U. S. REGIONAL SOYBEAN LABORATORY
Urbana, Illinois

RESULTS OF THE COOPERATIVE UNIFORM SOYBEAN TESTS, 1945.

PART I. NORTH CENTRAL STATES

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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

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1945

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Compiled by

Staff of the U. S. Regional Soybean Laboratory

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INTRODUCTION

One of the main purposes of the U. S. Regional Soybean Laboratory is to develop through breeding and selection improved strains of soybeans for industrial utilization. All promising material developed through the selection program is classified into maturity groups and is grown along with check varieties at a sufficient number of locations to enable agronomists to determine the value of these strains under a wide range of environmental conditions. Nine of these uniform groups have been established. The four earliest include soybean strains of suitable maturity for the North Central States and the other five groups contain strains adapted to the southern part of the United States.

The Uniform Test, Group 0, contains the earliest strains or those that are able to initiate blooming and reproductive development under the long summer days encountered in the northern part of the North Central States. The Uniform Test, Group I, contains strains adapted to a latitude belt which includes South Dakota, southern Minnesota, Wisconsin, and Michigan. The Uniform Test, Group II, is adapted in general to the northern half of Nebraska, most of Iowa, the northern part of Illinois, north and north central

Indiana, and Ohio. Group III is adapted to the general region of southern Nebraska, northern Kansas, the northern half of Missouri, southern Iowa, central Illinois and Indiana, and southern Ohio. Group IV contains strains that are adapted in general to the southern half of Kansas, south-central Missouri, southern Illinois, and southern Indiana.

The 1945 planting season was unfavorable through parts of the North Central States, in many cases causing very late planting of nursery plots and commercial fields; this resulted in many strains being injured by frost before harvest. Several of the uniform nurseries were not planted until late June and early July, giving valuable information on the effect of late planting on the relative yielding ability of the strains. This information will be helpful in designing date of seeding tests to determine the best strains to plant when similar unfavorable planting conditions are encountered in future years.

COOPERATING AGENCIES AND PERSONNEL FOR THE NORTH CENTRAL REGION

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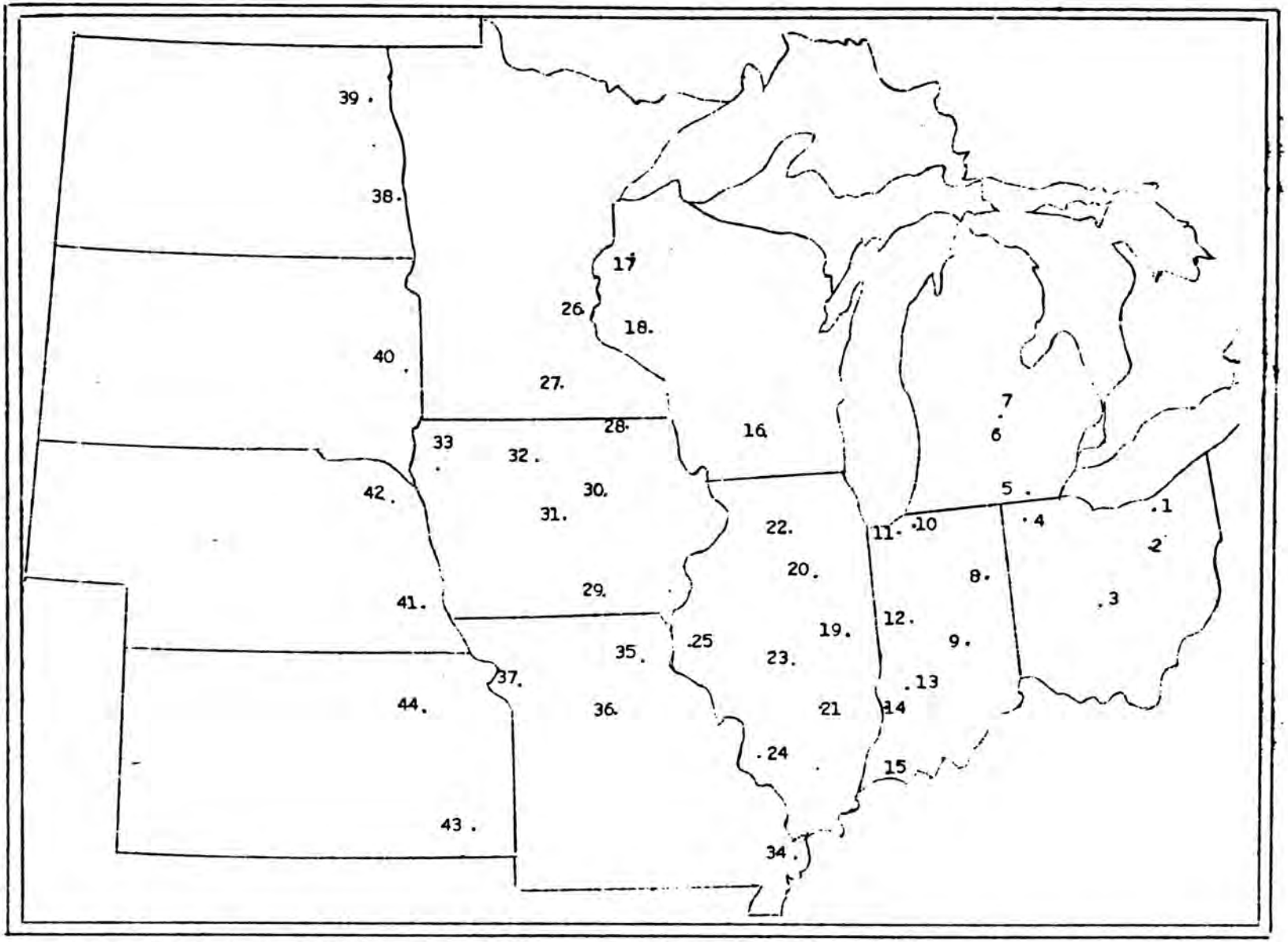
LOCATION OF COOPERATIVE NURSERIES

Location	No. on Map	Cooperator	Uniform Group Tests 0	I	II	III	IV
Georgetown, Del.	---	Georgetown Substation, Del.A.E.S.					
Beltsville, Md.	---	William M. Stuart					
Strongsville, Ohio	1	L. A. Malik		x			
Wooster, Ohio	2	Ohio Agr. Exp. Sta.		x			
Columbus, Ohio	3	Ohio State Univ.		x	x	x	
Holgate, Ohio	4	NW Br. Ohio Agr. Exp. Sta.			x		
Jasper, Mich.	5	Mich. Agr. Exp. Sta.			x		
East Lansing, Mich.	6	Mich. Agr. Exp. Sta.		x	x		
Bath, Mich.	7	Mich. Agr. Exp. Sta.	x				
Bluffton, Ind.	8	Gerald Bayless			x		
Greenfield, Ind.	9	Benjamin Roney			x	x	
Walkerton, Ind.	10	Elbert Place			x		
Wanatah, Ind.	11	Purdue Agr. Exp. Sta.			x		
LaFayette, Ind.	12	Purdue Agr. Exp. Sta.			x	x	
Worthington, Ind.	13	Frederic Sloan				x	x
Vincennes, Ind.	14	Charles H. Schenk					x
Evansville, Ind.	15	Leo J. Hirsch					x
Madison, Wis.	16	Wis. Agr. Exp. Sta.		x	x		
Spooner, Wis.	17	Wis. Br. Agr. Exp. Sta.	x				
Eau Claire, Wis.	18	Wis. Br. Agr. Exp. Sta.	x	x			
Urbana, Ill.	19	Ill. Agr. Exp. Sta.			x	x	x
Dwight, Ill.	20	Frank Roeder			x	x	
Edgewood, Ill.	21	John Wilson				x	x
Compton, Ill.	22	Clarence Ackland			x		
Stonington, Ill.	23	Frank Garwood				x	x
Freeburg, Ill.	24	Loren Wilderman				x	x
Clayton, Ill.	25	Russell Davis				x	x
St. Paul, Minn.	26	Minn. Agr. Exp. Sta.	x	x			
Waseca, Minn.	27	Minn. Br. Agr. Ex. Sta.	x	x			
Cresco, Iowa	28	Howard Co. Exp. Assoc.		x			
Ottumwa, Iowa	29	Fred Parrett				x	
Hudson, Iowa	30	Strayer Seed Farms			x		
Ames, Iowa	31	Iowa Agr. Exp. Sta.			x	x	
Kanawha, Iowa	32	N. Iowa Agr. Exp. Assoc.		x	x		
Marcus, Iowa	33	John Sand			x		
Sikeston, Mo.	34	Mo. Agr. Exp. Sta.					x
Shelbyville, Mo.	35	Ralph Van Horten & Son				x	x
Columbia, Mo.	36	Mo. Agr. Exp. Sta.				x	x
Lathrop, Mo.	37	Lewis Van Buren				x	x
Fargo, N. D.	38	N. Dak. Agr. Exp. Sta.	x				
Park River, N. Dak.	39	Walsh Co. Agr. & Training Sch.	x				
Brookings, S. Dak.	40	S. Dak. Agr. Exp. Sta.		x			
Lincoln, Nebr.	41	Nebr. Agr. Exp. Sta.				x	
Wayne, Nebr.	42	Nebr. Agr. Exp. Sta.			x		
Thayer, Kansas	43	S.E. Kansas Agr. Exp. Field					x
Manhattan, Kansas	44	Kansas Agr. Exp. Sta.				x	x
Corvallis, Oregon	—	Oregon Agr. Exp. Sta.	x				



Map of the North Central States Showing Location of Most of the Cooperative Uniform Tests, 1945.

