 |
| L3-3427 | 34.0 | 18.4 | 37.4 | 32.9 | 26.4 | 41.0 | 23.3 | 50.7 | 36.1 |
| C502 | 33.7 | 14.6 | 43.8 | 31.5 | 21.7 | 50.9 | 23.6 | 49.3 | 31.0 |
| L3-2010 | 32.9 | 20.4 | 40.2 | 31.7 | 26.3 | 46.4 | 25.0 | 48.3 | 40.3 |
| C501 | 32.8 | 19.9 | 37.3 | 35.1 | 24.2 | 38.8 | 18.7 | 43.4 | 29.2 |
| Chief | 32.4 | 17.4 | 38.6 | 34.5 | 31.2 | 38.3 | 25.3 | 50.1 | 32.2 |
| C490 | 31.5 | 19.1 | 37.1 | 34.2 | 21.5 | 44.6 | 18.1 | 42.0 | 31.5 |
| C500 | 30.8 | 15.0 | 37.7 | 28.3 | 29.5 | 39.7 | 18.5 | 40.1 | 32.6 |
| Patoka | 30.7 | 17.1 | 35.7 | 33.3 | 25.1 | 39.3 | 23.6 | 35.6 | 33.3 |
| Gibson | 28.9 | 14.4 | 32.7 | 23.7 | 20.2 | 33.7 | 16.7 | 36.8 | 38.0 |
| Mean | 32.8 | 17.5 | 38.7 | 32.4 | 27.3 | 44.3 | 21.6 | 45.2 | 35.0 |
| Coef. of Var. (%) | | 13.8 | -- | -- | -- | 12.6 | 13.8 | 9.8 | 15.4 |
| Bu. Nec. for Sig. (5%) | | 3.3 | -- | -- | -- | 8.0 | 4.3 | 6.4 | Not Sig. |

| | Yield Rank | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C612 | 4 | 6 | 4 | 2 | 3 | 3 | 7 | 2 |
| C508 | 4 | 1 | 1 | 4 | 6 | 4 | 1 | 3 |
| Wabash (C463) | 6 | 5 | 2 | 1 | 1 | 12 | 8 | 4 |
| C499 | 10 | 3 | 11 | 6 | 2 | 8 | 5 | 7 |
| L3-3427 | 5 | 9 | 8 | 7 | 8 | 7 | 2 | 6 |
| C502 | 10 | 2 | 10 | 12 | 4 | 5 | 4 | 12 |
| L3-2010 | 1 | 3 | 9 | 8 | 5 | 2 | 6 | 1 |
| C501 | 2 | 10 | 3 | 10 | 11 | 9 | 9 | 13 |
| Chief | 7 | 7 | 5 | 3 | 12 | 1 | 3 | 10 |
| C490 | 3 | 11 | 6 | 11 | 7 | 11 | 10 | 11 |
| C500 | 9 | 8 | 12 | 5 | 9 | 10 | 11 | 9 |
| Patoka | 8 | 12 | 7 | 9 | 10 | 5 | 13 | 8 |
| Gibson | 11 | 13 | 13 | 13 | 13 | 13 | 12 | 5 |

Table 43. (Continued)

| Strain | Clayton Ill. | Stonington Ill. | Edgewood Ill. | Freeburg Ill. | Eldorado Ill. | Shelbyville Mo. | Columbia Mo. | Norborne Mo. | Manhattan Kans. |
|---|---|---|---|---|---|---|---|---|---|
| C612 | 31.4 | 42.6 | 44.5 | 36.2 | 35.7 | 26.8 | 23.2 | 44.7 | 32.4 |
| C508 | 28.6 | 40.9 | 39.9 | 32.5 | 39.1 | 25.1 | 24.9 | 38.8 | 27.5 |
| Wabash (C463) | 27.9 | 43.7 | 40.7 | 33.0 | 35.7 | 21.0 | 28.8 | 42.5 | 23.3 |
| C499 | 35.0 | 39.0 | 41.7 | 35.7 | 38.0 | 22.5 | 24.4 | 41.5 | 27.9 |
| L3-3427 | 30.4 | 46.3 | 44.8 | 33.9 | 36.6 | 22.9 | 25.5 | 41.3 | 29.3 |
| C502 | 31.3 | 40.4 | 45.2 | 29.9 | 38.9 | 24.7 | 26.7 | 45.3 | 23.5 |
| L3-2010 | 23.5 | 38.0 | 31.2 | 35.6 | 35.2 | 23.1 | 22.9 | 42.7 | 28.9 |
| C501 | 33.5 | 39.0 | 40.7 | 37.0 | 36.6 | 25.9 | 28.5 | 41.9 | 27.1 |
| Chief | 24.6 | 35.7 | 38.6 | 30.8 | 32.8 | 22.2 | 25.5 | 46.6 | 26.1 |
| C490 | 25.9 | 36.0 | 39.2 | 31.1 | 35.3 | 21.1 | 28.1 | 44.8 | 26.7 |
| C500 | 32.0 | 36.4 | 37.3 | 30.9 | 36.5 | 23.4 | 23.6 | 39.0 | 22.5 |
| Patoka | 26.8 | 36.5 | 35.4 | 31.4 | 35.6 | 20.7 | 25.5 | 40.8 | 26.7 |
| Gibson | 25.8 | 35.4 | 37.9 | 32.1 | 33.3 | 18.5 | 24.6 | 39.9 | 27.0 |
| Mean | 29.0 | 39.2 | 39.8 | 33.1 | 36.1 | 22.9 | 25.5 | 42.3 | 26.8 |
| Coef. of Var. (%) | -- | -- | 10.6 | 10.2 | 7.1 | 12.6 | 10.7 | 10.8 | -- |
| Bu/Sig. (5%) | -- | -- | 6.1 | not sig. | 3.7 | 4.1 | 3.9 | 6.5 | -- |
| | Yield Rank | | | | | | | | |
| C612 | 4 | 3 | 3 | 2 | 7 | 1 | 12 | 4 | 1 |
| C508 | 7 | 4 | 7 | 7 | 1 | 3 | 8 | 13 | 5 |
| Wabash (C463) | 8 | 2 | 5 | 6 | 7 | 11 | 1 | 6 | 12 |
| C499 | 1 | 6 | 4 | 3 | 3 | 8 | 10 | 8 | 4 |
| L3-3427 | 6 | 1 | 2 | 5 | 4 | 7 | 5 | 9 | 2 |
| C502 | 5 | 5 | 1 | 13 | 2 | 4 | 4 | 2 | 11 |
| L3-2010 | 13 | 8 | 13 | 4 | 11 | 6 | 13 | 5 | 3 |
| C501 | 2 | 6 | 5 | 1 | 4 | 2 | 2 | 7 | 6 |
| Chief | 12 | 12 | 9 | 12 | 13 | 9 | 5 | 1 | 10 |
| C490 | 10 | 11 | 8 | 10 | 10 | 10 | 3 | 3 | 8 |
| C500 | 3 | 10 | 11 | 11 | 6 | 5 | 11 | 12 | 13 |
| Patoka | 9 | 9 | 12 | 9 | 9 | 12 | 5 | 10 | 9 |
| Gibson | 11 | 13 | 10 | 8 | 12 | 13 | 9 | 11 | 7 |

Table 44. Summary of maturity data, days earlier (-) or later (+) than Gibson, for the strains in the Uniform Test, Group IV, 1948.

| Strain | Mean of 16 Tests[1] | George-town Del. | Belts-ville Md. | Lan-caster Pa. | Blacks-burg Va. | Worth-ington Ind. | Vin-cennes Ind. | Evans-ville Ind. | Urbana Ill. |
|---|---|---|---|---|---|---|---|---|---|
| C612 | +1.3 | +3 | +8 | + 5 | +6 | +2 | +1 | +1 | -1 |
| C508 | 0 | +3 | +5 | + 5 | +4 | +1 | +1 | +1 | -4 |
| Wabash (C463) | -2.4 | +2 | -1 | + 5 | +2 | -7 | -1 | -5 | -3 |
| C499 | +2.6 | +4 | +6 | + 5 | +2 | -3 | +1 | +1 | +5 |
| L3-3427 | +1.3 | +3 | +5 | + 5 | -1 | 0 | 0 | +6 | +1 |
| C502 | -0.8 | +4 | +2 | + 5 | +2 | -2 | 0 | -3 | -8 |
| L3-2010 | -3.6 | -1 | -3 | + 5 | +1 | -3 | -3 | -3 | -5 |
| C501 | +4.1 | +9 | +3 | + 5 | +2 | +1 | +5 | +1 | +5 |
| Chief | -4.7 | -5 | -2 | 0 | +1 | -7 | -2 | -5 | -7 |
| C490 | +4.9 | +8 | +7 | +12 | +3 | +2 | +4 | +4 | +8 |
| C500 | -0.1 | +2 | +7 | + 5 | +2 | -3 | 0 | -4 | -5 |
| Patoka | -2.4 | +1 | +2 | + 5 | +2 | -4 | -2 | -3 | -9 |
| Gibson | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Date planted | | 6/9 | 5/28 | 5/20 | 5/15 | 5/11 | 6/15 | 5/10 | 5/27 |
| Gibson matured | | 9/24 | 10/8 | 10/5 | 10/3 | 10/11 | 10/19 | 9/28 | 10/10 |
| Days to mature | 131 | 107 | 133 | 138 | 141 | 153 | 126 | 141 | 136 |

[1] Lancaster not included in the mean.

Table 44. (Continued)

| Strain | Clayton Ill. | Stonington Ill. | Edgewood Ill. | Freeburg Ill. | Eldorado Ill. | Shelbyville Mo. | Columbia Mo. | Norborne Mo. | Manhattan Kans. |
|---|---|---|---|---|---|---|---|---|---|
| C612 | -2 | -3 | -2 | +1 | 0 | +2 | + 1 | +1 | 0 |
| C508 | -2 | -3 | -2 | 0 | 0 | +1 | 0 | +1 | -5 |
| Wabash (C463) | -1 | -4 | -4 | -1 | -3 | -2 | - 2 | -1 | -7 |
| C499 | +4 | -1 | +5 | +3 | +1 | +7 | + 6 | +2 | -1 |
| L3-3427 | -1 | -2 | 0 | +3 | -1 | -1 | 0 | +7 | +1 |
| C502 | -1 | -6 | -3 | +2 | -1 | +5 | + 4 | -1 | -7 |
| L3-2010 | -5 | -6 | -3 | -1 | -5 | -4 | - 6 | -2 | -8 |
| C501 | +5 | +1 | +8 | +7 | +2 | +5 | + 9 | +3 | -1 |
| Chief | -8 | -6 | -3 | -1 | -4 | -5 | - 8 | -5 | -8 |
| C490 | +6 | +1 | +5 | +6 | +2 | +5 | +10 | +7 | 0 |
| C500 | -1 | -5 | +1 | +4 | 0 | +7 | + 1 | -1 | -7 |
| Patoka | -6 | -5 | -3 | -1 | -4 | +1 | - 2 | 0 | -6 |
| Gibson | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Date planted | 5/20 | 5/27 | 6/1 | 5/27 | 5/29 | 5/22 | 5/24 | 5/21 | 6/2 |
| Gibson matured | 10/3 | 10/7 | 10/2 | 9/28 | 10/1 | 9/28 | 9/26 | 9/29 | 10/8 |
| Days to mature | 136 | 133 | 123 | 124 | 125 | 129 | 125 | 131 | 128 |

Table 45. Summary of lodging and height data for the strains in the Uniform Test, Group IV, 1948.

| Strain | Mean of 15 Tests[1] | Georgetown Del. | Beltsville Md. | Lancaster Pa. | Blacksburg Va. | Worthington Ind. | Vincennes Ind. | Evansville Ind. | Urbana Ill. |
|---|---|---|---|---|---|---|---|---|---|
| C612 | 2.0 | 1.0 | 3.0 | 2.0 | 3.0 | 2.0 | 1.0 | 2.3 | 2.3 |
| C508 | 2.0 | 1.0 | 3.0 | 2.0 | 2.0 | 2.1 | 1.0 | 2.4 | 2.4 |
| Wabash (C463) | 1.8 | 1.0 | 3.0 | 1.0 | 1.0 | 2.5 | 1.0 | 2.0 | 2.0 |
| C499 | 2.0 | 1.0 | 3.5 | 1.0 | 2.5 | 1.9 | 1.1 | 2.3 | 2.0 |
| L3-3427 | 2.8 | 1.0 | 4.0 | 2.0 | 3.0 | 3.6 | 1.5 | 3.3 | 3.0 |
| C502 | 1.8 | 1.0 | 2.0 | 1.0 | 3.0 | 2.1 | 1.3 | 1.6 | 1.9 |
| L3-2010 | 2.5 | 1.0 | 3.5 | 2.0 | 2.0 | 3.6 | 1.8 | 2.9 | 2.6 |
| C501 | 2.4 | 1.0 | 3.0 | 2.0 | 2.5 | 3.8 | 1.4 | 2.5 | 2.4 |
| Chief | 2.5 | 1.0 | 3.5 | 2.0 | 2.0 | 3.5 | 1.6 | 3.3 | 2.5 |
| C490 | 2.2 | 1.0 | 3.5 | 2.0 | 1.0 | 3.1 | 1.0 | 3.1 | 2.5 |
| C500 | 1.8 | 1.0 | 3.0 | 1.0 | 2.0 | 2.4 | 1.0 | 1.8 | 2.0 |
| Patoka | 2.1 | 1.0 | 3.0 | 1.0 | 1.0 | 3.1 | 1.0 | 3.3 | 2.3 |
| Gibson | 2.6 | 1.0 | 3.5 | 1.0 | 2.0 | 3.8 | 1.6 | 3.5 | 3.0 |
| Mean | 2.2 | 1.0 | 3.2 | 1.5 | 2.1 | 2.9 | 1.3 | 2.6 | 2.4 |
| | Mean of 17 Tests | | | | Height | | | | |
| C612 | 40 | 28 | 40 | 33 | 36 | 48 | 34 | 46 | 51 |
| C508 | 40 | 28 | 42 | 36 | 39 | 47 | 35 | 45 | 49 |
| Wabash (C463) | 43 | 31 | 45 | 37 | 38 | 52 | 38 | 51 | 52 |
| C499 | 41 | 28 | 43 | 35 | 37 | 51 | 38 | 50 | 51 |
| L3-3427 | 46 | 31 | 49 | 40 | 38 | 56 | 40 | 56 | 55 |
| C502 | 39 | 27 | 40 | 36 | 34 | 47 | 35 | 46 | 49 |
| L3-2010 | 46 | 33 | 48 | 36 | 40 | 53 | 44 | 54 | 55 |
| C501 | 43 | 32 | 45 | 39 | 38 | 51 | 39 | 52 | 48 |
| Chief | 49 | 32 | 54 | 44 | 43 | 61 | 44 | 59 | 59 |
| C490 | 39 | 29 | 41 | 38 | 34 | 49 | 34 | 49 | 46 |
| C500 | 40 | 29 | 43 | 30 | 35 | 50 | 38 | 48 | 51 |
| Patoka | 37 | 25 | 40 | 29 | 35 | 43 | 31 | 43 | 48 |
| Gibson | 40 | 27 | 45 | 32 | 35 | 48 | 36 | 47 | 49 |
| Mean | 42 | 29 | 44 | 36 | 37 | 50 | 37 | 50 | 51 |

[1] Georgetown and Columbia not included in the mean.

Table 45. (Continued)

| Strain | Clayton Ill. | Stonington Ill. | Edgewood Ill. | Freeburg Ill. | Eldorado Ill. | Shelbyville Mo. | Columbia Mo. | Norborne Mo. | Manhattan Kans. |
|---|---|---|---|---|---|---|---|---|---|
| C612 | 2.1 | 2.0 | 2.0 | 1.8 | 2.0 | 1.0 | 1.0 | 2.5 | 1.4 |
| C508 | 1.9 | 2.1 | 2.1 | 1.9 | 2.0 | 1.5 | 1.0 | 2.5 | 1.5 |
| Wabash (C463) | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 1.0 | 1.0 | 2.0 | 1.6 |
| C499 | 2.0 | 2.0 | 2.1 | 1.9 | 1.8 | 1.8 | 1.0 | 2.3 | 1.7 |
| L3-3427 | 2.3 | 2.9 | 2.8 | 2.8 | 2.5 | 2.0 | 1.0 | 3.3 | 2.6 |
| C502 | 2.0 | 2.0 | 2.0 | 2.1 | 1.9 | 1.0 | 1.0 | 1.8 | 1.5 |
| L3-2010 | 2.1 | 2.1 | 2.9 | 2.4 | 1.9 | 3.0 | 1.0 | 3.0 | 2.1 |
| C501 | 2.1 | 2.4 | 2.8 | 2.5 | 2.0 | 1.5 | 1.0 | 3.5 | 2.0 |
| Chief | 1.9 | 2.1 | 3.0 | 2.5 | 2.0 | 3.0 | 1.0 | 3.0 | 2.1 |
| C490 | 2.0 | 2.0 | 2.4 | 2.5 | 1.5 | 1.5 | 1.0 | 2.5 | 1.8 |
| C500 | 1.8 | 1.9 | 2.0 | 2.1 | 1.5 | 1.0 | 1.0 | 2.5 | 1.4 |
| Patoka | 2.0 | 2.3 | 2.8 | 1.9 | 1.9 | 1.0 | 1.0 | 3.0 | 2.0 |
| Gibson | 2.5 | 2.7 | 2.9 | 2.8 | 2.2 | 1.8 | 1.0 | 4.0 | 2.1 |
| Mean | 2.1 | 2.2 | 2.4 | 2.2 | 1.9 | 1.6 | 1.0 | 2.8 | 1.8 |
| | | | | | Height | | | | |
| C612 | 40 | 45 | 42 | 40 | 41 | 41 | 26 | 49 | 37 |
| C508 | 40 | 43 | 44 | 39 | 41 | 42 | 26 | 46 | 36 |
| Wabash (C463) | 43 | 46 | 44 | 43 | 45 | 44 | 31 | 49 | 38 |
| C499 | 42 | 42 | 43 | 44 | 45 | 38 | 29 | 46 | 36 |
| L3-3427 | 44 | 48 | 51 | 46 | 47 | 45 | 33 | 56 | 40 |
| C502 | 40 | 41 | 38 | 39 | 40 | 34 | 31 | 47 | 36 |
| L3-2010 | 50 | 46 | 51 | 45 | 51 | 45 | 34 | 48 | 44 |
| C501 | 43 | 47 | 46 | 43 | 45 | 42 | 34 | 46 | 38 |
| Chief | 47 | 49 | 53 | 48 | 50 | 52 | 34 | 65 | 44 |
| C490 | 36 | 40 | 41 | 38 | 41 | 39 | 31 | 43 | 37 |
| C500 | 42 | 41 | 40 | 42 | 45 | 36 | 30 | 43 | 36 |
| Patoka | 38 | 41 | 39 | 36 | 40 | 35 | 26 | 44 | 31 |
| Gibson | 39 | 47 | 43 | 41 | 42 | 41 | 31 | 50 | 35 |
| Mean | 42 | 44 | 44 | 42 | 44 | 41 | 30 | 49 | 38 |

Table 46. Two-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group IV, 1947-48.

| Strain | Mean of 32 Tests | Georgetown Del. | Beltsville Md. | Blacksburg Va. | Worthington Ind. | Vincennes Ind. | Evansville Ind. | Urbana Ill. |
|---|---|---|---|---|---|---|---|---|
| C508 | 31.7 | 24.9 | 34.3 | 29.5 | 43.9 | 26.7 | 47.7 | 38.0 |
| C502 | 30.4 | 21.6 | 29.6 | 25.7 | 46.3 | 28.1 | 44.1 | 31.7 |
| C499 | 30.3 | 24.2 | 29.5 | 27.1 | 47.2 | 24.5 | 44.1 | 33.2 |
| L3-3427 | 30.2 | 25.9 | 25.3 | 23.9 | 37.0 | 26.6 | 45.8 | 35.1 |
| Wabash (C463) | 30.0 | 23.5 | 30.9 | 31.8 | 45.9 | 21.3 | 40.4 | 35.7 |
| Chief | 28.5 | 20.6 | 31.3 | 28.0 | 40.0 | 24.3 | 41.2 | 31.7 |
| Patoka | 28.1 | 21.9 | 26.8 | 25.8 | 39.3 | 26.5 | 35.1 | 31.9 |
| C500 | 27.9 | 20.9 | 28.0 | 28.2 | 38.1 | 26.6 | 36.8 | 31.9 |
| Gibson | 27.1 | 21.4 | 22.9 | 18.9 | 35.9 | 22.1 | 36.5 | 35.1 |
| Mean | 29.3 | 22.8 | 28.7 | 26.5 | 41.5 | 25.2 | 41.3 | 33.8 |
| | | | | Yield Rank | | | | |
| C508 | | 2 | 1 | 2 | 4 | 2 | 1 | 1 |
| C502 | | 6 | 4 | 7 | 2 | 1 | 3 | 8 |
| C499 | | 3 | 5 | 5 | 1 | 6 | 3 | 5 |
| L3-3427 | | 1 | 8 | 8 | 8 | 3 | 2 | 3 |
| Wabash (C463) | | 4 | 3 | 1 | 3 | 9 | 6 | 2 |
| Chief | | 9 | 2 | 4 | 5 | 7 | 5 | 8 |
| Patoka | | 5 | 7 | 6 | 6 | 5 | 9 | 6 |
| C500 | | 8 | 6 | 3 | 7 | 3 | 7 | 6 |
| Gibson | | 7 | 9 | 9 | 9 | 8 | 8 | 3 |

Table 46. (Continued).

| Strain | Clayton Ill. | Stonington Ill. | Edgewood Ill. | Freeburg Ill. | Eldorado Ill. | Shelbyville Mo. | Columbia Mo. | Manhattan Kans. |
|---|---|---|---|---|---|---|---|---|
| C508 | 23.6 | 35.7 | 35.2 | 29.7 | 36.3 | 20.5 | 24.6 | 22.3 |
| C502 | 25.2 | 34.4 | 38.8 | 28.3 | 32.9 | 19.7 | 25.0 | 19.1 |
| C499 | 25.8 | 34.0 | 36.2 | 32.9 | 32.7 | 18.2 | 23.1 | 20.3 |
| L3-3427 | 24.7 | 38.5 | 38.2 | 30.9 | 31.8 | 19.1 | 24.6 | 22.5 |
| Wabash (C463) | 20.9 | 35.1 | 34.9 | 30.3 | 30.9 | 18.0 | 24.8 | 19.9 |
| Chief | 19.6 | 30.6 | 32.5 | 27.3 | 29.4 | 19.0 | 23.2 | 20.8 |
| Patoka | 22.8 | 31.3 | 29.9 | 29.2 | 31.7 | 17.8 | 24.2 | 20.5 |
| C500 | 23.8 | 30.5 | 32.5 | 27.4 | 30.7 | 18.9 | 22.9 | 18.6 |
| Gibson | 20.2 | 33.1 | 34.5 | 29.4 | 30.8 | 16.3 | 24.0 | 22.2 |
| Mean | 23.0 | 33.7 | 34.7 | 29.5 | 31.9 | 18.6 | 24.0 | 20.7 |
| | Yield Rank | | | | | | | |
| C508 | 5 | 2 | 4 | 4 | 1 | 1 | 3 | 2 |
| C502 | 2 | 4 | 1 | 7 | 2 | 2 | 1 | 8 |
| C499 | 1 | 5 | 3 | 1 | 3 | 6 | 8 | 6 |
| L3-3427 | 3 | 1 | 2 | 2 | 4 | 3 | 3 | 1 |
| Wabash (C463) | 7 | 3 | 5 | 3 | 6 | 7 | 2 | 7 |
| Chief | 9 | 8 | 7 | 9 | 9 | 4 | 7 | 4 |
| Patoka | 6 | 7 | 9 | 6 | 5 | 8 | 5 | 5 |
| C500 | 4 | 9 | 7 | 8 | 8 | 5 | 9 | 9 |
| Gibson | 8 | 6 | 6 | 5 | 7 | 9 | 6 | 3 |

Table 47. Six-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group IV, 1943-48.

| Strain | Mean of 73 Tests | George-town Del. | Belts-ville Md. | Lan-caster Pa. | Blacks-burg Va. | Worth-ington Ind. | Vin-cennes Ind. | Evans-ville Ind. | Urbana Ill. | Clay-ton Ill. |
|---|---|---|---|---|---|---|---|---|---|---|
| Years Tested | | 1945-1948 | 1945-1948 | 1948 | 1947-1948 | 1945-1948 | 1945-1948 | 1943-1948 | 1944-1948 | 1945-1948 |
| Wabash | 28.8 | 27.2 | 29.9 | 35.3 | 31.8 | 41.2 | 27.2 | 37.0 | 34.3 | 23.6 |
| Chief | 27.7 | 26.0 | 31.2 | 34.5 | 28.0 | 39.2 | 28.1 | 36.4 | 32.3 | 21.4 |
| Patoka | 27.0 | 25.3 | 27.5 | 33.3 | 25.8 | 36.6 | 29.6 | 33.5 | 32.2 | 23.3 |
| Gibson | 25.4 | 24.6 | 24.5 | 23.7 | 18.9 | 33.1 | 23.6 | 33.1 | 30.9 | 21.7 |
| Mean | 27.2 | 25.8 | 28.3 | 31.7 | 26.1 | 37.5 | 27.1 | 35.0 | 32.4 | 22.5 |
| | | | | | Yield Rank | | | | | |
| Wabash | | 1 | 2 | 1 | 1 | 1 | 3 | 1 | 1 | 1 |
| Chief | | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| Patoka | | 3 | 3 | 3 | 3 | 3 | 1 | 3 | 3 | 2 |
| Gibson | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 |

Table 47. (Continued)

| Strain | Stonington Ill. | Edgewood Ill. | Freeburg Ill. | Eldorado Ill. | Elsberry Mo. | Shelbyville Mo. | Columbia Mo. | Norborne Mo. | Lathrop Mo. | Manhattan Kans. | Thayer Kansas |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Years Tested | 1945-1948 | 1944-1948 | 1945-1948 | 1947-1948 | 1946 | 1945-1948 | 1944 1945-8 | 1948 | 1945-1946 | 1945-1948 | 1945-1947 |
| Wabash | 31.3 | 29.5 | 24.9 | 30.9 | 35.1 | 19.4 | 24.4 | 42.5 | 23.5 | 20.5 | 14.3 |
| Chief | 29.5 | 27.2 | 24.8 | 29.4 | 30.4 | 20.3 | 22.9 | 46.6 | 19.5 | 19.6 | 15.6 |
| Patoka | 30.6 | 24.5 | 26.3 | 31.7 | 35.6 | 18.5 | 23.3 | 40.8 | 17.0 | 19.4 | 14.4 |
| Gibson | 27.2 | 26.6 | 23.6 | 30.8 | 27.4 | 18.3 | 22.3 | 39.9 | 19.1 | 21.0 | 17.5 |
| Mean | 29.7 | 27.0 | 24.9 | 30.7 | 32.1 | 19.1 | 23.2 | 42.5 | 19.8 | 20.1 | 15.5 |
| | Yield Rank | | | | | | | | | | |
| Wabash | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 4 |
| Chief | 3 | 2 | 3 | 4 | 3 | 1 | 3 | 1 | 2 | 3 | 2 |
| Patoka | 2 | 4 | 1 | 1 | 1 | 3 | 2 | 3 | 4 | 4 | 3 |
| Gibson | 4 | 3 | 4 | 3 | 4 | 4 | 4 | 4 | 3 | 1 | 1 |

Table 48. Two-year summary of agronomic and chemical data for the strains in the Uniform Test, Group IV, 1947-48.

| Strain | Mean Yield Bu/A | Maturity[1] | Lodging | Height Inches | Seed Quality | Seed Weight | Percentage of Protein | Percentage of Oil | Iodine Number of Oil |
|---|---|---|---|---|---|---|---|---|---|
| No. of Tests | 32 | 29 | 27 | 30 | 24 | 30 | 30 | 30 | 30 |
| C508 | 31.7 | -0.8 | 1.8 | 37 | 1.8 | 16.7 | 41.3 | 22.3 | 128.1 |
| C502 | 30.4 | -1.0 | 1.7 | 37 | 1.6 | 15.2 | 40.3 | 22.4 | 129.4 |
| C499 | 30.3 | +1.2 | 1.9 | 40 | 1.3 | 17.4 | 42.6 | 20.9 | 128.1 |
| L3-3427 | 30.2 | +1.3 | 2.7 | 43 | 1.9 | 14.3 | 40.2 | 22.1 | 132.4 |
| Wabash (C463) | 30.0 | -3.3 | 1.8 | 40 | 1.6 | 14.5 | 40.8 | 22.1 | 126.4 |
| Chief | 28.5 | -4.8 | 2.4 | 45 | 2.1 | 12.8 | 41.5 | 21.2 | 130.1 |
| Patoka | 28.1 | -2.6 | 2.0 | 35 | 2.0 | 17.0 | 43.6 | 20.7 | 131.4 |
| C500 | 27.9 | -1.2 | 1.8 | 39 | 1.7 | 17.6 | 43.6 | 21.1 | 125.3 |
| Gibson | 27.1 | 0 | 2.6 | 38 | 1.6 | 14.3 | 40.8 | 20.7 | 131.3 |
| Mean | 29.3 | | 2.1 | 39 | 1.7 | 15.5 | 41.6 | 21.5 | 129.2 |

[1]Days earlier (-) or later (+) than Gibson. Gibson required 130 days to mature.

Table 49. Six-year summary of agronomic and chemical data for the strains in the Uniform Test, Group IV, 1943-48.

| Strain | Mean Yield Bu/A | Maturity[1] | Lodging | Height Inches | Seed Quality | Seed Weight | Percentage of Protein | Percentage of Oil | Iodine Number of Oil |
|---|---|---|---|---|---|---|---|---|---|
| No. of Tests | 73 | 58 | 60 | 64 | 59 | 63 | 70 | 70 | 70 |
| Wabash (C463) | 28.8 | -2.2 | 2.1 | 39 | 1.7 | 14.3 | 40.4 | 21.4 | 128.8 |
| Chief | 27.7 | -3.5 | 2.7 | 44 | 2.1 | 13.0 | 41.0 | 20.6 | 131.8 |
| Patoka | 27.0 | -2.2 | 2.2 | 33 | 2.0 | 17.6 | 43.6 | 20.3 | 132.0 |
| Gibson | 25.4 | 0 | 2.7 | 38 | 1.7 | 13.9 | 40.5 | 20.1 | 133.4 |
| Mean | 27.2 | | 2.4 | 39 | 1.9 | 14.7 | 41.4 | 20.6 | 131.5 |

[1]Days earlier (-) or later (+) than Gibson. Gibson required 129 days to mature.

## PRELIMINARY TEST, GROUP IV

The origin of the strains in the Preliminary Test, Group IV, is as follows:

| Strain | Source or Originating Agency | Origin |
|---|---|---|
| Chief | Ill. Agr. Exp. Sta. | Sel. from Illini x Manchu |
| Gibson | Purdue Agr. Exp. Sta. | Sel. from Midwest x Dunfield |
| Wabash (C463) | Purdue A.E.S. & U.S.R.S.L. | Sel. from Dunfield x Mansoy |
| C508 | Purdue A.E.S. & U.S.R.S.L. | Sel. from Patoka x L7-1355 |
| S100 | Mo. Agr. Exp. Sta. | Rogue in Illini |
| CX6742-11 | Purdue A.E.S. & U.S.R.S.L. | Sel. from Lincoln x Patoka |
| CX6742-16 | Purdue A.E.S. & U.S.R.S.L. | Sel. from Lincoln x Patoka |
| CX6742-20 | Purdue A.E.S. & U.S.R.S.L. | Sel. from Lincoln x Patoka |
| CX6742-22 | Purdue A.E.S. & U.S.R.S.L. | Sel. from Lincoln x Patoka |
| CX6742-34 | Purdue A.E.S. & U.S.R.S.L. | Sel. from Lincoln x Patoka |
| CX6842-17 | Purdue A.E.S. & U.S.R.S.L. | Sel. from Gibson x Lincoln |
| CX7342-27 | Purdue A.E.S. & U.S.R.S.L. | Sel. from C143 x Lincoln |
| CX7342-39 | Purdue A.E.S. & U.S.R.S.L. | Sel. from C143 x Lincoln |
| CX7342-42 | Purdue A.E.S. & U.S.R.S.L. | Sel. from C143 x Lincoln |
| CX7342-53 | Purdue A.E.S. & U.S.R.S.L. | Sel. from C143 x Lincoln |
| D56-8 | Delta Br.E.S. & U.S.R.S.L. | Sel. from Boone x Magnolia |
| D523-30 | Delta Br.E.S. & U.S.R.S.L. | Sel. from Dunfield x Arksoy |
| D523-55 | Delta Br.E.S. & U.S.R.S.L. | Sel. from Dunfield x Arksoy |
| L4-6238 | Ill. A.E.S. & U.S.R.S.L | Sel. from L7-1355 x (Macoupin x L7-1355) |
| L4-6259 | Ill. A.E.S. & U.S.R.S.L. | Sel. from L7-1355 x (Macoupin x L7-1355) |
| L4-629C | Ill. A.E.S. & U.S.R.S.L. | Sel. from L7-1355 x (Macoupin x L7-1355) |
| L6-5002 | Ill. A.E.S. & U.S.R.S.L. | Sel. from C143 x Lincoln |
| L6-5658 | Ill. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x Richland |
| L6-5679 | Ill. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x Richland |
| L6-5680 | Ill. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x Richland |
| L6-5683 | Ill. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x Richland |
| S4-241 | Mo. A.E.S. & U.S.R.S.L. | Sel. from Chief x (Macoupin x Chief) |
| S4-307 | Mo. A.E.S. & U.S.R.S.L. | Sel. from Chief x (Macoupin x Chief) |
| S4-374 | Mo. A.E.S. & U.S.R.S.L. | Sel. from Chief x (Chief x Boone) |
| S5-41 | Mo. A.E.S. & U.S.R.S.L. | Sel. from Lincoln x Patoka |
| S5-234 | Mo. A.E.S. & U.S.R.S.L. | Sel. from C149 x L7-1355 |

Preliminary Group IV was an interesting test as it had entries from Indiana, Illinois, Missouri, and Mississippi. One of the strains, D536-4, had such poor stands that it was omitted from the summaries. This material was tested under widely different conditions in Indiana, Illinois, Mississippi, Missouri, and Oklahoma. Yields in general were good, top yields ranging from 54 bushels at Evansville, Indiana, to 33 bushels at Stillwater, Oklahoma (table 51). Sixteen of the twenty-six experimental entries are from crosses involving Lincoln. The mean agronomic and chemical data are presented in table 50, and the individual data in tables 51 to 54. Of the selections from the Lincoln x Richland cross, which have all yielded well, L6-5679 was the most consistent. This strain averaged 6 bushels more than Wabash and was equal in lodging resistance. It is about five days later in maturity and somewhat lower in oil content than Wabash. This strain was high in yield at all locations and appears to have wide adaptation. Strain L6-5680 is a sister selection of L6-5679 and appears to be very similar to it except for yield.