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 Groups 0 and I, 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, Illini; 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.

UNIFORM TEST, GROUP O

The Group O Test consisted of thirteen named varieties and three selections from hybrids. The origin of these strains and varieties is as follows:

Variety or Strain	Source or Originating Agency	Origin
Early White Eyebrow	Unknown at present	Unknown at present
Flambeau	Wisconsin Agr. Exp. Sta.	Selection from Manchu
Goldsoy	Ontario Agr. College	Selection from O.A.C. 211
Kabott	Central Exp. Farm, Ottawa	Selection from Manchu
Kagon	Wisconsin Agr. Exp. Sta.	Unknown at present
Mandarin (Ottawa)	Central Exp. Farm, Ottawa	Selection from Mandarin
Minsoy	Minnesota Agr. Exp. Sta.	P.I. 27890 [1]
Montreal Manchu	T.B.MacCauley, Montreal	Selection from Manchu
Norsoy	Unknown at present	Unknown at present
Ontario	N. Y. Agr. Exp. Sta.	Selection from P.I. 65344 [1]
Pagoda	Central Exp. Farm, Ottawa	Sel. from Manitoba Br. x Mand.
Pridesoy	Twin City Seed Co, Minneapolis	Unknown at present
Wis. Mandarin 507	Wisconsin Agr. Exp. Sta.	Selection from Mandarin
H38-461	Ohio A.E.S. and U.S.R.S.L.	Lx349 (Scioto x Mandarin)
H50-461	Ohio A.E.S. and U.S.R.S.L.	Lx372 (Illini x Mandarin)
W837-4	Wisconsin Agr. Exp. Sta.	Unknown at present

[1] Division of Plant Exploration and Introduction, Bureau of Plant Industry, Soils, and Agricultural Engineering, U.S.D.A.

The Uniform Test, Group O, was organized in 1944 to test soybean strains adapted to the extreme northern tier of states and southern Canada. This test was grown in Oregon, Idaho, North Dakota, Minnesota, Wisconsin, Michigan, and New York in 1945. However, several tests were failures and several others were not reported on, thus the results from eight locations only are given in this report.

Due to frost and other reasons, satisfactory maturity data were available only from Corvallis, Oregon. Since Corvallis is so far from the other tests, it seemed better not to include any 1945 maturity data. The 1944 maturity data are used in the two-year summary.

Four new strains were included in the 1945 test. Two selections are from Ohio, one from Wisconsin, and a commercial variety, Pridesoy, from Minnesota. Pridesoy was reported to be very similar to Norsoy and for this reason it was included in this year's test for comparison. No consistent differences were noted between these varieties in chemical composition, seed size, and lodging resistance but Pridesoy slightly out-yielded Norsoy at all locations. Pridesoy also exceeded Norsoy in height at all locations except Spooner. These two varieties are both very low in oil content and should be discarded in favor of better strains.

Mandarin (Ottawa), Flambeau, Wisconsin Mandarin 507, and Goldsoy have been rather consistently high yielding in 1943, 1944, and 1945. On the basis of the three-year data (Table 11) Mandarin (Ottawa) and Flambeau could be recommended in their respective maturity groups. Flambeau is a week or more earlier and has yielded about three bushels less than Mandarin (Ottawa). Both strains are above the average in percentage of oil. Flambeau is taller than other strains of similar maturity, but Mandarin (Ottawa) is definitely short for its maturity group. This is a handicap on light soils and has lessened its usefulness.

Ontario, which was the highest yielding strain in the 1943 and 1944 tests, ranked 11th in the 1945 tests. This probably was due to the fact that Ontario, as one of the later varieties in the test, was damaged more than the earlier strains by the frost in 1944. Planting dates were late at Park River, Fargo, Spooner, and Bath, but early at Corvallis, where Ontario made the best showing in 1945. A study of the 1944 and 1945 maturity data indicates great variety x location interaction for Group O. What maturity data we do have indicate that H38-461 and H50-461 belong in Group I rather than in Group O.

Table 1. Summary of agronomic and chemical data for the strains in the Uniform Test, Group 0, 1945.

Strains	Mean Yield Bu/A.	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil	Iodine Number of Oil
Number of Tests	6	6	6	4	6	6	6	6
Mandarin (Ottawa)	28.1	1.5	27	1.5	17.2	40.5	19.5	130.5
Flambeau	25.9	2.3	27	1.5	14.9	40.5	19.6	132.3
Montreal Manchu	25.9	1.7	30	1.3	14.8	40.1	19.2	134.5
E. W. Eyebrow	25.6	1.6	27	1.8	15.0	43.0	18.7	133.1
Goldsoy	25.5	2.3	25	1.5	18.0	40.7	19.6	134.2
Wis. Mandarin 507	25.4	1.4	31	1.5	15.7	41.7	18.6	133.9
Pridesoy	25.0	1.5	28	1.5	12.8	42.7	18.0	134.4
Kabott	23.9	1.4	24	1.5	18.6	40.7	19.7	131.8
Norsoy	23.1	1.4	26	1.3	13.0	42.5	18.2	134.4
W837-4	22.3	2.5	33	2.8	13.8	40.9	19.3	134.4
Ontario	22.0	1.7	28	2.8	17.1	38.5	20.1	133.7
H50-461	22.0	1.5	32	3.0	13.6	40.1	19.2	136.6
Kagon	21.8	1.2	30	2.3	15.8	42.2	18.4	134.0
H38-461	21.8	1.8	29	2.5	14.9	39.4	20.0	134.7
Minsoy	21.5	3.8	24	2.0	11.2	39.2	19.0	131.3
Pagoda	15.3	1.2	23	1.3	13.7	40.4	19.3	129.9
Mean	23.5	1.8	28	1.9	15.0	40.8	19.2	133.4

Table 2. Summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group 0, 1945.

Strain	Mean of 6 Tests[1]	Bath Mich.	Spooner Wis.	Eau Claire Wis.	St. Paul Minn.	Waseca Minn.	Fargo N.D.	Park River N.D.	Corvallis Oregon
Mandarin (Ottawa)	28.1	12.5	27.2	32.4	30.8	29.7	26.2	22.5	11.8
Flambeau	25.9	28.5	25.5	24.1	29.8	26.7	26.9	22.5	10.7
Montreal Manchu	25.9	25.9	23.5	28.6	28.6	26.7	24.2	23.7	10.2
E. W. Eyebrow	25.6	18.5	25.3	25.1	25.3	27.7	27.6	22.5	7.7
Goldsoy	25.5	27.8	23.7	24.7	28.0	25.2	28.3	23.1	9.4
Wis. Mandarin 507	25.4	12.5	23.3	28.2	29.8	27.4	21.8	21.6	10.6
Pridesoy	25.0	30.7	22.8	26.7	24.4	30.3	24.7	20.9	11.7
Kabott	23.9	23.5	21.8	21.7	27.4	23.6	27.5	21.6	11.9
Norsoy	23.1	29.6	21.9	24.4	24.3	26.2	21.4	20.2	9.4
W837-4	22.3	16.0	15.8	27.6	21.1	27.9	20.6	21.0	11.8
Ontario	22.0		18.1	24.4	24.3	25.2	22.1	17.8	10.3
H50-461	22.0	15.5	13.8	28.7	29.2	27.0	15.4	17.7	7.6
Kagon	21.8	19.2	19.5	23.9	21.2	25.2	21.0	20.2	11.8
H38-461	21.8	16.6	19.5	27.2	21.9	25.6	17.1	19.7	10.2
Minsoy	21.5	32.5	21.3	23.5	20.0	23.3	23.2	18.0	9.4
Pagoda	15.3	14.6	16.7	16.0	17.2	11.3	16.5	14.2	8.0
Mean	23.5	20.2	21.3	25.4	25.2	25.6	22.8	20.5	10.2
Coef. of Var. (%)			13.6	9.2			8.3	9.6	17.7
Bu.Nec.for Sig. (5%)			4.1	3.4	6.11	3.7	2.7	2.8	3.4

[1]Bath and Corvallis not included in the mean.

Yield Rank

Mandarin (Ottawa)	14	1	1	1	2	5	3	2
Flambeau	4	2	12	2	7	4	3	4
Montreal Manchu	6	5	3	5	7	7	1	7
E. W. Eyebrow	9	3	8	8	4	2	3	10
Goldsoy	5	4	9	6	11	1	2	8
Wis. Mandarin 507	14	6	4	2	5	10	6	5
Pridesoy	2	7	7	9	1	6	9	3
Kabott	7	9	15	7	14	3	6	1
Norsoy	3	8	10	10	9	11	10	8
W837-4	11	15	5	14	3	13	8	2
Ontario		13	10	10	11	9	14	6
H50-461	12	16	2	4	6	16	15	11
Kagon	8	11	13	13	11	12	10	2
H38-461	10	11	6	12	10	14	12	7
Minsoy	1	10	14	15	15	8	13	8
Pagoda	13	14	16	16	16	15	16	9

Table 3. Summary of lodging and height data for the strains in the Uniform Test, Group O, 1945.