Strains CX6742-20 and CX6742-34 from the cross Lincoln x Patoka were the best of the entries from Indiana. These have good lodging resistance, but are lower in oil content than Wabash. The Illinois entries from the L7-1355 x (Macoupin x L7-1355) cross were later than S100 and so should have been in Group V. In general these strains did not yield well, but L6-6259 was among the higher yielding strains at Evansville and Stoneville and L6-6290 was high at Stoneville. All of these strains lodge more than is desirable and the oil content is not as high as Wabash.

Of the three entries from Mississippi, D523-55 appears to be the best, but all of these lodge more than the check strains and are rather low in oil content.

S4-241 from the Chief x (Macoupin x Chief) cross is the most promising of the selections from Missouri. This strain is an improvement over the original Chief in yield, lodging resistance, and seed quality, but is somewhat lower in oil content.

Table 50. Summary of agronomic and chemical data for the strains in the Preliminary Test, Group IV, 1948.

| Strain | Mean Yield Bu/A. | Maturity[1] | Lodging | Height Inches | Seed Quality | Seed Weight | Percentage of Protein | Percentage of Oil | Iodine Number of Oil |
|---|---|---|---|---|---|---|---|---|---|
| No. of Tests | 6 | 5 | 5 | 6 | 4 | 6 | 6 | 6 | 6 |
| L6-5679 | 39.4 | + 1.6 | 1.8 | 46 | 2.0 | 13.4 | 39.1 | 21.9 | 129.6 |
| L6-5680 | 37.5 | + 0.8 | 1.9 | 44 | 2.1 | 13.7 | 39.2 | 21.8 | 129.6 |
| CX6742-20 | 37.1 | + 0.4 | 2.1 | 43 | 3.0 | 16.1 | 41.1 | 21.9 | 133.3 |
| CX6742-34 | 35.7 | - 0.6 | 1.8 | 45 | 2.9 | 14.9 | 41.2 | 21.4 | 132.6 |
| L6-5658 | 35.2 | - 1.2 | 1.9 | 44 | 2.0 | 13.5 | 40.4 | 21.4 | 132.1 |
| L6-5683 | 34.8 | + 1.2 | 2.0 | 45 | 2.8 | 12.4 | 39.7 | 21.0 | 131.1 |
| C508 | 34.6 | - 0.8 | 1.9 | 39 | 2.5 | 15.6 | 40.2 | 22.8 | 129.1 |
| L4-6259 | 33.8 | +13.6 | 2.8 | 51 | 2.8 | 15.3 | 39.9 | 21.4 | 127.1 |
| Wabash (C463) | 33.7 | - 3.6 | 1.8 | 44 | 2.0 | 13.5 | 39.1 | 22.7 | 126.8 |
| CX7342-27 | 33.5 | + 1.2 | 2.4 | 42 | 2.3 | 14.1 | 41.0 | 21.7 | 130.6 |
| CX7342-39 | 33.4 | - 3.0 | 1.8 | 44 | 2.6 | 14.3 | 39.5 | 22.5 | 133.1 |
| D523-55 | 33.2 | + 6.2 | 2.8 | 50 | 1.8 | 13.9 | 42.9 | 20.2 | 129.1 |
| CX7342-53 | 32.9 | - 2.4 | 2.0 | 43 | 2.4 | 15.0 | 41.0 | 22.5 | 129.5 |
| L6-5002 | 32.9 | - 3.0 | 2.2 | 43 | 3.2 | 13.2 | 39.4 | 22.0 | 132.0 |
| CX6742-11 | 32.8 | - 1.0 | 2.2 | 45 | 2.5 | 15.8 | 41.6 | 21.3 | 131.9 |
| L4-6290 | 32.6 | +14.6 | 3.1 | 57 | 2.2 | 13.1 | 39.4 | 20.9 | 129.9 |
| CX6742-16 | 32.5 | - 1.2 | 2.1 | 42 | 2.8 | 16.4 | 41.8 | 20.9 | 132.2 |
| S4-241 | 32.2 | + 0.6 | 1.9 | 49 | 2.1 | 12.5 | 39.9 | 21.3 | 129.3 |
| S100 | 32.0 | +11.4 | 2.0 | 49 | 1.7 | 13.4 | 41.9 | 19.4 | 130.5 |
| CX7342-42 | 31.8 | - 3.4 | 1.8 | 42 | 2.7 | 13.8 | 41.4 | 22.0 | 132.8 |
| Gibson | 31.5 | 0 | 2.4 | 41 | 1.8 | 13.6 | 39.2 | 21.5 | 132.3 |
| D523-30 | 31.2 | + 4.4 | 2.5 | 49 | 1.8 | 14.1 | 43.0 | 20.4 | 128.2 |
| CX6842-17 | 31.1 | - 1.0 | 2.3 | 43 | 2.3 | 12.5 | 39.8 | 21.5 | 133.2 |
| L4-6238 | 31.0 | +13.2 | 3.2 | 53 | 2.7 | 14.0 | 39.6 | 20.8 | 127.8 |
| Chief | 30.9 | - 5.6 | 2.4 | 49 | 2.5 | 12.8 | 39.8 | 21.7 | 130.2 |
| CX6742-22 | 30.5 | - 4.2 | 2.2 | 39 | 3.0 | 14.6 | 39.8 | 22.0 | 132.1 |
| S4-307 | 29.5 | - 3.6 | 2.4 | 48 | 2.5 | 12.4 | 39.9 | 21.6 | 129.1 |
| S5-234 | 28.6 | - 2.4 | 2.4 | 47 | 2.0 | 14.8 | 40.9 | 21.8 | 128.0 |
| S4-374 | 28.3 | - 3.4 | 2.6 | 49 | 2.3 | 12.4 | 39.7 | 21.5 | 129.1 |
| D56-8 | 27.8 | + 9.6 | 3.1 | 44 | 2.1 | 17.0 | 42.7 | 21.4 | 125.1 |
| S5-41 | 26.9 | - 6.2 | 2.3 | 37 | 3.0 | 14.9 | 40.9 | 21.3 | 129.5 |
| Mean | 32.5 | | 2.3 | 45 | 2.4 | 14.1 | 40.5 | 21.5 | 130.2 |

[1] Days earlier (-) or later (+) than Gibson. Gibson required 128 days to mature.

Table 51. Summary of yield in bushels per acre for the strains in the Preliminary Test, Group IV, 1948.

| Strain | Mean of 6 Tests | Evans-ville Ind. | Free-burg Ill. | Eldor-ado Ill. | Stone-ville Miss. | Colum-bia Mo. | Still-water Okla. |
|---|---|---|---|---|---|---|---|
| L6-5679 | 39.4 | 54.2 | 37.9 | 38.8 | 38.1 | 34.4 | 32.9 |
| L6-5680 | 37.5 | 50.3 | 34.4 | 40.7 | 35.6 | 33.4 | 30.3 |
| CX6742-20 | 37.1 | 48.4 | 35.9 | 40.3 | 37.4 | 30.6 | 29.7 |
| CX6742-34 | 35.7 | 51.8 | 31.9 | 38.9 | 29.9 | 31.8 | 29.9 |
| L6-5658 | 35.2 | 45.0 | 33.0 | 40.4 | 32.5 | 30.0 | 30.1 |
| L6-5683 | 34.8 | 46.1 | 31.9 | 37.5 | 32.0 | 34.1 | 26.9 |
| C508 | 34.6 | 46.2 | 33.5 | 38.0 | 33.8 | 25.9 | 30.1 |
| L4-6259 | 33.8 | 50.4 | 30.4 | 34.0 | 35.7 | 29.0 | 23.5 |
| Wabash (C463) | 33.7 | 48.3 | 35.5 | 33.7 | 33.2 | 26.0 | 25.3 |
| CX7342-27 | 33.5 | 41.6 | 32.0 | 37.2 | 29.8 | 32.5 | 28.0 |
| CX7342-39 | 33.4 | 50.9 | 30.5 | 36.6 | 26.0 | 28.7 | 27.9 |
| D523-55 | 33.2 | 49.1 | 35.9 | 32.4 | 33.5 | 26.5 | 21.5 |
| CX7342-53 | 32.9 | 43.7 | 32.0 | 33.7 | 28.7 | 31.7 | 27.6 |
| L6-5002 | 32.9 | 46.6 | 34.8 | 29.3 | 26.0 | 33.9 | 26.6 |
| CX6742-11 | 32.8 | 46.3 | 31.0 | 32.3 | 32.1 | 25.1 | 30.1 |
| L4-6290 | 32.6 | 42.6 | 29.2 | 29.2 | 38.3 | 29.9 | 26.2 |
| CX6742-16 | 32.5 | 44.9 | 30.9 | 31.4 | 31.3 | 30.2 | 26.1 |
| S4-241 | 32.2 | 46.3 | 29.1 | 34.2 | 29.9 | 26.5 | 27.1 |
| S100 | 32.0 | 45.9 | 28.4 | 34.3 | 30.9 | 23.7 | 28.8 |
| CX7342-42 | 31.8 | 41.6 | 32.8 | 34.1 | 26.4 | 30.1 | 25.9 |
| Gibson | 31.5 | 40.1 | 26.9 | 36.4 | 29.6 | 28.6 | 27.3 |
| D523-30 | 31.2 | 39.5 | 28.8 | 33.1 | 32.3 | 27.6 | 26.1 |
| CX6842-17 | 31.1 | 39.8 | 29.9 | 33.7 | 28.9 | 26.7 | 27.8 |
| L4-6238 | 31.0 | 40.6 | 25.8 | 32.2 | 36.6 | 28.4 | 22.2 |
| Chief | 30.9 | 41.9 | 29.7 | 33.0 | 26.3 | 25.8 | 26.8 |
| CX6742-22 | 30.5 | 39.3 | 26.8 | 33.1 | 26.0 | 29.1 | 28.9 |
| S4-307 | 29.5 | 43.3 | 29.2 | 29.1 | 23.0 | 24.9 | 27.7 |
| S5-234 | 28.6 | 33.3 | 26.8 | 31.7 | 29.0 | 22.5 | 28.3 |
| S4-374 | 28.3 | 35.4 | 30.8 | 28.3 | 24.9 | 24.1 | 26.2 |
| D56-8 | 27.8 | 34.6 | 22.1 | 29.9 | 30.8 | 25.3 | 24.2 |
| S5-41 | 26.9 | 40.0 | 28.1 | 30.3 | 19.4 | 26.0 | 17.9 |
| Mean | 32.5 | 44.1 | 30.8 | 34.1 | 30.6 | 28.5 | 27.1 |
| Coef. of Var. (%) | | 13.1 | 11.8 | -- | 11.0 | 11.3 | -- |
| Bu. Nec. for Sig. (5%) | | 8.1 | 5.0 | -- | 4.6 | 4.5 | -- |

Table 52. Summary of yield rank for the strains in the Preliminary Test, Group IV, 1948.

| Strain | Evansville Ind. | Freeburg Ill. | Eldorado Ill. | Stoneville Miss. | Columbia Mo. | Stillwater Okla. |
|---|---|---|---|---|---|---|
| L6-5679 | 1 | 1 | 5 | 2 | 1 | 1 |
| L6-5680 | 5 | 6 | 1 | 6 | 4 | 2 |
| CX6742-20 | 7 | 2 | 3 | 3 | 8 | 7 |
| CX6742-34 | 2 | 12 | 4 | 17 | 6 | 6 |
| L6-5658 | 15 | 8 | 2 | 10 | 11 | 3 |
| L6-5683 | 13 | 12 | 7 | 13 | 2 | 19 |
| C506 | 12 | 7 | 6 | 7 | 24 | 3 |
| L4-6259 | 4 | 18 | 14 | 5 | 14 | 28 |
| Wabash (C463) | 8 | 4 | 15 | 9 | 22 | 26 |
| CX7342-27 | 21 | 10 | 8 | 19 | 5 | 12 |
| CX7342-39 | 3 | 17 | 9 | 26 | 15 | 13 |
| D523-55 | 6 | 2 | 22 | 8 | 20 | 30 |
| CX7342-53 | 17 | 10 | 15 | 23 | 7 | 16 |
| L6-5002 | 9 | 5 | 29 | 26 | 3 | 20 |
| CX6742-11 | 10 | 14 | 23 | 12 | 27 | 3 |
| L4-6290 | 19 | 21 | 30 | 1 | 12 | 21 |
| CX6742-16 | 16 | 15 | 26 | 14 | 9 | 23 |
| S4-241 | 10 | 23 | 12 | 17 | 20 | 18 |
| S100 | 14 | 25 | 11 | 15 | 30 | 9 |
| CX7342-42 | 21 | 9 | 13 | 24 | 10 | 25 |
| Gibson | 24 | 27 | 10 | 20 | 16 | 17 |
| D523-30 | 27 | 24 | 18 | 11 | 18 | 23 |
| CX6842-17 | 26 | 19 | 15 | 22 | 19 | 14 |
| L4-6238 | 23 | 30 | 24 | 4 | 17 | 29 |
| Chief | 20 | 20 | 20 | 25 | 25 | 9 |
| CX6742-22 | 28 | 28 | 18 | 26 | 13 | 8 |
| S4-307 | 18 | 21 | 31 | 30 | 28 | 15 |
| S5-234 | 31 | 28 | 25 | 21 | 31 | 11 |
| S4-374 | 29 | 16 | 20 | 29 | 29 | 21 |
| L56-8 | 30 | 31 | 28 | 16 | 26 | 27 |
| S5-41 | 25 | 26 | 27 | 31 | 22 | 31 |

Table 53. Summary of maturity data, days earlier (-) or later (+) than Gibson for the strains in the Preliminary Test, Group IV, 1948.

| Strain | Mean of 5 Tests | Evansville Ind. | Fresburg Ill. | Eldorado Ill. | Stonoville Miss. | Columbia Mo. |
|---|---|---|---|---|---|---|
| L6-5679 | + 1.6 | 0 | +1 | + 1 | + 3 | + 3 |
| L6-5680 | + 0.8 | + 1 | +1 | - 1 | 0 | + 3 |
| CX6742-20 | + 0.4 | - 1 | +1 | - 2 | 0 | + 4 |
| CX6742-34 | - 0.6 | - 3 | +1 | - 2 | 0 | + 1 |
| L6-5658 | - 1.2 | - 3 | 0 | - 2 | - 2 | + 1 |
| L6-5683 | + 1.2 | 0 | +3 | - 1 | + 1 | + 3 |
| C508 | - 0.8 | - 1 | -1 | - 2 | 0 | 0 |
| L4-6259 | +13.6 | +17 | +7 | + 9 | +16 | +19 |
| Wabash (C463) | - 3.6 | - 7 | -1 | - 2 | - 7 | - 1 |
| CX7342-27 | + 1.2 | - 4 | +2 | + 2 | + 1 | + 5 |
| CX7342-39 | - 3.0 | - 7 | -1 | - 4 | 0 | - 3 |
| D523-55 | + 6.2 | +10 | +4 | - 1 | +13 | + 5 |
| CX7342-53 | - 2.4 | - 5 | +1 | - 6 | - 1 | - 1 |
| L6-5002 | - 3.0 | - 6 | 0 | - 4 | - 4 | - 1 |
| CX6742-11 | - 1.0 | - 4 | 0 | - 1 | + 1 | - 1 |
| L4-6290 | +14.6 | +19 | +9 | +10 | +16 | +19 |
| CX6742-16 | - 1.2 | - 4 | +1 | - 2 | 0 | - 1 |
| S4-241 | + 0.6 | 0 | +1 | - 1 | 0 | + 3 |
| S100 | +11.4 | +12 | +7 | + 8 | +16 | +14 |
| CX7342-42 | - 3.4 | - 8 | 0 | - 4 | - 2 | - 3 |
| Gibson | 0 | 0 | 0 | 0 | 0 | 0 |
| D523-30 | + 4.4 | +10 | +5 | - 2 | + 4 | + 5 |
| CX6842-17 | - 1.0 | - 3 | 0 | - 1 | 0 | - 1 |
| L4-6238 | +13.2 | +13 | +9 | +10 | +16 | +18 |
| Chief | - 5.6 | - 7 | -2 | - 2 | - 8 | - 9 |
| CX6742-22 | - 4.2 | - 5 | -1 | - 6 | - 5 | - 4 |
| S4-307 | - 3.6 | - 4 | -1 | - 2 | - 5 | - 6 |
| S5-234 | - 2.4 | - 4 | 0 | - 5 | - 1 | - 2 |
| S4-374 | - 3.4 | - 4 | 0 | - 2 | - 5 | - 6 |
| D56-8 | + 9.6 | +13 | +6 | + 6 | + 8 | +15 |
| S5-41 | - 6.2 | - 8 | -1 | -10 | - 5 | - 7 |
| Date planted | | 5/10 | 5/27 | 5/29 | 5/4 | 5/24 |
| Gibson matured | | 9/29 | 9/28 | 10/2 | 9/1 | 9/27 |
| Days to mature | 128 | 142 | 124 | 126 | 120 | 126 |

Table 54. Summary of percentage oil for the strains in the Preliminary Test, Group IV, 1948.

| Strain | Mean of 6 Tests | Evans-ville Ind. | Free-burg Ill. | Eldor-ado Ill. | Stone-ville Miss. | Colum-bia Mo. | Still-water Okla. |
|---|---|---|---|---|---|---|---|
| L6-5679 | 21.9 | 21.9 | 22.0 | 20.5 | 22.1 | 22.6 | 21.8 |
| L6-5680 | 21.8 | 22.2 | 21.5 | 20.5 | 22.1 | 22.8 | 21.6 |
| CX6742-20 | 21.9 | 22.3 | 21.1 | 21.1 | 22.3 | 22.6 | 22.0 |
| CX6742-34 | 21.4 | 22.1 | 21.0 | 20.5 | 21.5 | 22.1 | 20.9 |
| L6-5658 | 21.4 | 21.2 | 20.9 | 20.0 | 22.3 | 21.9 | 22.0 |
| L6-5683 | 21.0 | 21.6 | 20.6 | 20.2 | 21.2 | 21.6 | 20.9 |
| C508 | 22.8 | 22.7 | 22.2 | 21.9 | 23.6 | 23.9 | 22.5 |
| L4-6259 | 21.4 | 21.9 | 20.9 | 20.4 | 22.1 | 21.9 | 20.9 |
| Wabash (C463) | 22.7 | 22.4 | 22.9 | 22.0 | 23.3 | 23.2 | 22.4 |
| CX7342-27 | 21.7 | 22.1 | 21.3 | 20.5 | 22.5 | 22.2 | 21.8 |
| CX7342-39 | 22.5 | 22.8 | 22.0 | 21.6 | 23.4 | 23.0 | 22.3 |
| D526-55 | 20.2 | 20.3 | 20.2 | 19.0 | 20.4 | 21.8 | 19.5 |
| CX7342-53 | 22.5 | 22.8 | 22.3 | 21.5 | 23.2 | 23.2 | 22.2 |
| L6-5002 | 22.0 | 22.3 | 21.6 | 21.2 | 22.6 | 22.9 | 21.6 |
| CX6742-11 | 21.3 | 21.7 | 20.7 | 19.7 | 21.8 | 21.9 | 22.0 |
| L4-6290 | 20.9 | 21.0 | 20.5 | 20.0 | 21.5 | 21.7 | 20.7 |
| CX6742-16 | 20.9 | 21.5 | 20.2 | 19.7 | 21.8 | 21.3 | 20.9 |
| S4-241 | 21.3 | 21.5 | 20.7 | 20.5 | 21.7 | 22.2 | 21.0 |
| S100 | 19.4 | 20.0 | 18.9 | 18.9 | 19.1 | 19.9 | 19.4 |
| CX7342-42 | 22.0 | 22.2 | 21.9 | 21.2 | 22.1 | 22.7 | 21.7 |
| Gibson | 21.5 | 21.4 | 21.0 | 20.7 | 22.4 | 22.3 | 21.3 |
| D523-30 | 20.4 | 20.3 | 20.0 | 19.1 | 20.9 | 21.6 | 20.2 |
| CX6842-17 | 21.5 | 21.5 | 21.0 | 20.6 | 21.6 | 22.0 | 22.1 |
| L4-6238 | 20.8 | 21.2 | 20.3 | 19.6 | 21.5 | 21.8 | 20.5 |
| Chief | 21.7 | 21.0 | 21.3 | 20.8 | 22.3 | 22.7 | 21.8 |
| CX6742-22 | 22.0 | 22.0 | 20.9 | 21.2 | 22.8 | 22.0 | 22.9 |
| S4-307 | 21.6 | 21.2 | 21.3 | 20.5 | 22.3 | 22.4 | 21.7 |
| S5-234 | 21.8 | 21.8 | 22.0 | 21.4 | 22.2 | 22.3 | 21.1 |
| S4-374 | 21.5 | 21.0 | 21.2 | 20.6 | 22.1 | 22.4 | 21.7 |
| D56-6 | 21.4 | 21.8 | 20.7 | 20.1 | 22.4 | 21.9 | 21.3 |
| S5-41 | 21.3 | 21.6 | 20.7 | 20.7 | 22.0 | 22.1 | 20.9 |
| Mean | 21.5 | 21.7 | 21.1 | 20.5 | 22.0 | 22.2 | 21.4 |

Table 55. Chemical composition of soybean seed grown at each of the Uniform Test locations for 1948, the two-year means for 1947-48, and the three-year means for 1946-48 (composite sample or mean of all strains grown in each respective Group Test).

| Location | 1948 | | | Two-Year Mean | | | Three-Year Mean | | |
|---|---|---|---|---|---|---|---|---|---|
| | Percentage of Protein | Percentage of Oil | Iodine Number of Oil | Percentage of Protein | Percentage of Oil | Iodine Number of Oil | Percentage of Protein | Percentage of Oil | Iodine Number of Oil |
| **Group 0 (Mean of 12 strains in 1948, 11 in 1947, and 17 in 1946)** | | | | | | | | | |
| Ottawa, Ontario | 39.1 | 20.4 | 132.3 | 40.9 | 20.4 | 131.1 | 41.6 | 19.6 | 133.8 |
| Ithaca, N.Y. | 40.6 | 19.9 | 131.8 | 42.2 | 20.0 | 132.2 | 42.8 | 19.1 | 134.1 |
| Spooner, Wis. | 43.0 | 19.1 | 130.3 | 44.0 | 19.5 | 129.9 | 44.7 | 18.8 | 131.3 |
| Eau Claire, Wis. | 41.6 | 20.1 | 125.4 | 43.6 | 20.1 | 126.7 | — | — | — |
| Morris, Minn. | 43.1 | 19.0 | 128.8 | 42.6 | 19.7 | 128.3 | 41.7 | 19.7 | 131.7 |
| Fargo, N.D. | 39.2 | 20.4 | 132.4 | 38.5 | 21.0 | 131.5 | 39.1 | 20.7 | 132.7 |
| Rosholt, S.D. | 43.3 | 18.9 | 128.4 | 42.0 | 20.5 | 128.3 | — | — | — |
| Corvallis, Ore. | 40.1 | 19.2 | 135.3 | 40.9 | 19.3 | 134.8 | 40.6 | 19.5 | 135.1 |
| **Group I (Mean of 14 strains in 1948, 13 in 1947, and 16 in 1946)** | | | | | | | | | |
| Ithaca, N.Y. | 40.4 | 20.3 | 133.8 | 41.7 | 20.5 | 133.9 | 41.9 | 19.7 | 134.9 |
| State Col. Pa. | 41.0 | 20.4 | 129.2 | — | — | — | — | — | — |
| Holgate, Ohio | 41.7 | 20.4 | 128.6 | — | — | — | — | — | — |
| Paulding, Ohio | 42.1 | 20.3 | 128.5 | — | — | — | — | — | — |
| Columbus, Ohio | 41.7 | 20.6 | 129.8 | 42.3 | 21.1 | 129.5 | 42.3 | 20.8 | 130.7 |
| Eau Claire, Wis. | 41.7 | 20.0 | 129.2 | 43.2 | 20.0 | 129.5 | — | — | — |
| Madison, Wis. | 41.8 | 20.7 | 126.6 | 41.2 | 21.1 | 126.4 | 41.5 | 20.8 | 127.8 |
| Compton, Ill. | 40.5 | 21.1 | 129.7 | 41.8 | 21.1 | 127.2 | 41.9 | 21.0 | 128.4 |
| Waseca, Minn. | 42.0 | 20.8 | 130.6 | 42.9 | 20.5 | 130.5 | 41.5 | 20.9 | 131.3 |
| Cresco, Iowa | 43.2 | 20.9 | 129.1 | 44.6 | 20.1 | 127.6 | 45.1 | 19.4 | 129.6 |
| Kanawha, Iowa | 41.1 | 21.5 | 128.4 | 41.6 | 21.6 | 127.2 | 41.5 | 21.2 | 128.7 |
| Brookings, S.D. | 42.4 | 19.9 | 129.8 | 41.6 | 20.5 | 129.8 | 41.7 | 20.0 | 132.1 |
| **Group II (Composite of 18 strains in 1948, 14 in 1947, and 30 in 1946)** | | | | | | | | | |
| State Col. Pa. | 39.8 | 20.9 | 131.5 | — | — | — | — | — | — |
| Holgate, Ohio | 41.0 | 20.6 | 128.6 | 41.5 | 20.0 | 130.9 | 39.8 | 20.2 | 132.2 |
| Troy, Ohio | 40.9 | 20.7 | 131.1 | — | — | — | — | — | — |
| Columbus, Ohio | 41.4 | 20.4 | 130.1 | 42.4 | 21.2 | 130.2 | 42.1 | 20.7 | 131.1 |
| Walkerton, Ind. | 40.9 | 21.2 | 131.4 | 43.0 | 20.7 | 129.2 | 42.6 | 20.5 | 130.8 |
| Bluffton, Ind. | 41.2 | 21.0 | 130.3 | 41.3 | 21.3 | 129.9 | 41.3 | 21.1 | 130.4 |
| Lafayette, Ind. | 41.4 | 21.4 | 129.4 | 42.5 | 21.4 | 128.3 | 42.4 | 21.2 | 129.9 |
| Greenfield, Ind. | 42.7 | 20.7 | 129.3 | 42.9 | 20.8 | 129.4 | 42.8 | 20.5 | 130.5 |
| Worthington, Ind. | 42.7 | 20.6 | 128.7 | 43.7 | 20.8 | 127.9 | — | — | — |
| Madison, Wis. | 40.7 | 21.4 | 128.7 | 40.3 | 21.6 | 129.0 | 39.9 | 21.5 | 130.8 |
| Compton, Ill. | 41.8 | 20.9 | 130.9 | 42.3 | 21.1 | 130.1 | 42.2 | 20.8 | 131.0 |
| Urbana, Ill. | 40.5 | 21.1 | 129.4 | 40.6 | 21.6 | 128.1 | 40.2 | 21.6 | 129.8 |
| Kanawha, Iowa | 41.2 | 21.0 | 128.7 | 41.0 | 21.5 | 128.2 | 40.5 | 21.3 | 129.9 |
| Marcus, Iowa | 40.5 | 21.1 | 130.3 | 38.9 | 22.3 | 129.0 | 39.0 | 22.0 | 130.4 |
| Hudson, Iowa | 40.3 | 22.0 | 128.8 | 41.3 | 21.7 | 128.5 | 41.5 | 21.3 | 129.8 |
| Ames, Iowa | 40.7 | 21.5 | 129.7 | 41.2 | 21.8 | 129.3 | 41.2 | 21.4 | 130.2 |
| Centerville, S.D. | 42.5 | 20.0 | 129.3 | 41.9 | 20.7 | 129.3 | — | — | — |
| Lincoln, Nebr. | 39.9 | 21.8 | 124.9 | 39.8 | 22.1 | 123.7 | 39.8 | 22.0 | 126.0 |

Table 55. (Continued)

| Location | 1948 | | | Two-Year Mean | | | Three-Year Mean | | |
|---|---|---|---|---|---|---|---|---|---|
| | Percentage of Protein | Percentage of Oil | Iodine Number of Oil | Percentage of Protein | Percentage of Oil | Iodine Number of Oil | Percentage of Protein | Percentage of Oil | Iodine Number of Oil |
| **Group III (Composite of 8 strains in 1948, 11 in 1947, and 10 in 1946)** | | | | | | | | | |
| Georgetown, Del. | 43.2 | 21.4 | 127.4 | 42.5 | 22.7 | 129.5 | 41.9 | 22.3 | 130.3 |
| Beltsville, Md. | 41.0 | 21.5 | 130.9 | 42.0 | 21.5 | 131.1 | 41.5 | 21.3 | 131.4 |
| Lancaster, Pa. | 33.6 | 24.2 | 132.1 | — | — | — | — | — | — |
| Blacksburg, Va. | 40.3 | 21.4 | 130.8 | — | — | — | — | — | — |
| Columbus, Ohio | 40.1 | 21.0 | 131.6 | 41.5 | 21.1 | 132.1 | 41.2 | 20.5 | 132.2 |
| Lafayette, Ind. | 40.4 | 21.7 | 128.6 | 41.3 | 21.8 | 129.5 | — | — | — |
| Greenfield, Ind. | 42.0 | 20.7 | 130.9 | 42.2 | 21.1 | 131.1 | 41.7 | 20.5 | 131.0 |
| Worthington, Ind. | 42.1 | 20.9 | 129.2 | 42.6 | 21.2 | 129.5 | 42.2 | 20.6 | 130.1 |
| Urbana, Ill. | 40.1 | 21.6 | 129.4 | 39.9 | 22.2 | 130.0 | 39.4 | 21.9 | 130.5 |
| Clayton, Ill. | 42.1 | 21.6 | 128.3 | 42.1 | 21.2 | 131.0 | 42.4 | 20.7 | 131.9 |
| Stonington, Ill. | 38.0 | 23.1 | 128.6 | 39.7 | 22.2 | 130.8 | 40.4 | 21.4 | 131.3 |
| Edgewood, Ill. | 40.4 | 21.8 | 127.7 | 41.6 | 22.1 | 129.6 | 41.7 | 21.7 | 131.0 |
| Freeburg, Ill. | 42.0 | 21.5 | 126.4 | 40.8 | 22.6 | 127.4 | 40.7 | 22.0 | 129.0 |
| Eldorado, Ill. | 41.4 | 22.1 | 127.2 | 40.8 | 23.1 | 127.4 | — | — | — |
| Ames, Iowa | 39.7 | 21.6 | 129.4 | 39.9 | 22.2 | 130.1 | 39.8 | 21.5 | 130.8 |
| Ottumwa, Iowa | 39.8 | 22.3 | 129.9 | 40.7 | 21.7 | 131.6 | 40.6 | 21.0 | 132.2 |
| Shelbyville, Mo. | 41.0 | 21.8 | 127.7 | 42.0 | 21.5 | 126.0 | 41.9 | 21.2 | 127.4 |
| Columbia, Mo. | 39.5 | 23.0 | 128.5 | 39.9 | 23.4 | 126.6 | 40.6 | 22.3 | 127.8 |
| Norborne, Mo. | 38.7 | 22.7 | 129.4 | — | — | — | — | — | — |
| Lincoln, Nebr. | 38.9 | 22.7 | 125.1 | 38.2 | 23.1 | 126.4 | 38.3 | 22.6 | 127.7 |
| Manhattan, Kans. | 39.1 | 22.7 | 124.0 | 40.8 | 21.9 | 124.5 | 41.1 | 21.5 | 126.4 |
| **Group IV (Composite of 13 strains in 1948, 11 in 1947, and 16 in 1946)** | | | | | | | | | |
| Georgetown, Del. | 44.3 | 20.8 | 127.6 | 43.3 | 22.0 | 128.1 | 43.0 | 21.6 | 129.4 |
| Beltsville, Md. | 41.4 | 21.2 | 132.1 | 42.0 | 20.7 | 132.2 | 41.7 | 20.6 | 132.9 |
| Lancaster, Pa. | 35.3 | 23.2 | 132.1 | — | — | — | — | — | — |
| Worthington, Ind. | 41.5 | 21.3 | 129.5 | 42.3 | 21.0 | 129.2 | 42.0 | 20.4 | 130.2 |
| Vincennes, Ind. | 45.3 | 19.3 | 130.0 | 43.7 | 20.3 | 128.6 | 43.0 | 20.2 | 129.8 |
| Evansville, Ind. | 41.0 | 22.2 | 131.6 | 41.4 | 21.9 | 130.2 | 41.3 | 21.3 | 130.7 |
| Urbana, Ill. | 41.2 | 21.2 | 131.1 | 40.9 | 21.2 | 129.6 | 40.3 | 21.1 | 130.4 |
| Clayton, Ill. | 41.9 | 21.6 | 130.0 | 42.2 | 20.9 | 130.8 | 42.4 | 20.4 | 132.0 |
| Stonington, Ill. | 38.5 | 22.9 | 129.4 | 40.0 | 21.6 | 130.0 | 40.7 | 21.2 | 131.3 |
| Edgewood, Ill. | 41.2 | 21.4 | 128.3 | 42.3 | 21.2 | 128.5 | 42.1 | 20.9 | 130.2 |
| Freeburg, Ill. | 41.9 | 21.8 | 130.0 | 41.6 | 22.2 | 128.7 | 41.4 | 21.5 | 130.5 |
| Eldorado, Ill. | 43.0 | 21.3 | 129.5 | 42.1 | 22.3 | 128.5 | — | — | — |
| Shelbyville, Mo. | 41.9 | 21.5 | 128.4 | 43.3 | 20.7 | 126.6 | 42.2 | 20.9 | 127.8 |
| Columbia, Mo. | 40.1 | 22.5 | 130.4 | 40.4 | 22.6 | 126.1 | 41.0 | 21.7 | 127.9 |
| Norborne, Mo. | 39.0 | 22.3 | 129.0 | — | — | — | — | — | — |
| Manhattan, Kans. | 40.2 | 22.5 | 127.8 | 42.3 | 21.1 | 125.4 | 42.3 | 20.8 | 127.7 |

## SOYBEAN DISEASE INVESTIGATIONS IN 1948 [1]/

The brown stem rot disease of soybeans was widespread and severe this season, probably due to the unusually cool period in August. Damage was heaviest in the central parts of Illinois and Indiana, but the disease was reported as far south as Evansville, Indiana. As usual, the full impact was not felt until late August when the brown, frosted-appearing leaf symptoms gave the first outward indication that brown stem rot was present. The early optimistic forecasts on estimated yields were revised drastically downward as leaf symptoms began to appear, only to be again revised upward by actual yields at harvest time. There can be no doubt that brown stem rot was a factor in reducing yields in 1948, possibly by 15 per cent in some areas; we are fortunate, however, that it is not a disease that does its damage early in the season. The effect of temperature on disease development was again emphasized this year by a study of August temperature records. During the first two weeks of August, just as in 1945 and 1946, average daily temperatures were low and brown stem rot developed rapidly to produce leaf symptoms. It will be remembered that in 1947August temperatures were unseasonably high throughout the month, resulting in no leaf symptoms and a mild development of the disease.

An interesting development in the brown stem rot picture in 1948 in many fields was the distribution of leaf symptoms in scattered brown patches instead of the uniform browning of other seasons. This was apparently a reflection of the very uneven emergence caused by dry conditions during and after the time of planting, resulting in uneven maturity late in the summer. It was noted that the most severe leaf symptoms affected only the more mature plants, although all plants in the field showed internal brown discoloration of the stem.