Strain	Mean of 6 Tests[1]	Bath Mich.	Spooner Wis.	Eau Claire Wis.	St. Paul Minn.	Waseca Minn.	Fargo N. D.	Park River N. D.	Corvallis Oregon
		Lodging							
Mandarin (Ottawa)	1.5	1.0	1.0	1.3	1.8	1.0	3.0	1.0	
Flambeau	2.3	1.0	2.0	2.0	2.2	2.5	4.0	1.0	
Montreal Manchu	1.7	2.0	2.0	1.5	2.2	1.5	2.0	1.0	
E. W. Eyebrow	1.6	1.0	1.0	1.3	2.0	2.0	2.0	1.0	
Goldsoy	2.3	1.0	2.0	2.5	2.2	2.8	3.0	1.0	
Wis. Mandarin 507	1.4	1.0	1.0	1.5	2.0	1.0	2.0	1.0	
Pridesoy	1.5	1.0	1.0	1.0	2.2	1.5	2.0	1.0	
Kabott	1.4	1.0	1.0	2.0	2.5	1.0	1.0	1.0	
Norsoy	1.4	1.0	1.0	1.0	1.8	1.5	2.0	1.0	
W837-4	2.5	1.0	2.0	2.8	3.0	3.2	3.0	1.0	
Ontario	1.7		1.0	1.0	2.2	1.2	3.0	2.0	
H50-461	1.5	1.0	1.0	1.8	2.2	1.0	2.0	1.0	
Kagon	1.2	1.0	1.0	1.3	2.0	1.0	1.0	1.0	
H38-461	1.8	1.0	1.0	2.0	2.5	1.2	3.0	1.0	
Minsoy	3.8	1.0	4.0	4.0	3.5	4.2	5.0	2.0	
Pagoda	1.2	1.0	1.0	1.0	2.2	1.0	1.0	1.0	
Mean	1.8	1.1	1.4	1.8	2.3	1.7	2.4	1.1	
		Height							
Mandarin (Ottawa)	27	18	30	27	28	27	30	21	30
Flambeau	27	28	27	26	30	26	29	24	30
Montreal Manchu	30	24	31	30	32	30	30	26	34
E. W. Eyebrow	27	19	30	24	29	32	27	21	27
Goldsoy	25	23	29	23	26	25	25	20	21
Wis. Mandarin 507	31	21	30	31	34	32	32	26	34
Pridesoy	28	23	28	28	30	28	30	21	29
Kabott	24	19	24	22	26	26	25	21	27
Norsoy	26	21	30	24	28	26	29	19	28
W837-4	33	30	30	34	37	38	29	27	35
Ontario	28		28	28	28	28	32	23	33
H50-461	32	22	30	37	36	32	32	26	30
Kagon	30	20	30	29	33	31	31	24	36
H38-461	29	23	30	31	28	30	31	26	38
Minsoy	24	13	23	25	24	25	26	20	23
Pagoda	23	13	20	23	28	24	24	19	24
Mean	28	20	28	28	30	29	29	22	30

[1] Bath and Corvallis not included in the mean.

Table 4. Summary of seed quality and seed weight data for the strains in the Uniform Test, Group 0, 1945.

Strain	Mean[1]	Bath Mich.	Spooner Wis.	Eau Claire Wis.	St.Paul Minn.	Waseca Minn.	Fargo N.D.	Park River N.D.	Corvallis Oregon
		Seed Quality							
Mand.(Ottawa)	1.5	4	2	1			1	2	2
Flambeau	1.5	3	2	2			1	1	1
Mont. Manchu	1.3	4	2	1			1	1	2
E.W. Eyebrow	1.8	2	2	2			1	2	1
Goldsoy	1.5	2	2	2			1	1	2
Wis. Mand. 507	1.5	4	2	1			1	2	1
Pridesoy	1.5	3	3	1			1	1	1
Kabott	1.5	4	2	2			1	1	2
Norsoy	1.3	3	2	1			1	1	1
W837-4	2.8	3	4	2			2	3	2
Ontario	2.8	5	4	2			2	3	1
H50-461	3.0	3	4	2			3	3	1
Kagon	2.3	3	3	2			2	2	2
H38-461	2.5	4	4	2			1	3	1
Minsoy	2.0	2	2	2			2	2	1
Pagoda	1.3	2	2	1			1	1	2
Mean	1.9	3.1	2.6	1.6			1.4	1.8	1.4
		Seed Weight in grams per 100 seeds							
Mand.(Ottawa)	17.2	13.1	18.8	21.3	19.5	16.3	12.5	14.9	15.2
Flambeau	14.9	14.5	14.9	17.4	16.3	15.4	12.1	13.0	11.6
Mont. Manchu	14.8	13.5	14.6	18.1	16.8	14.6	11.2	13.7	10.8
E.W. Eyebrow	15.0	15.8	15.8	18.4	16.1	14.7	11.3	13.4	13.4
Goldsoy	18.0	16.3	18.1	20.8	20.5	18.2	14.7	15.9	16.0
Wis. Mand. 507	15.7	14.0	16.0	19.8	17.6	16.0	11.1	13.8	11.6
Pridesoy	12.8	11.8	13.2	15.7	15.4	12.6	9.0	11.1	11.2
Kabott	18.6	18.1	18.3	21.4	21.0	18.1	14.9	17.6	18.9
Norsoy	13.0	11.6	13.8	15.6	15.4	12.9	9.4	11.1	9.9
W837-4	13.8	12.4	12.9	18.4	16.9	13.6	9.7	11.1	9.7
Ontario	17.1	13.1	16.8	21.4	18.0	17.0	12.9	16.2	11.7
H50-461	13.6	13.5	12.6	18.7	15.1	14.4	9.6	10.9	8.3
Kagon	15.8	13.2	16.1	19.0	17.0	16.4	11.4	14.7	12.0
H38-461	14.9	13.4	15.1	18.0	16.3	14.9	11.1	13.9	10.8
Minsoy	11.2	13.6	11.1	14.0	12.2	11.5	8.8	9.3	8.3
Pagoda	13.7	13.3	13.5	15.4	15.1	13.8	10.7	13.4	13.4
Mean	15.0	13.8	15.1	18.3	16.8	15.0	11.3	13.4	12.1

[1]Bath and Corvallis not included in the mean.

Table 5. Summary of percentage protein and percentage oil for the strains in the Uniform Test, Group 0, 1945.

Strain	Mean of 6 Tests[1]	Bath Mich.	Spooner Wis.	Eau Claire Wis.	St. Paul Minn.	Waseca Minn.	Fargo N.D.	Park River N.D.	Corvallis Oregon
					Protein				
Mand.(Ottawa)	40.5	41.1	43.2	43.5	43.8	39.5	33.6	39.4	43.6
Flambeau	40.5	42.3	40.6	43.5	43.6	41.1	33.4	40.6	40.9
Mont. Manchu	40.1	41.7	40.9	42.7	43.1	40.8	33.4	39.5	41.0
E.W. Eyebrow	43.0	44.6	45.1	45.7	45.9	41.8	35.9	43.6	43.6
Goldsoy	40.7	42.1	41.3	42.0	43.6	41.2	35.0	40.8	41.2
Wis. Mand.507	41.7	41.4	44.1	44.5	45.4	42.5	33.4	40.4	43.5
Pridesoy	42.7	44.6	43.9	45.2	46.3	43.8	34.8	42.1	43.8
Kabott	40.7	42.6	40.7	42.3	43.0	40.4	34.1	43.5	43.4
Norsoy	42.5	44.1	43.8	44.6	46.8	43.2	35.5	41.1	43.1
W837-4	40.9	44.4	42.8	44.4	45.1	40.6	32.7	39.6	41.5
Ontario	38.5	40.6	38.1	41.0	41.9	40.0	32.0	38.0	39.3
H50-461	40.1	42.1	42.1	41.6	42.6	40.4	34.6	39.2	43.7
Kagon	42.2	43.8	43.9	44.9	45.7	41.9	34.7	41.8	43.4
H38-461	39.4	42.7	40.0	41.6	42.6	39.1	32.6	40.2	38.6
Minsoy	39.2	39.8	39.9	41.3	41.5	39.5	33.5	39.3	40.4
Pagoda	40.4	43.1	40.9	41.5	42.4	40.5	34.6	42.4	43.9
Mean	40.8	42.6	42.0	43.1	44.0	41.0	34.0	40.7	42.2
					Oil				
Mand.(Ottawa)	19.5	18.2	18.8	18.9	18.4	20.0	21.1	19.9	17.2
Flambeau	19.6	17.5	19.0	18.9	18.6	19.3	22.3	19.6	18.0
Mont. Manchu	19.2	18.0	18.3	19.0	18.4	19.3	20.6	19.5	16.8
E. W. Eyebrow	18.7	17.5	17.7	18.2	17.1	19.1	21.3	18.7	17.3
Goldsoy	19.6	17.9	19.2	19.1	17.9	19.0	22.2	19.9	18.2
Wis. Mand. 507	18.6	18.0	17.6	17.9	17.6	18.7	20.8	19.0	16.4
Pridesoy	18.0	16.2	17.5	17.8	16.6	17.7	20.0	18.4	16.8
Kabott	19.7	17.8	19.5	19.4	18.5	19.6	22.0	19.0	16.8
Norsoy	18.2	16.2	17.4	17.8	16.7	18.1	20.2	18.7	16.7
W837-4	19.3	17.8	18.6	18.6	18.4	19.7	21.2	19.2	16.6
Ontario	20.1	18.7	20.1	19.8	19.0	20.1	21.6	20.0	18.1
H50-461	19.2	18.3	18.8	18.4	18.7	19.7	20.4	19.4	15.9
Kagon	18.4	17.0	17.8	17.9	17.0	18.8	20.4	18.5	16.1
H38-461	20.0	18.1	19.7	19.9	18.8	20.5	21.8	19.5	18.4
Minsoy	19.0	18.7	18.8	19.4	18.4	19.4	20.2	17.9	16.8
Pagoda	19.3	17.3	18.3	19.3	18.6	19.4	21.3	19.0	16.5
Mean	19.2	17.7	18.6	18.8	18.0	19.3	21.1	19.1	17.0

[1]Bath and Corvallis not included in the mean.