Occasionally there has been some question as to the efficacy of rotation as a control measure for brown stem rot. During the height of the epidemic in 1948 a survey was made in Champaign and McClean Counties on farms where accurate crop histories were available. As in 1946, the results showed that brown stem rot was much less severe on the fields that were growing their first crop of soybeans or the first crop in 3 to 5 years, while the most severely damaged fields had been cropped with either soybeans for two or more successive years or a continuous corn-soybean rotation. Just what effect rotation has on the organism is a question that remains unanswered, but it appears to be of definite value in reducing the amount of damage sustained through brown stem rot. There is no basis for the idea that rotation kills the organism in the soil, but it seems to be instrumental in avoiding a dangerous build-up of disease potential already present in the soil.

Bud blight (Tobacco ring-spot virus) caused little damage in 1948. As usual, the southern part of Illinois had more of it than did the central and northern parts of the State, where the disease appeared in slightly more than trace amounts. Heavy infection was reported in the soybean nursery at Lincoln, Nebraska, and at Brookings, South Dakota, on a seed increase field. A heavy and damaging epidemic was also observed on a few rows adjacent to a fence row on one side of the nursery at Madison, Wisconsin.

Brown spot (Septoria glycines) was prevalent throughout Illinois, but appeared later than usual. It caused some defoliation in the central and southern part of the State, usually on land that had been cropped frequently with soybeans. Our main concern with this disease lies in its increasing prevalence and intensity from year to year.

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1/ Project 123, Division of Forage Crops and Diseases

The bacterial leaf spots, bacterial blight (Pseudomonas glycinea), bacterial pustule (Xanthomonas phaseoli var. sojensis), and wildfire (Pseudomonas tabaci) were all present in 1948. Bacterial blight was again the most prevalent leaf spot. Bacterial pustule was common in central and southern Illinois after mid-July, and wildfire, after a lapse of two years, again appeared in small amounts early in August. Experimental attempts to find the connection, if any, between the incidence of wildfire and previous infection with pustule were nullified by abundant natural infection with pustule and the unexpected appearance of wildfire in the experimental plots. The constant association of the two diseases on the same leaves, however, gave additional observational evidence that bacterial pustule may in some way facilitate infection with wildfire.

The search for disease resistance continued this year. At Weldon, Illinois, where the soil is infested with the brown stem rot organism, a total of 1450 introductions and varieties were tested. Nothing with complete immunity was found but there were some introductions that showed only trace amounts of internal stem browning. Further tests will show whether this is actually a form of tolerance or comparative resistance to the disease. The test for bud blight resistance was carried on at Oblong, Illinois, with the surviving introductions from 1947. Twenty-one introductions and varieties remained free of bud blight in the past two years. These will be carried through further tests next year.

Charcoal rot was prevalent in the southern part of the region, being reported in the nurseries in Evansville, Indiana, through southern Illinois, and in southeastern Missouri. Ordinarily this disease is severe only in extremely dry seasons, but at Sikeston, Missouri, there was some evidence that it was causing loss under fair growing conditions.

## WEATHER CONDITIONS AND GENERAL GROWTH RESPONSES AT MOST OF THE NURSERY LOCATIONS DURING THE 1948 SEASON

The following general notes compiled from information supplied by the cooperators may be helpful in interpreting performance of the nurseries at individual locations.

Temperature and rainfall at most of the nursery locations for the 1948 season are presented in graphs at the end of this section of the report. The daily mean temperatures and rainfall are taken from "Climatological Data" published by the Weather Bureau. The arc is the normal mean monthly temperature for the location.

Ithaca, New York The soil is a Dunkirk, silty clay loam, tile-drained, and in a good state of fertility. The rainfall during the growing season was sufficient, but not excessive, while the temperature and moisture conditions during August were favorable. The vegetative growth was not unusual, as a matter of fact, hardly average. The conditions during pollination were satisfactory and the pod set was average. The stand was good throughout. The maturity of the adapted varieties was entirely satisfactory.

State College, Pennsylvania Weather conditions at State College were more favorable for soybean growth than at Lancaster. There was a better balance between moisture and fair weather. The moisture content of the soil was at a good level when the drought came the latter part of August. Fine weather prevailed during September. After a killing frost on October 4, the weather turned warm and bright and remained favorable for ripening and harvesting of fall crops.

Lancaster, Pennsylvania The weather during May and June was characterized by an excess of rainfall. Temperatures were approximately normal but the excessive spring and early summer rainfall made early cultivation an impossibility. Weeds, therefore, were a problem in growing soybeans. August, as well as part of September, was hot and dry. The fine weather during the latter part of September and October was ideal for ripening and harvesting.

Beltsville, Maryland Weather conditions were unusually favorable for soybeans. Monthly mean temperatures were above normal except in October, when sub-normal temperatures prevailed during the first three weeks. Killing frost (22°) occurred October 18. Greatest departures from normal occurred during the last week in August, when record temperatures of 92°, 96°, and 97° were reached.

Rainfall was above normal except in April and July. May, with 7.99 inches, was the wettest since 1889. June rainfall was 6.66 inches, of which 3.70 inches fell June 18 and 19. July rainfall was 1.93 inches below normal, but well distributed. Heavy storms August 1, 3, and 11 caused considerable lodging in the uniform test plots. Total rainfall for August was 8.98 inches, 4.97 inches above normal. Rain fell on only 6 days in September, though the total for the month, 3.08 inches, was nearly normal.

Holgate, Ohio The soybean tests at Northwestern Experiment Farm at Holgate were not very good. Most of the experimental farm has been abandoned and most of the research terminated. Approximately 10 acres were retained for use. The area allotted for soybean tests was very poor. The seedbed was in only fair condition. The plots were planted on May 26. The stands were somewhat erratic. The data obtained are only fair, but good enough to warrant some consideration. Harvesting and threshing conditions were favorable.

Troy, Ohio The soybean plots at Miami County Experiment Farm, Troy, were planted on May 25 in a well-prepared but very dry seedbed. A few showers occurred shortly after planting but did not provide sufficient moisture for immediate germination. Complete emergence of seedlings did not occur until three weeks after planting. Temperature and rainfall conditions from June 15 until harvest were ideal. These favorable conditions produced one of the very best soybean tests in the state in 1948. No apparent damage was evident from either disease or insects. Plots were weed-free during the growing season.

Paulding, Ohio The uniform soybean tests at Paulding County Experiment Farm were planted on May 28 in a seedbed in excellent condition. They emerged rather slowly but were completely emerged by June 9. The growing conditions throughout the season were just fair. This was caused chiefly by rather poor distribution of rainfall. The tests were about average. Harvesting conditions were very good.

Columbus, Ohio The month of May was very favorable for soybean planting. All experimental soybean plots were planted between May 20 and May 25. The seedbed was in excellent condition at planting time, but the relatively dry period that followed planting caused the seed to germinate poorly and unevenly. The stands were very erratic. The stands were improved by replanting, using the hand corn planters. The growing season from July 1 until harvest was favorable. Weather conditions at harvest were ideal. Insect damage and disease were unimportant.

Walkerton, Indiana The nursery on mineral soil planted June 3 was fertilized with 130 pounds of 3-12-12 fertilizer plus 50 pounds of 66% manganese sulfate per acre in the row at planting. There was no evidence of manganese deficiency in the plants. Soil conditions were ideal at planting and early growth was rapid. Excessive June rainfall, 4.86 inches above normal, prevented timely cultivation and weeds became very abundant, necessitating considerable hand weeding. Growth was greatly impeded by an extended summer drought and high temperatures. Yields were below average and variability in growth and yield between replications was obvious. As a whole, the nursery was considered fair. Uniform Test, Group II, was a good test.

The nursery on muck soil was planted June 18 with varieties of Group 0 maturity. This was an excellent nursery although it was planted late and all varieties matured prior to the October 4 frost.

May and June rainfall was 6.92 and 4.86 inches, respectively, above normal. July, August, and September were 1.19, 2.82, and 0.92 inches, respectively, below normal, with no precipitation of consequence from July 23 to September 6, a period of 45 days. Temperatures were about normal throughout the growth period except for a period of 8 days the latter part of August when temperatures ranged from 93 to 101°F.

There was considerable bacterial leaf blight and some pod and stem blight, but other diseases were insignificant.

Bluffton, Indiana The nursery was planted on May 22. Emergence was slow and growth variable early in the season, but stands were fair to good on most varieties. Korean had the poorest stands but good enough for comparable yield trials. Precipitation was 1.92 and 1.28 inches below average in July and August, respectively. Temperatures were very high the latter part of August and yields were somewhat below that ordinarily obtained at this location. Harvest conditions were ideal.

Pod and stem blight was especially noticeable but no differential infection was noted. Bacterial leaf blight and downy mildew infection was light. Other diseases were not observed.

The stems of Adams and Richland remained green for some time after the leaves had dropped and the pods had ripened.

Lafayette, Indiana This nursery was planted May 19 and 20 under ideal conditions, but no precipitation occurred from May 16 to June 6 and consequently emergence was over a long period and growth was variable. Growth was especially good and the highest yields ever recorded at this location were obtained in 1948. Conditions at harvest were ideal on most tests. Precipitation was about normal in all months except August in which it was 1.55 inches below normal. Temperatures were about normal most of the season, except the latter part of August when they ranged from 90 to 98 on eight consecutive days. Disease infection was very light in this plot.

Greenfield, Indiana The nursery was planted on May 21. Emergence was slow and growth variable in the early part of the season due to drought. Growth was fair and yields were good, but not high. Early stages of manganese deficiency were observed and the plots were sprayed July 24. The deficiency was corrected in a few days. Harvest conditions were ideal. Precipitation was 1.16 inches above normal in June, normal in July, and 2.40 and 0.94 inches below normal in August and September, respectively. Temperatures ranged from 91 to 98°F on eight consecutive days the latter part of August but were about normal the remainder of the season.

Pod and stem blight, bacterial blight, and brown spot were the most prevalent diseases but these did not appear to be serious.

Worthington, Indiana This nursery was planted and harvested under ideal conditions. Emergence, stands, and growth were excellent. Yields were unusually high. Uniform Group Tests II and III were planted June 9 and the rest of the nursery, including Group IV, was planted May 11. Precipitation was 4.91 inches above normal in July and is considered a contributing factor to the excessive lodging. Precipitation was 2.44 and 2.40 inches below normal in August and September. Temperatures were about normal throughout the growing season with a hot period occurring for a week in late August.

Brown stem rot, brown spot, bacterial blight, bacterial pustule, and downy mildew were very prevalent diseases. Brown stem rot, as well as heavy rains in July, was without a doubt an important contributing factor to the excessive lodging.

Vincennes, Indiana This was a poor nursery. It was replanted on June 15. Stands were only fair and there were numerous weeds due to the back of cultivation. Yields were low and varied considerably between replications. Harvest conditions were about average. Temperatures ranged from 92 to 99°F. on eight consecutive days in late August. Otherwise, temperatures were about normal during the growing season.

Evansville, Indiana The nursery was planted early on May 10. The soil became crusted and emergence was somewhat delayed, with poor stands resulting in some varieties. Poorest stands occurred in D536-4, S5-41, and S5-234 of the Uniform Preliminary Test, Group IV. Growth was especially good and yields were the highest ever recorded in the 14 years of testing at this location. Lodging was more marked than usual and provided an excellent differential study for this character. Harvest

conditions were ideal. Rainfall was 2.19 and 1.73 inches below normal in June and August but 1.68 and 1.02 inches above normal in July and September, respectively. Temperatures were about normal throughout the growing season.

Bacterial blight, bacterial pustule, brown spot, downy mildew, frog-eye leaf spot, charcoal root rot and brown stem rot were all prevalent. This was the first time that brown stem rot was observed south of Vincennes.

Spooner, Wisconsin The season was very dry from planting time to harvest. Rainfall was below normal every month, but temperatures were normal or above, particularly in August and September when temperatures were 2.9 and 4.0 degrees above normal. The most extreme drought occurred from the time of planting to June 16th. The nursery had to be irrigated shortly after planting in order to obtain satisfactory emergence. The nursery was irrigated five times after emergence, the first being June 9th and the last, late in August. The over-head type of irrigation used at this station severely tests the lodging resistance of each variety, which accounts for the low lodging resistance reported for some of the varieties here.

The favorable temperatures and irrigation promoted excellent plant growth, height, foliage, and pod development. Full maturity of the later strains such as Mandarin (Ottawa) was made possible by the high temperatures in September and the unusually late frost.

Eau Claire, Wisconsin Very dry conditions prevailed at Eau Claire. The rainfall for the period May to September was 11.73 inches as compared to a normal of 19.49 inches. The rainfall was very well distributed. The average yield was about 33% higher than normal, due in part to the plots being located on a very fertile area and the reasonably good rainfall distribution.

Madison, Wisconsin It was very dry at Madison during the entire growing season. For the period May to September, inclusive, the rainfall was 12.75 inches as compared to a normal of 18.42 inches. The soil was dry at planting, and, as a result, the stand was uneven in certain parts of the field. The average yield was approximately 75% of normal.

Compton, Illinois The plot at Compton was planted May 21 on the same field as the 1945 plot. This had been in brome alfalfa pasture, fall plowed. Planting conditions were excellent and the drought following seeding did not seriously affect stands. Growth was excellent but a heavy hail in August, when pods were filling, seriously damaged leaves, stems, and pods, reducing yield at least 30% and producing much seed damage. The earlier varieties did not seem to be damaged quite as much as the later ones, Group I averaging 26.4 bushels and Group II only 23.5 bushels. Dudding due to hail injury was severe and affected the accuracy of maturity records.

Dwight, Illinois Dwight was planted May 25 in a very dry seedbed. Drought for a month after planting resulted in such irregular emergence that the field was abandoned.

Urbana, Illinois The uniform tests were planted May 27 in a good seedbed on a field that had averaged 129 bushels of corn in 1947. There was some irregularity in emergence due to dry weather at planting but rainfall was adequate the remainder of the season and good growth and yields were obtained. Group II averaged 30 bushels, Group III, 36 bushels, and Group IV, 35 bushels per acre.

Clayton, Illinois The tests were planted May 20 in a good seedbed on fall plowed crimson clover sod, but due to drought from the middle of May to the middle of June, emergence was somewhat irregular, resulting in poor stands in some rows. Rainfall was ample from the middle of July to the end of July, but August was generally dry. Yields were mostly good, Groups III and IV averaging 26 and 29 bushels per acre respectively.

Stonington, Illinois The tests at Stonington were planted May 27 in an excellent seedbed. Soil tests indicated high fertility. Although dry weather at planting time reduced stands in some rows, growth and yield was generally good, rainfall being adequate after the middle of June. Groups III and IV averaged 38 and 39 bushels per acre respectively. Oil content was the highest in the history of the farm.

Edgewood, Illinois The tests at Edgewood were planted June 1 in a good seedbed. Rainfall was generally adequate during the growing season and good growth resulted. Although this hardpan soil is naturally low in fertility, this field had been built up to a high production by careful treatment, and yields were excellent, Groups III and IV averaging 38 and 40 bushels per acre respectively.

Freeburg, Illinois Freeburg was planted May 27 in a good seedbed after clover sod. Stands were excellent and growth was good. Fertility was good, but the field was slightly low in potash though not enough so to show any symptoms of starvation. Rainfall was extremely heavy in June and July and very light in August. Grasshopper populations were high but due to numerous poisonings and sprayings with chlordane, only slight damage occurred. Yields were good, Group IV averaging 33 bushels per acre. The earlier varieties in Group III, A3-176, Adams, Illini, and Lincoln were severely damaged by charcoal rot, which got started during an unusually hot, dry spell in August. Cooler weather and rains later prevented damage to the later varieties.

Eldorado, Illinois The rainfall at Eldorado was well distributed and growth was good. Temperatures during July and August were generally below normal. Perhaps because of this, Lincoln yielded about as well as the later strains. Yields were good, Groups III and IV averaging 33 and 36 bushels, respectively.

Morris, St. Paul, and Waseca, Minnesota Temperatures in most of Minnesota were above normal and rainfall was considerably below normal during May and early June. Soybeans which were seeded fairly deep in well-prepared seedbeds got off to a good start. The trials at University Farm were seeded rather shallow and did not germinate until mid-June, almost a month after planting. The resulting stands were very irregular. Hence no yields were taken at University Farm.

Growing conditions were ideal from mid-June until harvest. Rainfall was adequate, temperatures were warm, and frost did not occur until October 15. Yield trials at locations other than University Farm seemed satisfactory.

Cresco, Iowa This nursery represents the northeast section of Iowa with wet, cold, poorly drained, tight soils of Carrington Plastic Till phase, low in fertility. Strains grown on these soils mature on the average about 6 to 9 days later than on well drained soils. This nursery (planted May 26) was the only one in Iowa which was not transplanted. Growing conditions were good through June. However, drought in July and August seriously hampered growth and yields were low. Frost occurred October 10, a week later than normal.

Kanawha, Iowa This nursery is located in the north central part of Iowa on level, very fertile Webster Silty Clay Loam. Drought at planting time (May 24) caused uneven germination. The poor stands were corrected by transplanting. Sufficient moisture was present throughout the remainder of the growing season. The yields and lodging from this nursery were not as great as normally expected, although the strains grew to a good height (40-50 inches). Frost occurred October 10, a week later than normal.

Marcus, Iowa This location represents the northwest section of Iowa with soils of the Galva Silt Loam series (formerly the Marshall series), medium high in fertility, and slightly undulating in topography. Drought at planting time (May 18) caused uneven germination and poor stands. These poor stands were corrected by transplanting from alleyways into the respective rows, transforming an unsatisfactory nursery into a very satisfactory one. The remainder of the growing season was conducive to good growth. Severe rain and wind in early September caused excessive lodging not generally observed on these soils. Frost occurred October 10, a week later than normal.

Hudson, Iowa This nursery represents northeast central Iowa with soils of the Carrington Silt Loam type, medium high in fertility. Drought at planting time caused poor emergence which was corrected by transplanting. Moisture was slightly deficient through most of the growing season. Although drought was not serious at any one time, height, yield, and lodging were somewhat lower than normally expected. Frost occurred a week later than normal. Strain comparisons appear fair to good.

Ames, Iowa Located in central Iowa, Ames has soils of two types (1) fertile Webster Silty Clay Loam and (2) lighter, medium fertile Clarion Silt Loam. Here, as in most of the other nurseries, drought at planting time caused poor emergence. Stands were corrected by transplanting, and in some experiments watering was accomplished by the use of a large tank and garden hoses. Either one or both procedures was used in the entire nursery. Growing conditions were excellent throughout the remainder of the season. This produced tall plants with a great deal of lodging. Yields were high and harvesting was completed under ideal weather. Frost occurred October 17th, a week later than normal.

Ottumwa, Iowa This nursery is in southeast Iowa on level Haig Silt Loam, medium high in fertility. The tests were planted May 27, which is considered early from past experiences. Emergence was only fair and transplanting resulted in a good stand. Weather conditions, on the average, were conducive to good growth and yields. Frost occurred a week later than normal.

Shelbyville, Missouri Conditions were similar to those at Columbia. The soil was deficient in moisture at planting time but moisture was ample from the latter part of June through the remainder of the season. Relatively poor stands were obtained but weeds were well controlled. Yields were above average.

Columbia, Missouri There was a deficiency of soil moisture during May and the first half of June. Relatively poor stands were obtained in many tests. Excessive precipitation began about the middle of June and continued through July. During this period, cultivation was impossible and grass became a serious problem, but soybean yields were reduced very little by the grass because of the abundant supply of moisture during the latter part of the season.

Norborne, Missouri The stands and growing conditions at Norborne were good. There was an abundant supply of moisture during the entire growing season. All strains

were extremely tall and lodged badly. Yields were very high. The soil is similar to that found on the second bottom along the Missouri River.

Fargo, North Dakota Soil moisture throughout April and early May was very good. However, the late May rainfall was below normal and the temperatures distinctly above normal. As a result the soil was too dry for normal germination and emergence. A favorable rain, however, did occur in early June. This was followed by cool temperatures throughout the month, highly favorable for small grains but not so favorable for soybeans.

Except for about a week of high temperatures in early July, the July temperatures also were below normal. Soybeans, therefore, came into blossom and pod later than usual. However, with August and September relatively dry and frost holding off longer than usual, the crop matured satisfactorily. Light frost occurred October 1 with the first severe frost on October 16.

Rosholt, South Dakota A long season with optimum growing conditions throughout enabled all entries to perform comparably and to reach maturity well before harvest time. The Preliminary Group O test was planted on land that had been in potatoes and yielded better than the Group O test which was planted on land which had been in soybeans in 1947. With good growing conditions, the somewhat heavier stands in Preliminary Group O may have contributed to the higher yields in this test.

In Preliminary Group O, Capital and Mandarin (Ottawa) were outstanding. In the Uniform Group O, Goldsoy and W5S-4142 slightly out-yielded Capital, but the latter variety was taller, earlier in maturity by about four days, and non-shattering. The yield differences between these entries were not significant.

Brookings, South Dakota Except for a warm dry period at the beginning of the season, the weather conditions were unusually favorable for soybean culture. Soybean yields in 1948 were higher than for any previous year on record. The mean yield was well above 30 bushels per acre. Each entry had the advantage of a full frost-free season.

The better looking entries of the Group I test included Ottawa Mandarin and Wis. Manchu 3.

Centerville, South Dakota The Group II nursery was seeded in dry soil in May and because of continued dry weather in June, the soybeans did not recover from the initial set-back. The season was a long one and the temperature somewhat higher than normal. The plot had also been in soybeans in 1947. The named varieties as a group, excluding Bavender Special, ranked lower than the selections on the basis of yield alone.

Lincoln, Nebraska Showers immediately before and after the planting dates, May 25 and 26, insured prompt germination. Temperatures during June, July, and the first half of August were near or slightly below normal. Rainfall was sufficient to produce excellent growth. A hot, dry, windy period from August 15 to September 2 may have slightly reduced yields. Fair weather in the fall permitted all varieties to mature fully before frost, which occurred later than usual.

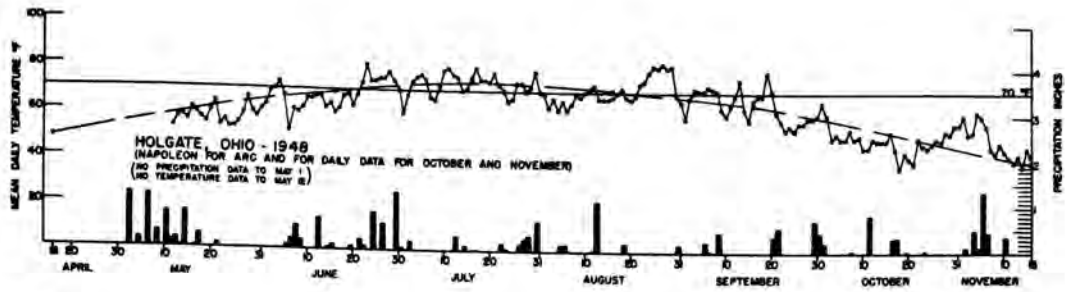
The average yield of all varieties in the uniform tests was almost 30 bushels per acre, an unusually high average for this location.

Bud blight infection was heavy. Much of it occurred late in the season and prevented normal drying and maturing of the stems. The yields of the later-maturing varieties in Group III, such as Chief, were decreased considerably by bud blight while those of earlier varieties were affected less.

Manhattan, Kansas Weather and soil conditions were favorable for soybean planting around June 1. After the crop was well started, eleven inches of rain fell in the last half of June and nearly six inches in July. This abundant moisture resulted in a heavy vegetative growth of some varieties. These suffered from drouth by the end of August when only 0.58 inches of rain came during the month. Over three inches of rain the first week in September was helpful but this was followed by a dry spell until October 6. Killing frost came October 12 followed by a low of 23° on October 18. This caught most of the varieties in Group V. Conditions were generally more favorable for Group III than for IV or V.

Corvallis, Oregon The last spring frost in 1948 was two weeks later than usual and the first fall frost did not occur until October 27, 8 days later than the average. This resulted in a frost-free period of 183 days. The rainfall in the 1948 growing season was 7.45 inches, .85 inches less than normal.

The nursery was planted May 17, 1948. The month of May was moist and warm, and seedling establishment was rapid. June was warm and dry and good early growth resulted. July and August were too cool for best growth of soybeans. Early September was unusually warm, which speeded growth. These conditions resulted in good growth responses and good yields of seed for this area. Late September and October were too moist and cool for good maturity and ease of harvesting.


HOLGATE, OHIO - 1948
(NAPOLEON FOR ARC AND FOR DAILY DATA FOR OCTOBER AND NOVEMBER)
(NO PRECIPITATION DATA TO MAY 1)
(NO TEMPERATURE DATA TO MAY 8)
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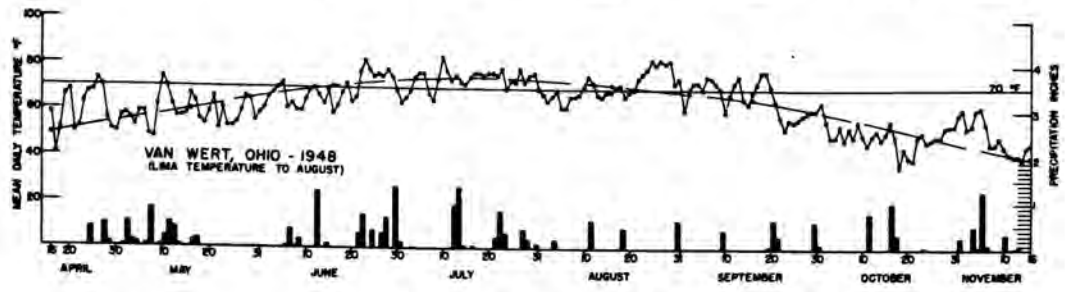
VAN WERT, OHIO - 1948
(LIMA TEMPERATURE TO AUGUST)
MEAN DAILY TEMPERATURE °F
PRECIPITATION INCHES
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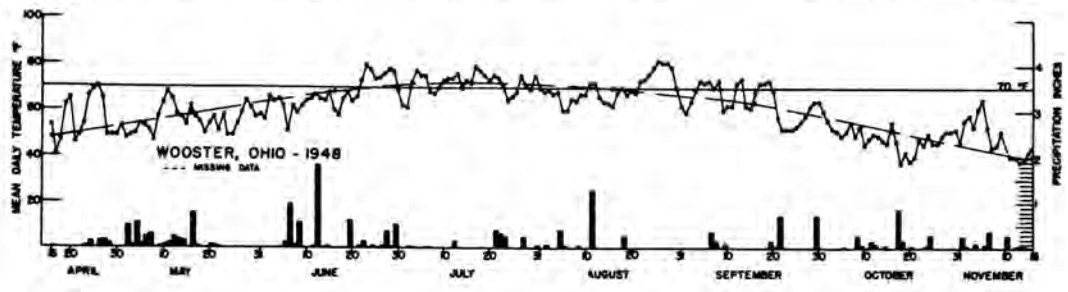
WOOSTER, OHIO - 1948
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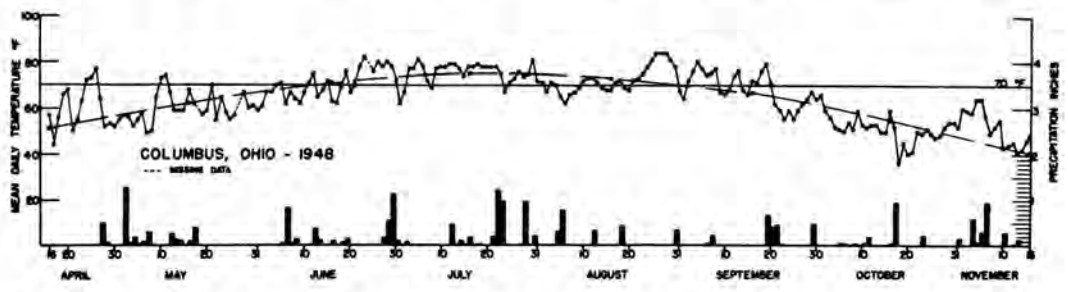
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MEAN DAILY TEMPERATURE °F
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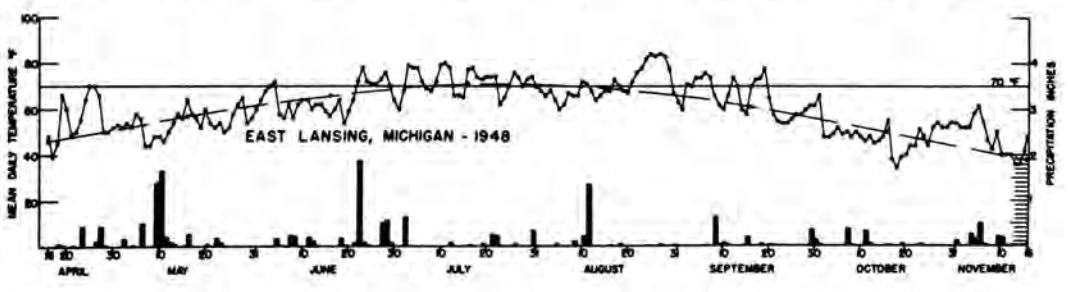
EAST LANSING, MICHIGAN - 1948
MEAN DAILY TEMPERATURE °F
PRECIPITATION INCHES
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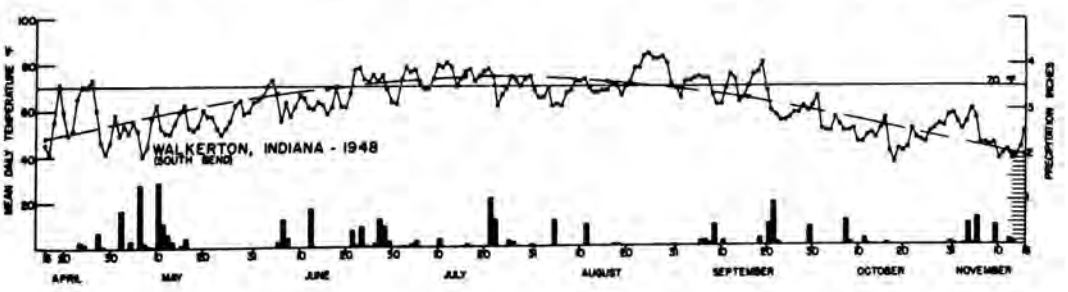
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(SOUTH BEND)
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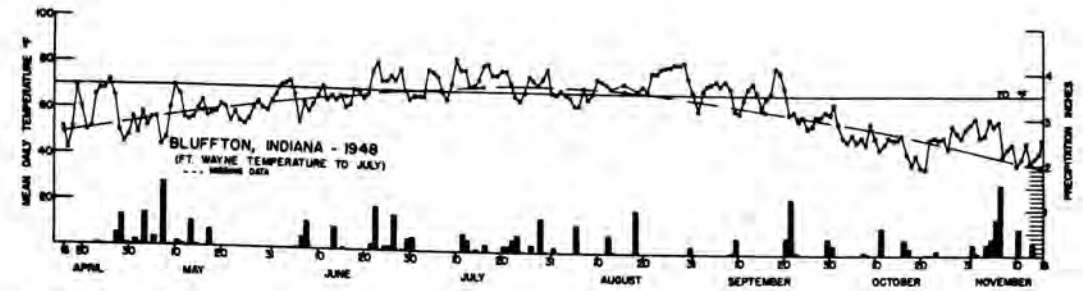
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PRECIPITATION INCHES
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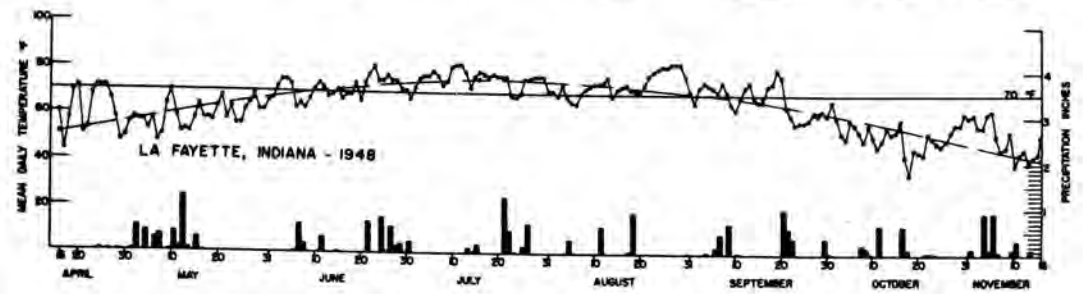
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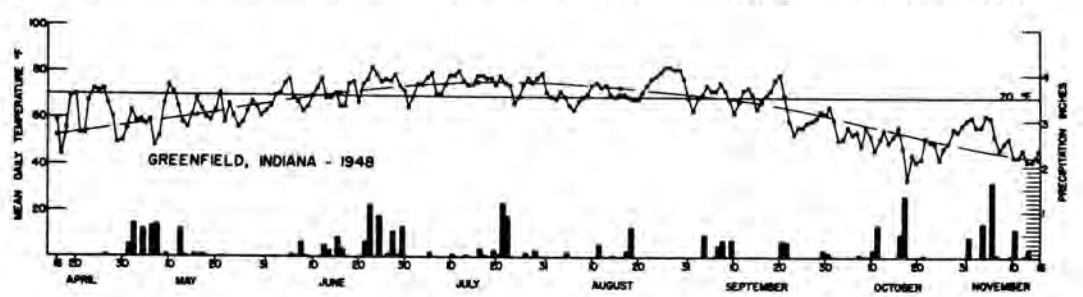
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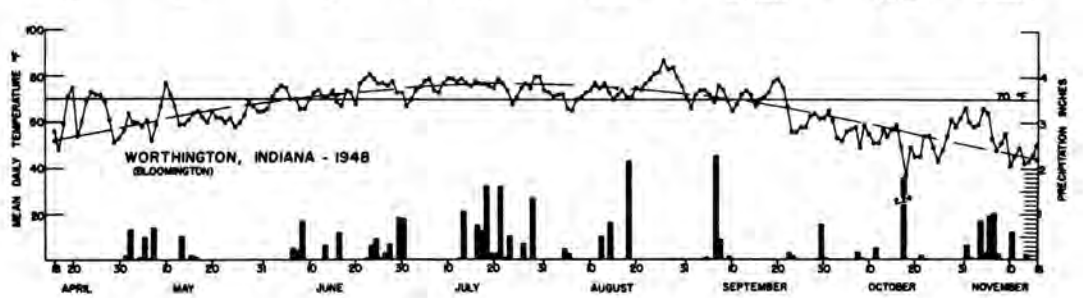
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(BLOOMINGTON)
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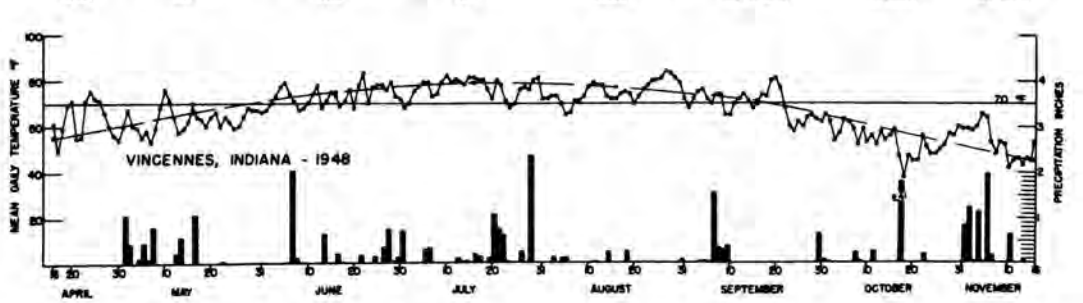
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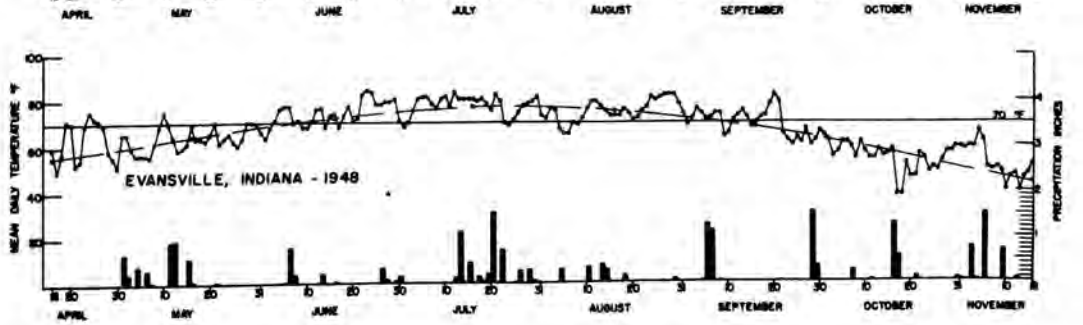
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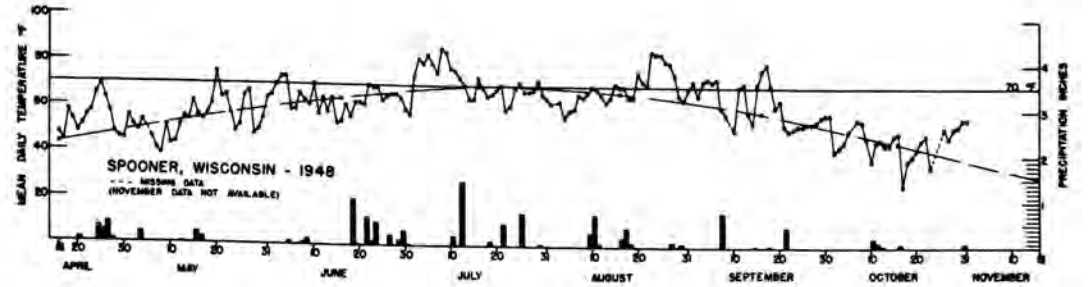
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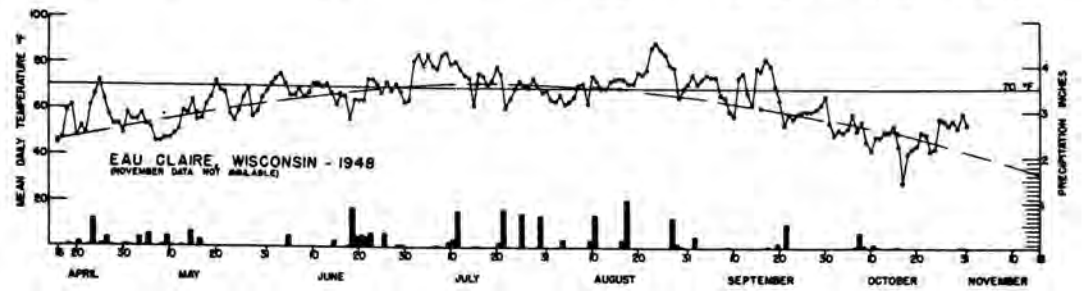
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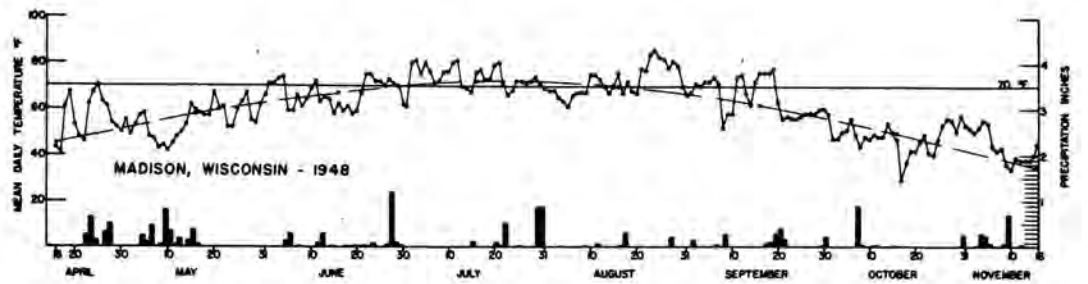
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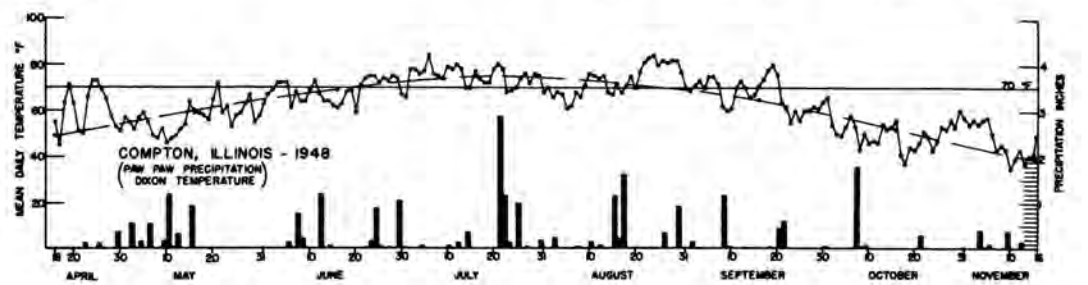
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DIXON TEMPERATURE)
MEAN DAILY TEMPERATURE °F
PRECIPITATION INCHES
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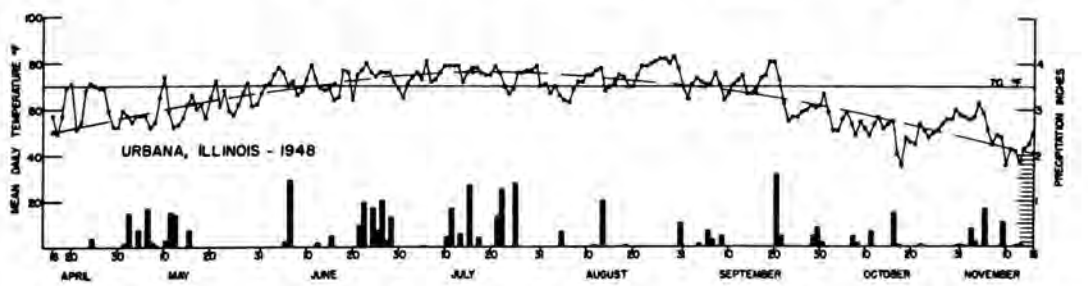
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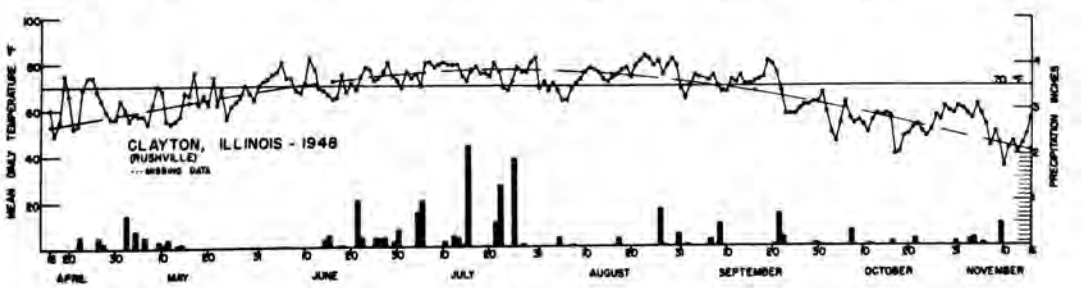
CLAYTON, ILLINOIS - 1948
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PRECIPITATION INCHES
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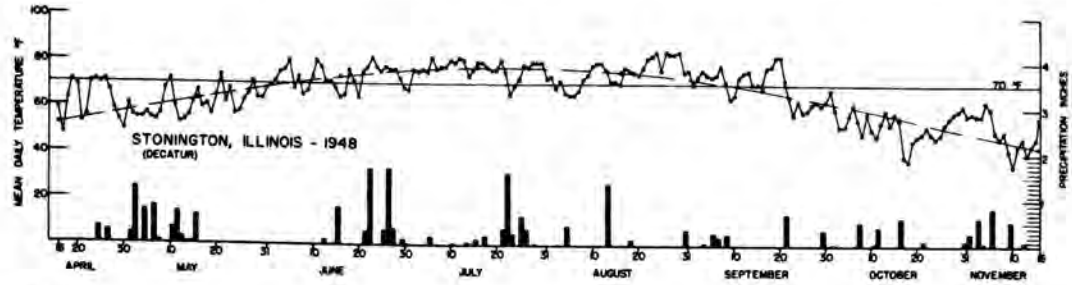
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(DECATUR)
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SEPTEMBER
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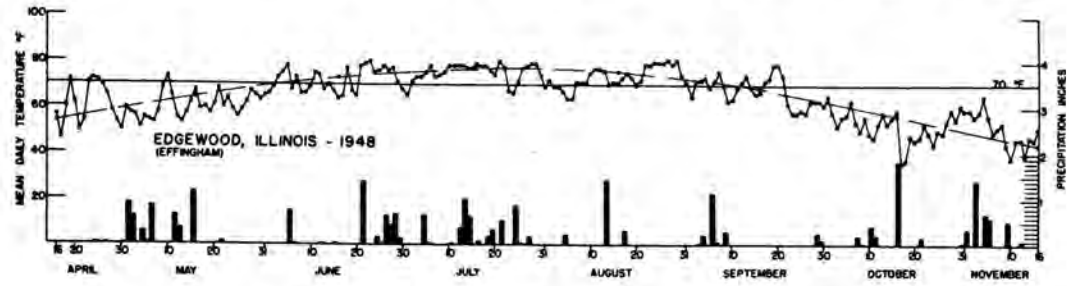
NOVEMBER