Table 6. Summary of iodine number of oil for the strains in the Uniform Test, Group 0, 1945.

Strain	Mean of 6 Tests[1]	Bath Mich.	Spooner Wis.	Eau Claire Wis.	St.Paul Minn.	Waseca Minn.	Fargo N.D.	Park River N.D.	Corvallis Oregon
Mand.(Ottawa)	130.5	137.2	133.8	128.6	128.9	128.4	131.6	131.6	134.4
Flambeau	132.3	138.1	134.6	130.4	132.1	129.5	132.8	134.4	133.4
Mont. Manchu	134.5	139.9	138.0	132.2	134.6	132.4	135.5	134.5	137.6
E.W. Eyebrow	133.1	137.7	136.0	131.2	133.1	132.5	133.6	132.3	133.4
Goldsoy	134.2	138.9	136.6	133.4	134.0	132.9	135.4	133.1	134.0
Wis.Mand. 507	133.9	136.0	137.5	132.6	132.8	132.2	134.5	133.7	136.9
Pridesoy	134.4	141.3	137.4	132.9	133.8	133.3	134.5	134.3	135.3
Kabott	131.8	138.3	135.1	130.6	131.2	129.4	133.7	131.0	131.3
Norsoy	134.4	141.0	138.8	132.8	132.9	133.2	134.6	133.8	136.9
W837-4	134.4	139.4	137.5	131.0	133.3	132.5	136.0	136.3	135.8
Ontario	133.7	140.3	136.1	131.5	133.7	130.8	135.0	135.0	135.5
H50-461	136.6	140.6	141.2	134.7	135.6	134.3	136.6	137.3	138.8
Kagon	134.0	140.1	137.8	132.9	133,4	131.6	134.2	134.0	138.4
H38-461	134.7	140.8	137.9	132.8	134.3	133.0	135.5	134.7	137.2
Minsoy	131.3	131.6	134.3	128.6	131.7	128.9	132.3	132.2	132.5
Pagoda	129.9	138.7	132.2	128.0	130.9	127.7	132.6	127.9	129.3
Mean	133.4	138.7	136.6	131.5	132.6	131.4	134.3	133.5	135.0

[1]Bath and Corvallis not included in the mean.

Table 7. Two-year summary of agronomic and chemical data for the strains in the Uniform Test, Group O, 1944-45.

Strain	Yield Bu./A.	Lodging	Height Inches	Maturity[1]	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil	Iodine Number of Oil
No. of tests	12	12	11	4	10	12	12	12	12
Mand. (Ottawa)	27.6	1.3	25	0	1.4	17.8	41.7	19.0	132.7
Mont. Manchu	26.5	1.4	28	-2	1.3	15.4	42.1	18.9	136.1
Flambeau	25.3	1.7	25	-7	1.5	15.0	42.0	19.1	133.0
Wis. Mand. 507	25.2	1.2	29	-1	1.4	16.3	43.3	18.1	135.6
Ontario	24.9	1.4	26	+3	2.1	18.3	40.4	19.7	135.5
Goldsoy	24.6	1.7	23	-4	1.4	18.5	42.6	18.8	135.0
E.W. Eyebrow	23.8	1.3	24	-4	1.6	15.6	44.3	18.2	134.1
Norsoy	23.1	1.2	24	0	1.3	13.7	44.1	17.5	136.3
Kagon	22.6	1.1	27	0	1.9	16.6	43.8	17.9	135.8
Kabott	22.1	1.2	22	-10	1.4	19.0	42.3	19.1	132.0
Minsoy	20.7	2.7	22	-3	1.7	11.3	40.8	18.5	132.1
Pagoda	13.8	1.1	21	-11	1.3	14.0	42.2	19.0	129.2
Mean	23.4	1.4	25		1.5	16.0	42.5	18.7	134.0

[1] 1944 data only. Days earlier (-) or later (+) than Mandarin (Ottawa). Mandarin (Ottawa) required 115 days to mature.

Table 8. Two-year summary of yields in bushels per acre and yield rank for the strains in the Uniform Test, Group 0, 1944-45.

Strain	Mean of 12 Tests	Spooner Wis.	Eau Claire Wis.	St. Paul Minn.	Waseca Minn.	Fargo N.D.	Park River N.D.
Mand.(Ottawa)	27.6	22.1	22.2	31.1	31.8	35.4	23.1
Mont. Manchu	26.5	19.7	21.0	29.6	29.6	35.4	23.9
Flambeau	25.3	21.4	16.4	27.2	29.9	34.3	22.7
Wis.Mand. 507	25.2	19.6	20.3	28.9	28.8	31.9	21.6
Ontario	24.9	18.3	20.1	28.4	28.3	31.8	22.2
Goldsoy	24.6	20.2	17.2	26.3	27.4	32.2	24.3
E.W. Eyebrow	23.8	20.3	17.5	25.6	26.0	31.4	21.8
Norsoy	23.1	18.5	17.3	23.9	27.4	29.3	21.8
Kagon	22.6	18.0	17.9	23.5	26.4	30.0	20.0
Kabott	22.1	20.0	14.5	27.5	23.2	26.5	21.1
Minsoy	20.7	17.8	16.4	22.0	22.7	24.1	21.3
Pagoda	13.8	15.2	9.0	17.1	10.8	17.3	13.2
Mean	23.4	19.3	17.5	25.9	26.0	30.0	21.4
		Yield Rank					
Mand.(Ottawa)		1	1	1	1	1	3
Mont. Manchu		6	2	2	3	1	2
Flambeau		2	9	6	2	3	4
Wis.Mand. 507		7	3	3	4	5	8
Ontario		9	4	4	5	6	5
Goldsoy		4	8	7	6	4	1
E.W. Eyebrow		3	6	8	9	7	6
Norsoy		8	7	9	6	9	6
Kagon		10	5	10	8	8	11
Kabott		5	11	5	10	10	10
Minsoy		11	9	11	11	11	9
Pagoda		12	12	12	12	12	12

Table 9. Three year summary of agronomic and chemical data for the strains in the Uniform Test, Group 0, 1943-1945.

Strain	Yield Bu/A.	Lodging	Height Inches	Maturity[1]	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil	Iodine Number of Oil
No. of Tests	21	20	20	12	18	21	21	21	21
Mandarin (Ottawa)	27.3	1.5	26	0	1.5	18.4	42.6	19.2	131
Ontario	25.6	1.8	27	+2.8	1.9	18.6	41.1	20.0	133
Wis.Mandarin 507	25.3	1.6	30	-0.5	1.7	17.0	44.0	18.2	133
Goldsoy	24.6	2.0	24	-5.7	1.7	19.2	43.5	18.7	134
Flambeau	24.6	2.0	26	-10.5	1.8	15.4	42.6	19.2	132
Kabott	21.8	1.5	23	-11.1	1.6	19.1	43.6	18.6	131
Minsoy	20.0	2.8	23	-7.4	1.7	11.6	41.2	18.7	131
Pagoda	14.8	1.1	23	-14.4	1.5	14.4	42.7	19.0	128
Mean	23.0	1.8	25		1.7	16.7	42.7	19.0	132

[1] 1943-44 data only. Days earlier (-) or later (+) than Mandarin (Ottawa). Mandarin (Ottawa) required 112 days to mature.

Table 10. Three-year summary of yields in bushels per acre and yield rank for the strains in the Uniform Test, Group 0, 1943-45.

Strain	Mean of 21 Tests	Spooner Wis.	Eau Claire Wis.	St. Paul Minn.	Waseca Minn.	Fargo N.D.
Mand.(Ottawa)	27.3	20.7	22.1	29.1	32.4	30.4
Ontario	25.6	17.3	19.5	29.4	29.1	26.6
Wis.Mand. 507	25.3	17.8	20.3	28.0	28.8	27.9
Goldsoy	24.6	18.6	17.3	27.1	27.1	29.7
Flambeau	24.6	20.2	16.2	27.9	30.0	31.4
Kabott	21.8	18.0	14.4	26.7	24.1	23.9
Minsoy	20.0	17.3	16.0	20.8	21.5	22.5
Pagoda	14.8	14.4	8.9	19.3	13.9	15.9
Mean	23.0	18.0	16.8	26.0	25.9	26.0
		Yield Rank				
Mand. (Ottawa)		1	1	2	1	2
Ontario		6	3	1	3	5
Wis. Mand. 507		5	2	3	4	4
Goldsoy		3	4	5	5	3
Flambeau		2	5	4	2	1
Kabott		4	7	6	6	6
Minsoy		6	6	7	7	7
Pagoda		8	8	8	8	8

Uniform Test, Group I

The Group I test consisted of seven named varieties, one U.S.D.A. plant introduction, and eight selections from hybrids. The origin of these varieties and strains is as follows:

Variety or Strain	Source or Originating Agency	Origin
Earlyana	Purdue Agr. Exp. Station	Sel. from a natural hybrid
Habaro	U. S. Dept. of Agr.	P.I. 20405[1]
Manchukota	S. Dakota Agr. Exp. Sta.	Sel. from Manchu
Mand. (Ottawa)	Central Exp. Farm, Ottawa	Sel. from Mandarin
Ontario	N. Y. Agr. Exp. Sta.	Sel. from P.I. 65344[1]
Wis. Manchu 3	Wis. Agr. Exp. Sta.	Sel. from Manchu 3
Wis. Manchu 606	Wis. Agr. Exp. Sta.	Sel. from Manchu
F.C. 31596[2]	Farmer's Selection	Sel. from Manchu
A3K-884	Iowa A.E.S. and U.S.R.S.L.	AX1415 (Mukden x Richland)
H2	Ohio A.E.S. and U.S.R.S.L.	LX339 (Dunfield x Illini)
H5	Ohio A.E.S. and U.S.R.S.L.	LX378 (Mukden x Mandarin)
H16-461	Ohio A.E.S. and U.S.R.S.L.	LX339 (Dunfield x Illini)
H25-461	Ohio A.E.S. and U.S.R.S.L.	LX349 (Scioto x Mandarin)
H113-461	Ohio A.E.S. and U.S.R.S.L.	LX378 (Mukden x Mandarin)
H133-461	Ohio A.E.S. and U.S.R.S.L.	LX378 (Mukden x Mandarin)
H170-461	Ohio A.E.S. and U.S.R.S.L.	Unknown

[1]Division of Plant Exploration and Introduction, Bureau of Plant Industry, Soils, and Agricultural Engineering, U.S.D.A.

[2]Forage Crops and Diseases, Bureau of Plant Industry, Soils, and Agricultural Engineering, U.S.D.A.

Group I was grown at twelve locations in 1945 but results have been reported from eleven locations only. Maturity data are available for four locations. The data from these individual locations differ rather widely. H133-461, for instance, was 20 days later at Kanawha, 13 days later at Columbus, 4 days later at Madison, and only 2 days later at Wooster.

Six new selections from hybrids were entered in the Uniform Group I Test in 1945. Five of these were from Ohio and one, A3K-884, from Iowa. This strain, from a Mukden x Richland cross, was outstanding in appearance in the field and was also at the top in yield. This strain is fairly tall, quite resistant to lodging and satisfactory in oil content. In common with most of the strains in this test it is about a week later than Mandarin.

In comparison with later strains, Mandarin (Ottawa) has yielded very well in this year's test. In the three-year summary, it is only 4 bushels lower than Wisconsin Manchu 3 which is 11 days later. F.C. 31596, which has been included for two years, has proven to be low in oil and quite late for the area in which Group I is grown. It lodges badly and has averaged lowest of all strains in yield. This strain is similar to or identical with the strain known as Early Minnesota Manchu. It should be discarded in favor of better strains. Group I was set up to include strains between Mandarin and Earlyana in maturity, and most of the strains in the 1945 test fall in this classification. Most of them, however, are closer to Earlyana than to Mandarin in maturity. H170-146 is later than Earlyana and so belongs in Group II rather than in Group I.

Table 11. Summary of agronomic and chemical data for the strains in the Uniform Test, Group I, 1945.

Strain	Yield Bu./A.	Lodging	Height Inches	Maturity[1]	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil	Iodine Number of Oil
Number of Tests	11	10	9	4	6	11	11	11	11
A3K-884	30.1	1.7	36	+8.8	1.5	15.1	41.7	19.5	129.2
Mand.(Ottawa)	29.6	1.1	29	0.0	1.0	18.0	42.6	19.1	129.6
H5	29.3	2.3	38	+7.0	1.8	14.1	42.8	19.0	131.9
H113-461	28.1	2.0	37	+6.8	2.0	16.0	42.7	18.4	132.2
H133-461	27.8	1.6	35	+9.8	1.7	15.7	44.5	18.9	129.8
Habaro	27.1	2.6	32	+9.5	1.7	16.8	42.9	18.3	133.5
Wis.Manchu 3	26.6	3.1	37	+10.0	2.2	16.4	40.6	19.6	135.4
Earlyana	26.4	3.0	38	+9.8	2.0	14.3	42.2	19.3	134.6
Manchukota	26.2	2.4	32	+7.0	2.0	13.7	41.6	18.6	136.8
Wis.Manchu 606	26.1	2.2	32	+7.5	1.8	16.5	41.4	19.4	135.4
H170-461	26.0	3.3	35	+12.3	1.8	15.5	41.6	19.4	130.1
Ontario	25.9	2.0	29	+5.3	2.2	18.0	41.4	19.8	131.8
H25-461	25.4	2.5	36	+7.3	1.8	13.4	41.1	19.8	133.9
H2	25.2	2.8	36	+6.3	1.7	14.2	40.5	20.1	134.1
H16-461	25.0	2.7	35	+7.8	1.8	14.7	40.6	19.1	133.8
F.C. 31596	24.1	3.2	35	+12.0	2.0	13.1	42.4	18.4	135.9
Mean	26.8	2.4	35		1.8	15.4	41.9	19.2	133.0

[1]Days earlier (-) or later (+) than Mandarin (Ottawa). Mandarin (Ottawa) required 107 days to mature.

Table 12. Summary of yields in bushels per acre for the strains in the Uniform Test, Group I, 1945.

Strain	Mean of 11 Tests	Strongsville Ohio	Wooster Ohio	Columbus Ohio	East Lansing Mich.	Madison Wis.	Eau Claire Wis.	St. Paul Minn.	Waseca Minn.	Cresco Iowa	Kanawha Iowa	Brookings S. Dak.
A3K-884	30.1	20.4	33.4	34.3	46.4	40.0	31.2	25.4	25.1	17.0	35.9	21.7
Mandarin (Ottawa)	29.6	21.6	30.6	36.3	42.3	34.7	27.5	30.2	24.2	17.6	33.7	26.4
H5	29.3	22.4	31.9	30.7	44.4	39.2	28.3	24.8	27.0	15.6	34.8	23.1
H113-461	28.1	21.8	31.7	30.3	42.7	36.2	28.7	24.2	26.2	15.1	31.8	20.0
H133-461	27.8	21.6	30.9	36.1	37.6	34.2	28.6	26.6	26.1	14.3	32.5	17.7
Habaro	27.1	20.0	31.5	32.9	40.3	40.3	21.0	15.8	23.9	15.9	35.3	21.5
Wis. Manchu 3	26.6	22.5	30.9	24.8	35.9	38.0	26.7	26.1	24.8	11.9	31.5	20.0
Earlyana	26.4	18.7	28.9	26.6	40.1	37.0	23.4	22.6	25.4	14.1	31.5	21.6
Manchukota	26.2	19.4	30.5	26.5	35.3	36.1	25.1	22.8	24.1	13.7	30.7	24.3
Wis. Manchu 606	26.1	19.9	28.1	30.6	33.4	37.3	26.2	21.5	24.6	12.7	31.4	21.0
H170-461	26.0	19.7	28.9	29.9	43.3	40.2	18.4	15.6	21.4	13.3	33.4	22.3
Ontario	25.9	21.2	29.2	29.3	30.0	34.3	26.3	23.2	24.2	13.4	30.6	23.1
H25-461	25.4	17.1	25.5	25.8	29.8	36.6	24.1	21.1	23.8	16.6	34.7	24.3
H2	25.2	18.3	26.4	23.7	37.1	34.8	22.7	21.0	22.6	17.2	30.1	23.7
H16-461	25.0	18.4	27.7	29.3	31.6	37.3	19.1	19.8	24.6	17.0	30.6	19.7
F.C. 31596	24.1	15.9	29.1	22.1	33.5	37.9	18.5	16.6	25.2	15.0	32.8	19.0
Mean	26.8	19.9	29.7	29.3	37.7	37.1	24.7	22.3	24.6	15.0	32.6	21.8
Coef. of Var. (%)		10.3	6.7	11.3		8.1	8.9			18.2	6.4	9.7
Bu.Nec.for Sig. (5%)		2.9	2.8	4.7		4.2	3.2	4.8	3.8	Not Sig.	3.0	3.1

Table 13. Summary of yield rank for the strains in the Uniform Test, Group I, 1945.

Strain	Strongsville Ohio	Wooster Ohio	Columbus Ohio	East Lansing Mich.	Madison Wis.	Eau Claire Wis.	St. Paul Minn.	Waseca Minn.	Cresco Iowa	Kanawha Iowa	Brookings S. Dak.
A3K-884	7	1	3	1	3	1	4	6	3	1	8
Mandarin (Ottawa)	4	7	1	5	14	5	1	10	1	5	1
H5	2	2	5	2	4	4	5	1	7	3	6
H113-461	3	3	7	4	11	2	6	2	8	9	14
H133-461	4	5	2	8	16	3	2	3	10	8	16
Habaro	8	4	4	6	1	13	15	13	6	2	9
Wis. Manchu 3	1	5	14	10	5	6	3	7	16	11	13
Earlyana	12	11	11	7	9	11	9	4	11	10	10
Manchukota	11	8	12	11	12	9	8	12	12	13	3
Wis. Manchu 606	9	13	6	13	7	8	10	8	15	12	11
H170-461	10	11	8	3	2	16	16	16	14	6	7
Ontario	6	9	9	15	15	7	7	10	13	14	5
H25-461	15	16	13	16	10	10	11	14	5	4	2
H2	14	15	15	9	13	12	12	15	2	16	4
H16-461	13	14	9	14	7	14	13	8	4	15	12
F.C. 31596	16	10	16	12	6	15	14	5	9	7	15

Table 14. Summary of lodging data for the strains in the Uniform Test, Group I, 1945.

Strain	Mean of 10 Tests	Strongsville Ohio	Wooster Ohio	Columbus Ohio	Madison Wis.	Eau Claire Wis.	St. Paul Minn.	Waseca Minn.	Cresco Iowa	Kanawha Iowa	Brookings S. Dak.
A3K-884	1.7	1.0	1.8	1.8	1.0	1.5	3.2	1.5	1.0	1.3	3.0
Mandarin (Ottawa)	1.1	1.0	1.0	1.3	1.0	1.3	1.8	1.0	1.0	1.0	1.0
H5	2.3	1.0	1.3	3.0	2.0	2.3	3.5	2.2	1.3	2.8	4.0
H113-461	2.0	1.0	1.5	3.3	1.5	2.3	3.0	2.2	1.0	1.0	3.0
H133-461	1.6	1.0	1.0	1.8	1.0	1.3	2.5	1.2	1.3	3.8	1.0
Habaro	2.6	1.0	3.8	2.0	2.8	3.3	3.2	3.5	1.5	2.0	3.0
Wis. Manchu 3	3.1	1.0	4.0	3.3	3.8	2.8	3.8	3.8	1.5	3.3	4.0
Earlyana	3.0	1.3	4.3	3.5	3.0	3.0	3.2	3.0	1.0	3.3	4.0
Manchukota	2.4	1.0	2.5	3.0	2.5	2.5	3.8	2.5	1.5	2.0	3.0
Wis. Manchu 606	2.2	1.0	2.5	2.8	2.8	2.0	3.8	2.2	1.3	3.0	1.0
H170-461	3.3	1.0	4.5	3.3	3.8	4.0	2.8	5.0	1.3	2.8	4.0
Ontario	2.0	1.0	1.5	2.0	2.0	2.0	3.8	2.0	1.0	2.5	2.0
H25-461	2.5	1.0	1.5	3.3	3.0	3.3	4.0	3.2	1.3	1.8	3.0
H2	2.8	1.3	1.8	2.5	3.0	3.8	4.0	3.5	1.3	3.0	4.0
H16-461	2.7	1.3	2.3	2.3	2.8	3.3	3.8	3.0	1.5	2.8	4.0
F.C. 31596	3.2	2.0	4.0	3.5	3.0	3.5	3.8	3.8	1.5	2.8	4.0
Mean	2.4	1.1	2.5	2.6	2.4	2.6	3.4	2.7	1.3	2.5	3.0

Table 15. Summary of height data for the strains in the Uniform Test, Group I, 1945.

Strain	Mean of 9 Tests	Wooster Ohio	Columbus Ohio	Madison Wis.	Eau Claire Wis.	St. Paul Minn.	Waseca Minn.	Cresco Iowa	Kanawha Iowa	Brookings S. Dak.
A3K-884	36	30	37	41	39	34	38	31	41	30
Mandarin (Ottawa)	29	22	33	31	32	34	29	25	30	28
H5	38	32	38	45	43	45	42	28	39	32
H113-461	37	30	36	45	39	42	39	29	39	34
H133-461	35	28	39	39	36	37	38	31	36	30
Habaro	32	25	34	37	34	36	33	25	34	26
Wis. Manchu 3	37	28	37	44	40	38	40	34	40	32
Earlyana	38	30	37	46	41	40	38	34	40	34
Manchukota	32	24	34	36	35	38	33	27	37	28
Wis. Manchu 606	32	26	34	36	34	34	32	24	36	28
H170-461	35	27	32	40	36	37	34	34	45	28
Ontario	29	20	29	31	32	34	30	25	31	28
H25-461	36	24	35	42	38	40	38	36	42	28
H2	36	26	36	44	41	38	36	30	40	30
H16-461	35	28	35	40	37	40	34	32	39	32
F.C. 31596	35	27	34	39	40	37	38	32	39	30
Mean	35	27	35	40	37	38	36	30	38	30

Table 16. Summary of maturity data, days earlier (-) or later (+) than Mandarin (Ottawa), for the strains in the Uniform Test, Group I, 1945.

Strain	Mean of 4 Tests	Wooster Ohio	Columbus Ohio	Madison Wisconsin	Kanawha Iowa
A3K-884	+8.8	+4	+10	+6	+15
Mand.(Ottawa)	0	0	0	0	0
H5	+7.0	+4	+4	+4	+16
H113-461	+6.8	+6	+5	+5	+11
H133-461	+9.8	+2	+13	+4	+20
Habaro	+9.5	+3	+9	+10	+16
Wis.Manchu 3	+10.0	+2	+11	+9	+18
Earlyana	+9.8	+4	+9	+9	+17
Manchukota	+7.0	+3	+4	+6	+15
Wis.Manchu 606	+7.5	+1	+7	+6	+16
H170-461	+12.3	+6	+14	+16	+13
Ontario	+5.3	0	+8	+3	+10
H25-461	+7.3	+1	+5	+9	+14
H2	+6.5	+2	+1	+8	+15
H16-461	+7.8	+4	+1	+11	+15
P.C. 31596	+12.0	+4	+13	+12	+19
Date planted		5/24	6/5	5/23	5/25
Mandarin (Ottawa) matured		9/6	9/15	9/6	9/16
Days to mature	107	105	102	106	114

Table 17. Summary of seed quality data for the strains in the Uniform Test, Group I, 1945.

Strain	Mean of 6 Tests[1]	Strongsville Ohio	Wooster Ohio	Columbus Ohio	East Lansing Mich.	Madison Wis.	Eau Claire Wis.	Cresco Iowa	Kanawha Iowa	Brookings S. Dak.
A3K-884	1.5	1	1	1	1	1	2	2	1	2
Mandarin (Ottawa)	1.0	1	1	1	1	1	1	1	1	1
H5	1.8	1	1	1	2	2	2	2	1	2
H113-461	2.0	1	2	1	2	2	2	2	1	2
H133-461	1.7	1	1	1	1	2	2	2	1	2
Habaro	1.7	1	2	1	1	1	2	2	1	2
Wis. Manchu 3	2.2	1	2	1	2	2	2	3	1	2
Earlyana	2.0	1	2	1	1	2	2	3	1	2
Manchukota	2.0	1	1	1	2	1	3	3	1	2
Wis. Manchu 606	1.8	1	1	1	1	2	2	3	1	2
H170-461	1.8	1	1	1	2	2	2	2	1	2
Ontario	2.2	1	2	1	2	2	2	3	1	2
H25-461	1.8	1	1	1	1	3	2	2	1	2
H2	1.7	1	1	1	1	2	2	3	1	1
H16-461	1.8	1	1	1	2	2	2	2	1	2
F.C. 31596	2.0	1	2	1	2	2	2	2	1	2
Mean	1.8	1	1.4	1	1.5	1.8	2.0	2.3	1	1.9

[1] Strongsville, Columbus, and Kanawha not included in the mean.

Table 18. Summary of seed weight data in grams per 100 seeds for the strains in the Uniform Test, Group I, 1945.

Strain	Mean of 11 Tests	Strongsville Ohio	Wooster Ohio	Columbus Ohio	East Lansing Mich.	Madison Wis.	Eau Claire Wis.	St. Paul Minn.	Waseca Minn.	Cresco Iowa	Kanawha Iowa	Brookings S. Dak.
A3K-884	15.1	12.5	14.2	13.6	17.2	17.3	18.3	15.8	14.0	16.8	12.1	13.8
Mandarin (Ottawa)	18.0	14.3	15.4	15.2	23.1	19.3	22.6	19.2	15.6	19.4	17.0	17.2
H5	14.1	12.4	12.2	12.6	17.4	16.7	17.0	14.4	12.3	16.6	11.3	12.2
H113-461	16.0	13.2	14.8	13.6	19.3	18.5	19.4	15.7	15.3	19.0	13.2	14.4
H133-461	15.7	14.1	14.7	14.4	19.5	18.4	18.5	15.2	14.2	17.4	12.9	13.9
Habaro	16.8	14.2	15.3	15.2	19.4	20.4	19.6	16.7	15.5	19.7	14.6	14.5
Wis. Manchu 3	16.4	13.6	15.0	14.2	19.6	20.1	19.7	16.6	16.0	18.9	12.8	14.0
Earlyana	14.3	11.8	13.0	12.5	16.5	16.9	17.6	15.5	13.6	16.1	11.1	12.2
Manchukota	13.7	11.6	13.0	12.2	16.2	15.9	16.5	13.9	13.1	15.6	10.8	12.0
Wis. Manchu 606	16.5	13.3	15.2	14.6	19.6	19.7	19.9	16.8	15.4	19.4	12.7	14.5
H170-461	15.5	13.2	13.7	13.8	18.0	18.3	18.0	15.3	15.3	17.9	12.9	13.6
Ontario	18.0	15.8	16.5	16.1	20.8	21.1	20.8	17.7	16.6	20.7	15.0	16.8
H25-461	13.4	11.3	12.0	12.1	16.1	14.2	16.3	14.1	13.0	14.3	11.4	12.6
H2	14.2	11.6	12.6	12.6	17.1	14.4	17.3	15.3	13.4	15.2	12.4	13.9
H16-461	14.7	11.9	14.0	12.5	17.6	16.8	17.2	14.7	14.2	16.7	12.5	13.7
F.C. 31596	13.1	10.7	12.3	11.3	15.0	15.8	15.6	13.3	13.2	15.1	10.2	11.1
Mean	15.4	12.8	14.6	13.5	18.3	17.7	18.4	15.6	14.4	17.4	12.7	13.8

Table 19. Summary of the percentage protein for the strains in the Uniform Test, Group I, 1945.

Strain	Mean of 11 Tests	Strongsville Ohio	Wooster Ohio	Columbus Ohio	East Lansing Mich.	Madison Wis.	Eau Claire Wis.	St. Paul Minn.	Waseca Minn.	Cresco Iowa	Kanawha Iowa	Brookings S. Dak.
A3K-884	41.7	41.9	40.9	41.0	43.4	40.2	43.2	41.4	40.8	42.4	43.0	40.8
Mandarin (Ottawa)	42.6	43.4	42.7	42.6	44.9	41.8	42.4	42.8	41.0	41.9	43.0	42.2
H5	42.8	44.4	42.6	42.3	44.8	42.1	43.4	42.1	41.5	43.5	44.1	40.5
H113-461	42.7	44.0	42.1	42.6	45.1	41.1	43.1	43.2	40.6	44.1	41.7	41.7
H133-461	44.5	45.6	43.8	43.1	47.4	43.9	44.9	44.6	42.0	45.6	45.3	43.8
Habaro	42.9	45.6	43.8	41.9	45.8	40.5	43.5	42.1	41.2	44.4	42.2	40.8
Wis. Manchu 3	40.6	39.6	41.1	41.2	42.9	39.8	41.4	40.2	39.3	42.2	40.1	39.1
Earlyana	42.2	44.7	43.9	42.7	43.5	40.4	41.0	42.6	41.1	43.7	40.3	40.2
Manchukota	41.6	42.3	42.0	43.2	44.5	38.3	43.2	41.1	40.4	42.5	40.3	40.3
Wis. Manchu 606	41.4	41.7	41.2	41.3	44.9	40.2	43.0	40.8	39.7	43.4	39.0	40.6
H170-461	41.6	41.5	41.9	42.6	44.2	38.9	42.1	42.0	39.3	42.9	41.8	39.9
Ontario	41.4	41.4	40.5	40.8	44.8	38.2	41.2	41.6	41.0	43.4	42.1	40.6
H25-461	41.1	42.6	40.9	40.1	43.5	40.6	40.8	41.2	40.1	41.1	40.8	40.3
H2	40.5	42.1	41.2	39.5	42.9	38.5	40.6	40.5	40.5	41.1	39.0	39.9
H16-461	40.6	42.4	41.0	39.6	42.9	39.9	41.2	40.2	39.3	41.5	39.0	39.9
F.C. 31596	42.4	44.2	44.3	43.6	45.5	41.5	39.3	42.0	41.4	44.1	40.1	40.3
Mean	41.9	43.0	42.1	41.8	44.4	40.4	42.1	41.8	40.6	43.0	41.4	40.7

Table 20. Summary of the percentage oil for the strains in the Uniform Test, Group I, 1945.

Strain	Mean of 11 Tests	Strongsville Ohio	Wooster Ohio	Columbus Ohio	East Lansing Mich.	Madison Wis.	Eau Claire Wis.	St. Paul Minn.	Waseca Minn.	Cresco Iowa	Kanawha Iowa	Brookings S. Dak.
A3K-884	19.5	19.1	20.3	20.1	18.1	20.9	19.3	19.2	19.6	19.9	18.4	19.8
Mandarin (Ottawa)	19.1	18.7	19.7	19.6	17.8	20.0	19.0	18.8	19.2	20.3	18.7	18.6
H5	19.0	18.0	19.5	19.6	17.7	20.2	19.3	18.9	19.2	19.6	18.1	19.2
H113-461	18.4	17.6	18.9	18.2	17.1	19.7	18.7	17.9	18.8	18.6	18.5	18.6
H133-461	18.9	18.8	19.7	19.7	17.3	19.6	18.8	18.4	19.3	19.1	18.3	18.8
Habaro	18.3	17.3	18.6	19.0	16.8	19.6	18.5	17.6	19.0	18.6	18.3	18.5
Wis. Manchu 3	19.6	19.3	20.3	19.6	18.3	20.6	19.9	19.4	20.3	20.0	19.1	19.0
Earlyana	19.3	18.2	19.4	19.2	18.2	20.8	20.0	18.8	19.7	19.9	18.9	19.1
Manchukota	18.6	18.3	19.2	18.2	17.4	20.1	18.6	18.5	18.8	19.1	18.4	18.4
Wis. Manchu 606	19.4	19.3	20.3	19.6	17.9	20.5	19.2	19.2	20.1	19.4	19.2	18.9
H170-461	19.4	19.2	19.5	21.5	17.9	20.5	19.0	18.8	19.8	19.5	18.6	19.0
Ontario	19.8	19.8	20.7	20.3	18.4	21.4	19.8	18.9	20.0	20.3	19.2	19.2
H25-461	19.8	20.1	20.8	21.2	18.2	20.4	19.5	19.0	20.0	20.5	19.5	19.0
H2	20.1	20.2	21.2	21.1	18.9	21.2	19.5	19.4	19.9	20.8	19.2	19.3
H16-461	19.1	19.1	20.0	20.2	17.3	19.9	18.5	18.2	19.6	19.4	18.9	18.7
F.C. 31596	18.4	17.5	18.6	17.8	16.8	19.7	19.1	18.2	18.9	18.6	18.4	18.3
Mean	19.2	18.8	19.8	19.7	17.8	20.3	19.2	18.7	19.5	19.6	18.7	18.9

Table 21. Summary of the iodine number of oil for the strains in the Uniform Test, Group I, 1945.

Strain	Mean of 11 Tests	Strongsville Ohio	Wooster Ohio	Columbus Ohio	East Lansing Mich.	Madison Wis.	Eau Clair Wis.	St. Paul Minn.	Waseca Minn.	Cresco Iowa	Kanawha Iowa	Brookings S. Dak.
A3K-884	129.2	125.1	125.2	123.2	133.2	128.3	130.6	131.1	130.9	127.8	133.9	132.3
Mandarin (Ottawa)	129.6	128.1	128.3	127.2	131.6	130.2	129.7	130.9	129.4	126.1	132.2	131.6
H5	131.9	129.1	127.7	127.0	135.7	131.0	133.3	134.5	131.4	129.7	136.4	135.5
H113-461	132.2	128.8	127.8	127.6	136.1	130.6	133.8	134.7	132.9	129.9	136.6	135.9
H133-461	129.8	125.2	126.4	125.3	133.6	129.1	131.2	131.7	130.6	127.6	133.8	133.0
Habaro	133.5	138.0	128.7	126.9	138.3	132.6	135.4	136.9	135.0	131.7	137.2	137.9
Wis. Manchu 3	135.4	132.1	130.6	130.3	138.8	134.3	135.7	137.7	135.7	133.7	141.0	139.7
Earlyana	134.6	131.6	129.3	128.3	138.7	132.7	135.7	137.0	134.7	132.4	140.8	139.1
Manchukota	136.8	133.4	132.8	133.2	140.4	135.4	137.6	139.4	136.6	135.1	141.4	139.8
Wis. Manchu 606	135.4	132.7	131.6	130.3	138.9	133.7	135.5	137.7	135.4	133.3	141.6	138.7
H170-461	130.1	123.6	123.0	122.6	134.3	129.4	132.3	134.7	131.1	129.7	134.2	135.9
Ontario	131.8	129.1	129.4	128.1	135.3	131.1	132.9	134.7	130.3	128.6	136.0	134.6
H25-461	133.9	130.4	130.6	128.4	136.9	133.7	134.5	136.2	134.4	132.3	138.3	137.5
H2	134.1	131.1	131.4	129.2	136.2	133.7	134.4	136.8	134.5	132.6	139.0	136.3
H16-461	133.8	130.0	129.2	127.6	138.0	133.6	134.3	136.0	134.4	131.7	129.2	137.8
F.C. 31596	135.9	131.8	130.0	130.7	140.1	134.0	137.2	138.8	136.6	134.5	140.1	141.1
Mean	133.0	129.4	128.9	127.9	136.6	132.1	134.0	135.6	133.4	131.0	137.6	136.7

Table 22. Three-year summary of agronomic and chemical data for the strains in the Uniform Test, Group I, 1943-45.

Strain	Mean Yield Bu./A.	Lodging	Height Inches	Maturity[1]	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil	Iodine Number of Oil
Number of tests	29	27	27	20	19	29	29	29	29
Wis.Manchu 3	27.9	2.9	36	+11	1.7	16.9	41.0	19.9	135
Habaro	27.9	2.2	30	+9	1.6	18.3	43.3	18.6	133
Earlyana	27.7	2.9	37	+12	1.8	15.0	42.5	19.6	135
Wis.Manchu 606	27.6	2.3	31	+7	1.6	17.0	41.4	19.9	135
H5	27.6	2.1	37	+7	1.5	14.8	42.9	19.4	132
Mand.(Ottawa)	27.5	1.4	27	0	1.4	18.3	43.1	19.4	129
Manchukota	26.6	2.5	31	+10	1.6	14.6	42.1	18.8	137
Ontario	26.3	2.0	28	+5	1.7	18.7	41.7	20.3	131
H2	26.2	2.7	35	+7	1.5	15.1	41.1	20.4	134
Mean	27.3	2.3	32		1.6	16.5	42.1	19.6	133

[1]Days earlier (-) or later (+) than Mandarin (Ottawa). Mandarin (Ottawa) required 109 days to mature.

Table 23. Three-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group I, 1943-45.

Strain	Mean of 29 tests	Strongsville Ohio	Madison Wis.	Eau Claire Wis.	St. Paul Minn.	Waseca Minn.	Brookings S.D.
Wis.Manchu 3	27.9	25.4	32.7	21.3	29.0	29.9	24.0
Habaro	27.9	25.5	32.0	19.5	25.5	31.4	24.7
Earlyana	27.7	24.8	31.3	20.4	27.9	30.1	25.3
Wis. Manchu 606	27.6	25.2	30.2	21.3	27.2	30.5	24.5
H5	27.6	26.2	31.1	21.0	28.9	30.5	21.6
Mand.(Ottawa)	27.5	25.8	29.1	20.9	28.1	30.3	25.3
Manchukota	26.6	24.1	30.2	20.8	26.1	26.9	25.4
Ontario	26.3	26.4	29.8	20.2	28.1	29.1	23.7
H2	26.2	23.6	29.6	20.0	27.7	28.5	25.4
Mean	27.3	25.2	30.7	20.6	27.6	29.7	24.4
		Yield Rank					
Wis.Manchu 3		5	1	1	1	6	7
Habaro		4	2	9	9	1	5
Earlyana		7	3	6	5	5	3
Wis.Manchu 606		6	5	1	7	2	6
H5		2	4	3	2	2	9
Mandarin (Ottawa)		3	9	4	3	4	3
Manchukota		8	5	5	8	9	1
Ontario		1	7	7	3	7	8
H2		9	8	8	6	8	1

Uniform Test, Group II

The Group II Test was composed of ten named varieties and eight selections from hybrids. The origin of these strains and varieties is as follows:

Variety or Strain	Source or Originating Agency	Origin
Dunfield	Purdue Agr. Exp. Sta.	P.I.36846[1]
Earlyana	Purdue Agr. Exp. Sta.	Sel.from a natural hybrid
Harman	Dominion Exp. Sta., Ontario	Sel. from Manchu
Illini	Illinois Agr. Exp. Sta.	Sel. from A.K.
Lincoln	Ill.A.E.S. and U.S.Reg.Soybean Lab.	Sel. from Mandarin x Manchu
Mingo	Ohio Agr. Exp. Sta.	Sel. from Manchu
Mukden	Iowa Agr. Exp. Sta.	P.I. 50523Q[1]
Pennsoy	Penn. Agr. Exp. Sta.	Nat.cross from Manchuria 13-177
Richland	Purdue Agr. Exp. Sta.	P.I. 70502-2[1]
Wis.Man.3	Wis. Agr. Exp. Sta.	Sel. from Manchu 3
A3-9	Iowa A.E.S. and U.S.Reg.Soybean Lab.	Sel. from Illini x Dunfield
A3-10	Iowa A.E.S. and U.S.Reg.Soybean Lab.	Sel. from Mukden x Richland
A3-33	Iowa A.E.S. and U.S.Reg.Soybean Lab.	Sel. from Mukden x Richland
A3-94	Iowa A.E.S. and U.S.Reg.Soybean Lab.	Sel. from Dunfield x Linman 533
A3-107	Iowa A.E.S. and U.S.Reg.Soybean Lab.	Sel. from Mukden x Richland
A3-108	Iowa A.E.S. and U.S.Reg.Soybean Lab.	Sel. from Mukden x Richland
A3-149	Iowa A.E.S. and U.S.Reg.Soybean Lab.	Sel. from Dunfield x Linman 533
H257-463	Ohio A.E.S. and U.S.Reg.Soybean Lab.	LX445 (Illini x T95)

[1] Division of Plant Exploration and Introduction, Bureau of Plant Industry, Soils, and Agricultural Engineering, U.S.D.A.

The nineteen strains included in the Uniform Test, Group II, were grown at 18 locations in seven states of the North Central Region in 1945.

Granger, Pennsoy, A3-9, A3-94, and H257-463 were grown in this test for the first time in 1945. Granger emerged poorly at many locations and data for it has not been included in the summary. Chemical analyses were made of Granger seed and it was found to be low in oil content, averaging 1.1 percent lower than Lincoln. It is also short in growth. Pennsoy was the latest variety in the test, being 9.5 days later than Richland and on this basis, belongs in Group III. The low yield, low oil content, and lack of lodging resistance of Pennsoy indicate that it has little value as a variety for the Group II area. The other three new entries, A3-9, A3-94, and H257-463, were above average in yield but were not especially outstanding in performance in any agronomic or chemical character.

Harman has been tested two years and is below average in performance. It is low in oil content. The commercial production of Harman is very limited and since it does not appear to have use as breeding material, it seems advisable to discontinue testing it.

Strains A3-107 and A3-108, which are selections from A45-251 (Mukden x Richland) performed well in both 1944 and 1945 and show much promise as new varieties which might replace Richland, the most popular early variety, in the Group II testing area. These strains are very similar in all agronomic and chemical characters. The two-year data show A3-107 and A3-108 to be about 3.5 bushels above Richland in yield and only about one bushel below Lincoln in yield, equal to it in oil content and slightly higher in protein content. These strains have about the same maturity as Richland and although taller than Richland, they are equally as lodging resistant.

Lincoln has performed about as well as in past years and is by far the most outstanding of the mid-season varieties. It has been enthusiastically accepted by farmers and will be the most widely grown mid-season variety in the North Central States in 1946. The seed supply of Lincoln is ample for 1946.

The summary of the agronomic and chemical data for all strains is given in table 24. The agronomic data are presented by locations in tables 25 to 31. Two-year summaries are presented in tables 32 and 33, and a six-year summary in tables 34 and 35. Lincoln ranks first in yield of seed, seed quality, percentage oil, and in iodine number for the six-year period. It ranks second in lodging resistance.

A3-107, A3-108 and A3-109 Selection Test

This test of 14 strains was grown in a randomized complete block at Ames and Kanawha, Iowa; Compton, Illinois; and Lafayette, Indiana. The test consisted of 7 lines selected from A3-107, 3 lines from A3-108, 1 line from A3-109, and the check varieties Lincoln, Richland, and Mukden.

The selected lines originated from cross AX1415 (Mukden x Richland) made by M. G. Weiss in cooperation with the Iowa Agricultural Experiment Station, Ames, Iowa, in 1938. Subsequent selections were made by C. R. Weber and R. R. Kalton.

Pedigree yield tests at Ames, Iowa, in the F_3 and F_4 generations revealed the exceptional performance of several lines from AX1415. F_4 line A45-251 was entered in Uniform Test, Group II, in 1943, and performed especially well as indicated in the 1943 report. A45-251 and two F_5 lines from it, A3-107 and A3-108, were entered in the Uniform Test, Group II, in 1944 along with A3-109, a selection from a sister line of A45-251. All four strains performed especially well, as indicated in the 1944 report. A3-107 and A3-108 were reentered in the Group II Test in 1945. Their excellent performance is indicated in Tables 24 to 31 of this report. The chemical composition of A3-107 and A3-108 is shown by individual locations for 1945 in comparison with Lincoln and Richland in Table 36.

In the fall of 1943, 12 plant selections were made in each F_5 row of A3-107, 108, and 109. In 1944 the seed from each plant was seeded in a 35-foot row. The best rows were saved in the fall of 1944 and the seed from these selected rows was used for the 1945 Pedigree Elite Test. The remaining seed was used to plant 1/10 acre plots of each selection in the test for increase purposes. Approximately 2-1/2 bushels of each strain are now available.

The primary objective was to select the most outstanding pure line strain of this group for increase and release as a new variety. The performance of these strains indicates that the strain chosen would readily replace Richland as a superior variety.

The performance data presented in Tables 37 to 39 indicate strain A4-107-12 to be somewhat better in performance than the other strains. A_4-107-12 was highly significantly higher in yield than any of the named varieties with which it was compared. It has about the same lodging resistance, is three inches taller, and is about one day later than Richland. It is second to Lincoln in oil content and excels it in protein content.

The yearly pedigree of A3-107, A3-108, and A3-109 is listed as follows:

1938 - Cross made between Mukden (14) and Richland (15)
1939 - F_1 spaced plants
1940 - F_2 spaced plants--Pedigree was 45-25 or plant number 25 saved in F_2 row of Mukden-Richland
1941 - F_3 entry number 573 in Pedigree yield test. Two plant selections, 573-1 and 573-2, saved for F_4.
1942 - F_4 entry number 174 from 573-1. Two plant selections from this line 174-1 and 174-2 were saved for F_5. Entry number 175 from 573-2. One plant selection from this, 175-1, saved for F_5. Both 174 and 175 grown in F_4 Pedigree Selection Test in 1942.
1943 - F_5 Bulk seed from 174 submitted as A45-251 in Uniform Test, Group II. The two F_4 sister selections, 174-1 and 174-2, reentered in 1943 Pedigree Selection test as 107 and 108. The selection 175-1 was entered in the same test as 109.
1944 - F_6 Bulk seed from F_5 rows of 107, 108, and 109 submitted in Uniform Test, Group II as A3-107, A3-108, and A3-109. Twelve plant selections from each line grown in progeny rows as A4-107-1, A4-107-2, etc. Best rows selected and harvested separately.
1945 - F_7 Pedigree Elite Test from best progeny rows in 1944.

Table 24. Summary of agronomic and chemical data for the strains in the Uniform Test, Group II, 1945.

Strain	Mean Yield Bu/A.	Lodging	Height Inches	Maturity[1]	Seed Quality	Seed Weight	Percentage of Protein[2]	Percentage of Oil[2]	Iodine Number of Oil[2]
No. of Tests	18	18	18	13	15	18	18	18	18
A3-107	33.8	1.7	37	0	1.3	17.1	41.8	20.4	128.3
A3-108	33.8	1.8	37	-0.9	1.2	17.0	42.6	20.0	128.3
A3-33	33.5	2.1	39	+3.0	1.5	16.2	41.0	20.4	129.6
A3-94	32.7	2.7	36	+0.4	1.4	15.4	41.3	20.1	132.3
Lincoln	32.7	2.5	39	+5.1	1.4	14.3	40.8	20.5	135.6
H257-463	32.4	3.0	40	+2.7	1.4	14.1	40.4	20.4	134.0
A3-10	32.0	2.0	37	+0.9	1.2	15.2	42.5	20.0	125.8
A3-9	31.9	1.9	40	0	1.2	14.2	41.5	19.7	132.3
Mukden	31.0	2.5	40	+4.6	1.2	14.5	42.7	19.