EDGEWOOD, ILLINOIS - 1948
(EFFINGHAM)
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PRECIPITATION INCHES
70 °F
APRIL
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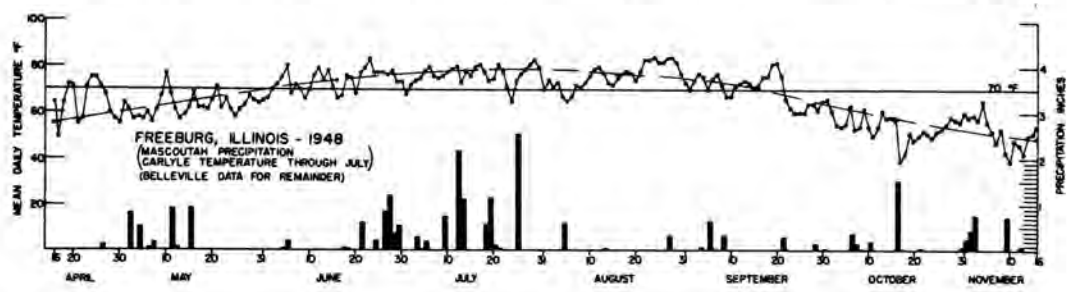
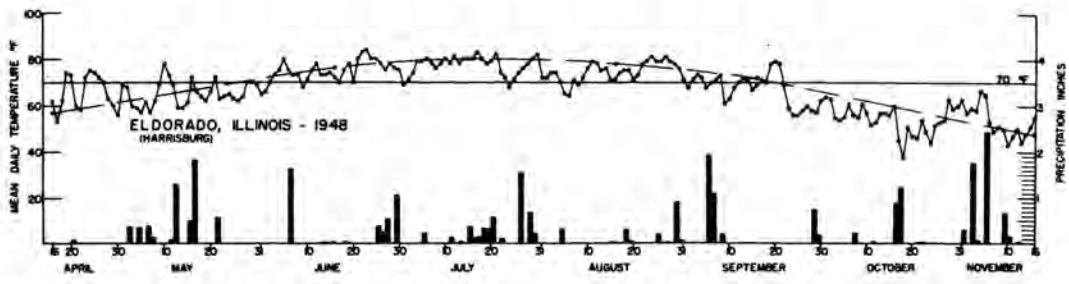
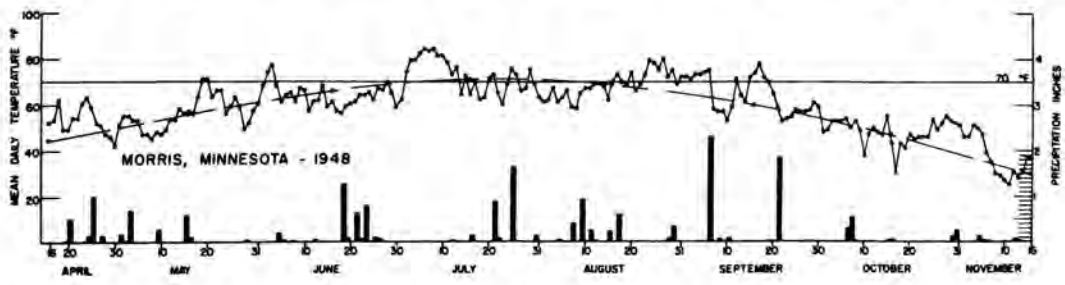
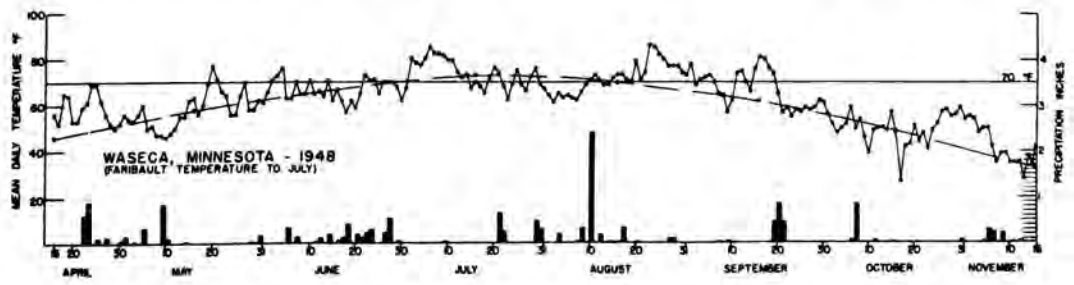
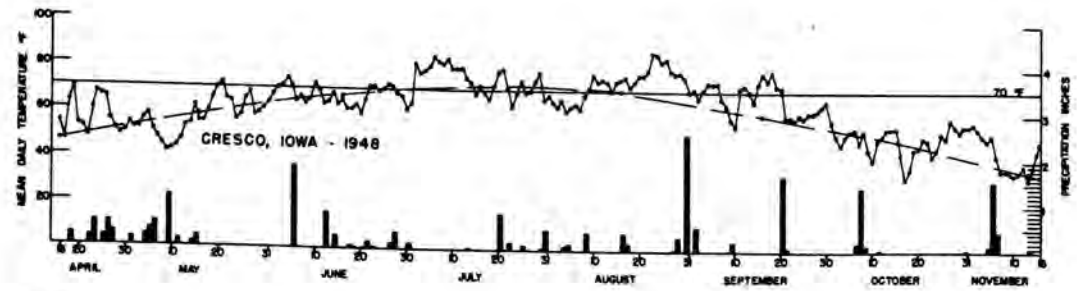
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER

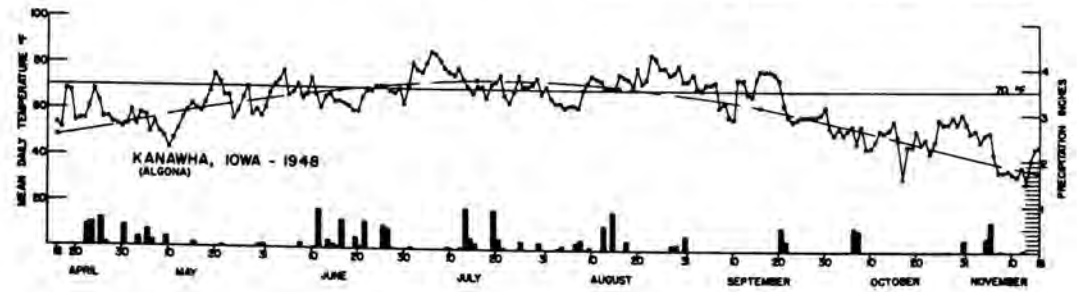

FREEBURG, ILLINOIS - 1948
(MASCOUTAH PRECIPITATION
CARLYLE TEMPERATURE THROUGH JULY)
(BELLEVILLE DATA FOR REMAINDER)
MEAN DAILY TEMPERATURE °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER

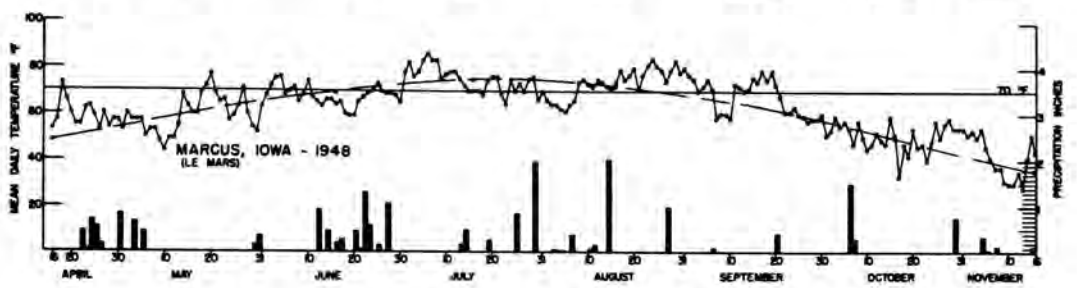

ELDORADO, ILLINOIS - 1948
(HARRISBURG)
MEAN DAILY TEMPERATURE °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER

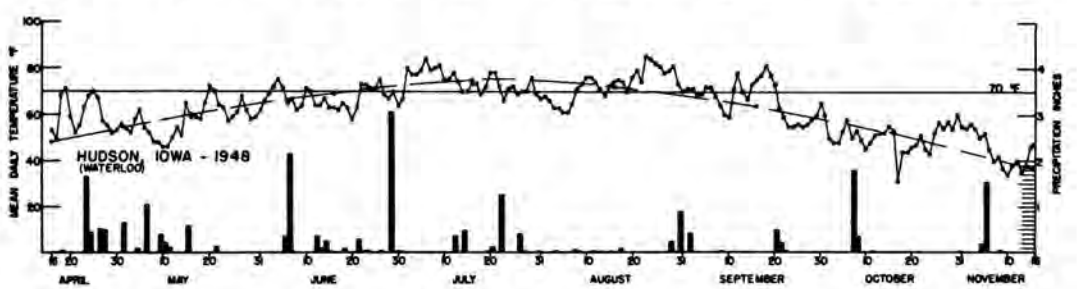

MORRIS, MINNESOTA - 1948
MEAN DAILY TEMPERATURE °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER

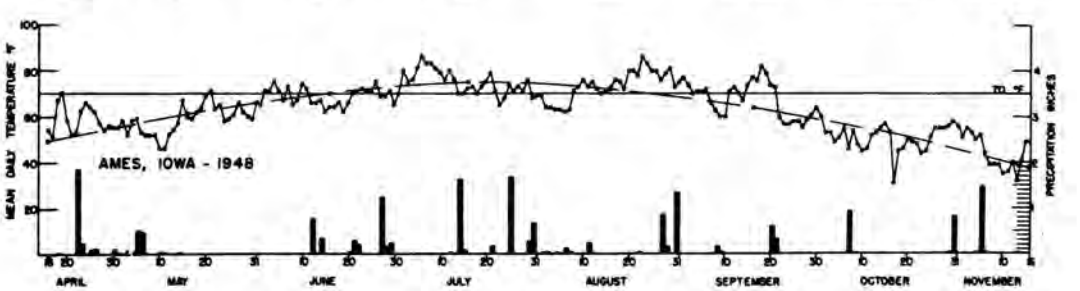

WASECA, MINNESOTA - 1948
(FARIBAULT TEMPERATURE TO JULY)
MEAN DAILY TEMPERATURE °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER

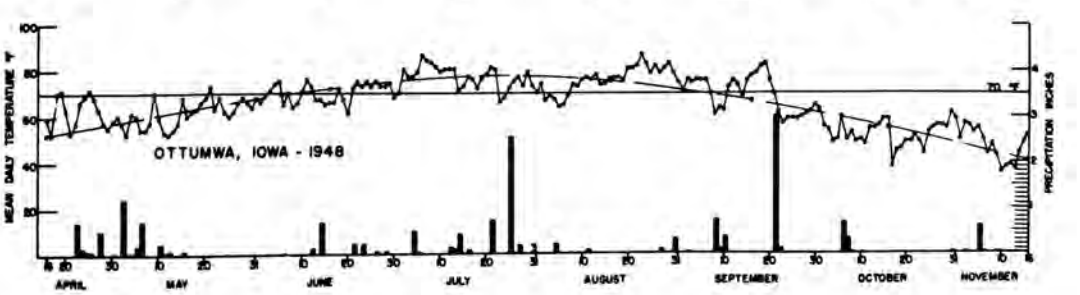

CRESCO, IOWA - 1948
MEAN DAILY TEMPERATURE °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER

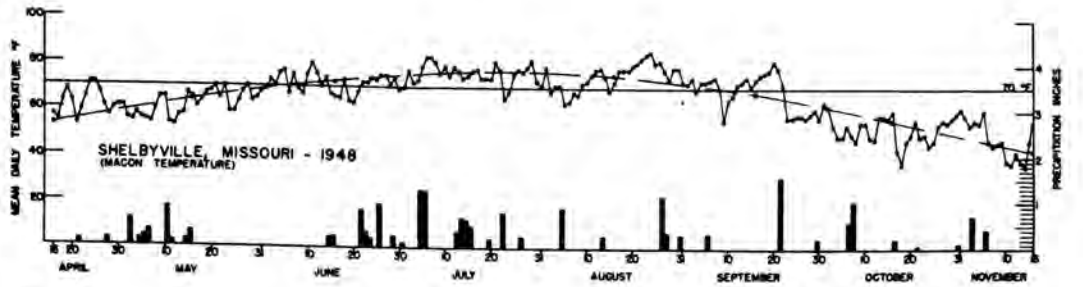

KANAWHA, IOWA - 1948
(ALGONA)
MEAN DAILY TEMPERATURE °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER

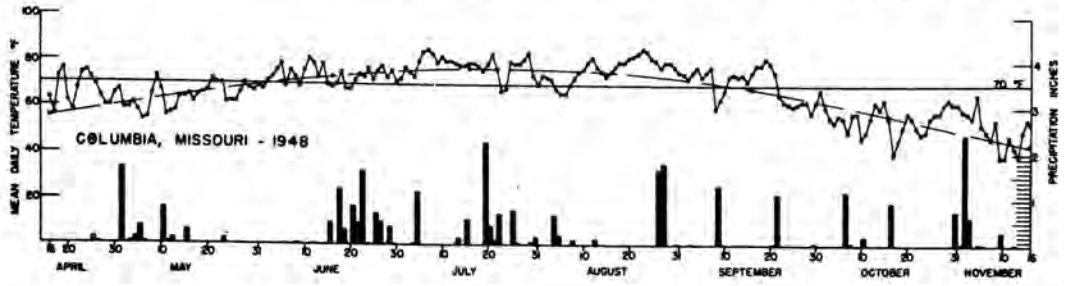

MARCUS, IOWA - 1948
(LE MARS)
MEAN DAILY TEMPERATURE °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER

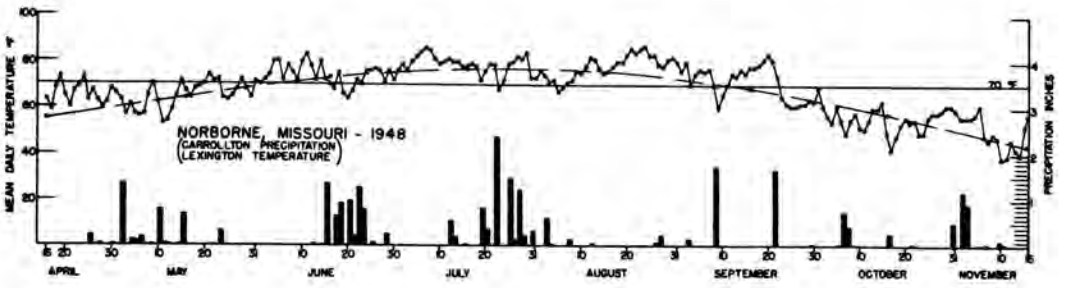

HUDSON, IOWA - 1948
(WATERLOO)
MEAN DAILY TEMPERATURE °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER

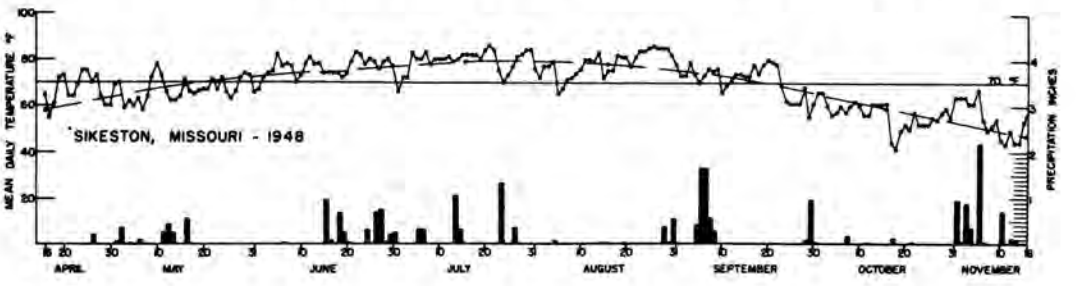

AMES, IOWA - 1948
MEAN DAILY TEMPERATURE °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER

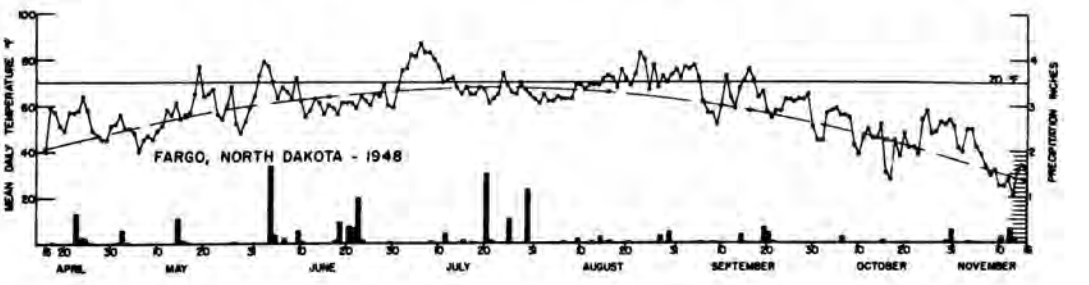

OTTUMWA, IOWA - 1948
MEAN DAILY TEMPERATURE °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER

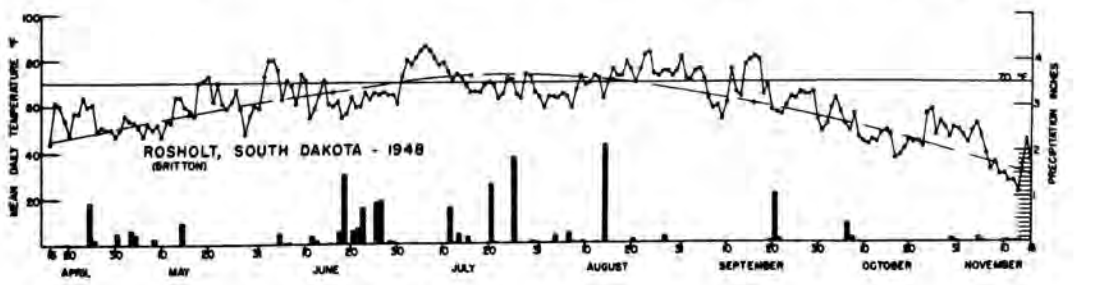

SHELBYVILLE, MISSOURI - 1948
(MACON TEMPERATURE)
MEAN DAILY TEMPERATURE °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER

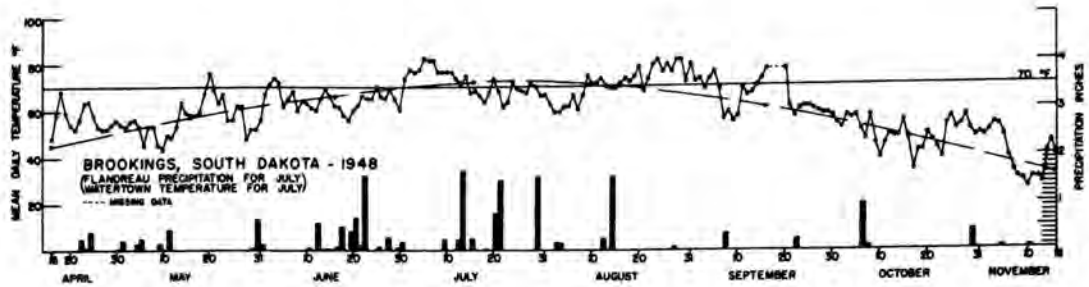

COLUMBIA, MISSOURI - 1948
MEAN DAILY TEMPERATURE °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER

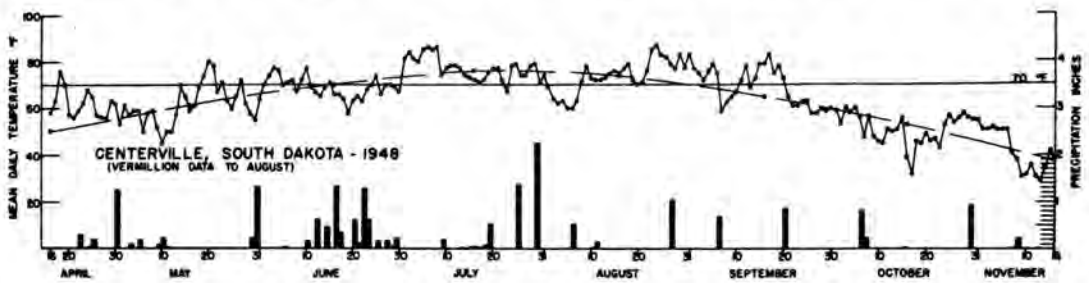

NORBORNE, MISSOURI - 1948
(CARROLLTON PRECIPITATION)
(LEXINGTON TEMPERATURE)
MEAN DAILY TEMPERATURE °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER

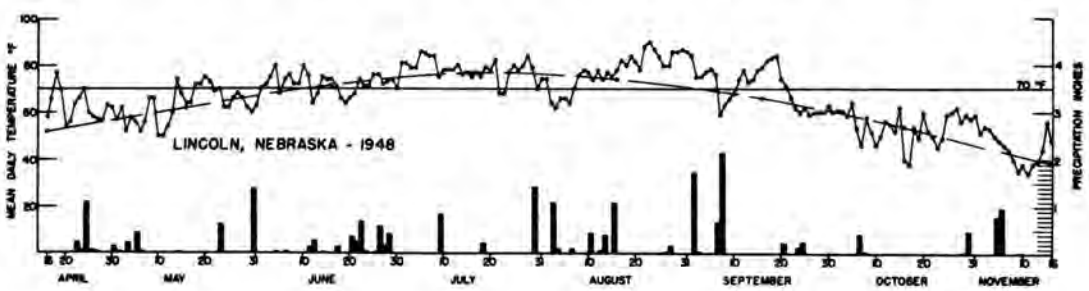

SIKESTON, MISSOURI - 1948
MEAN DAILY TEMPERATURE °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER

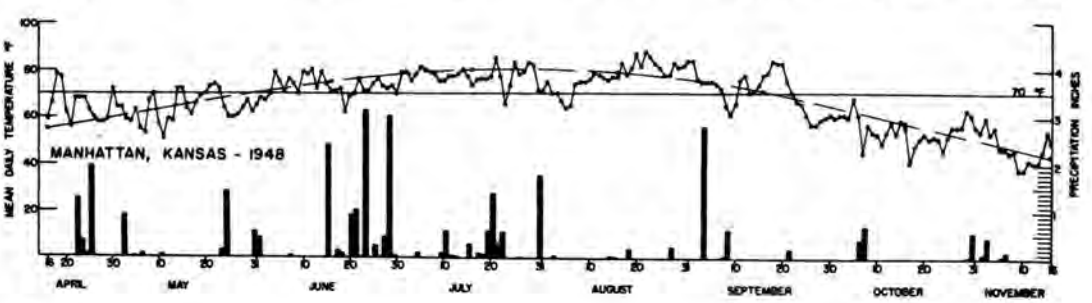

FARGO, NORTH DAKOTA - 1948
MEAN DAILY TEMPERATURE °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER

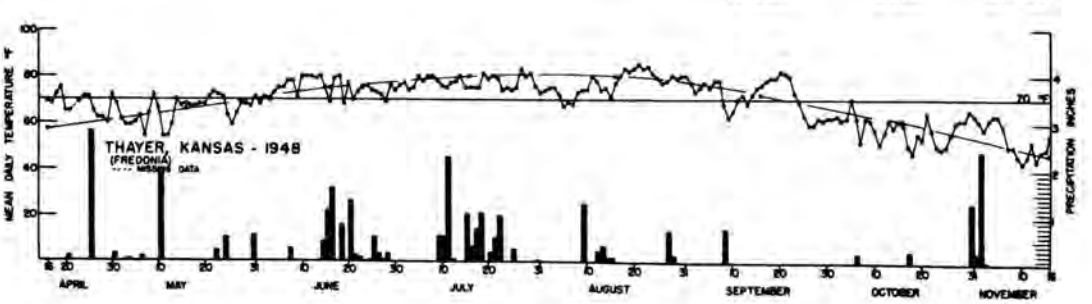

ROSHOLT, SOUTH DAKOTA - 1948
(BRITTON)
MEAN DAILY TEMPERATURE °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER


BROOKINGS, SOUTH DAKOTA - 1948
(FLANDREAU PRECIPITATION FOR JULY)
(WATERTOWN TEMPERATURE FOR JULY)
MISSING DATA
MEAN DAILY TEMPERATURE °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER


CENTERVILLE, SOUTH DAKOTA - 1948
(VERMILLION DATA TO AUGUST)
MEAN DAILY TEMPERATURE °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER


LINCOLN, NEBRASKA - 1948
MEAN DAILY TEMPERATURE °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER


MANHATTAN, KANSAS - 1948
MEAN DAILY TEMPERATURE °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER


THAYER, KANSAS - 1948
(FREDONIA)
MISSING DATA
MEAN DAILY TEMPERATURE °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER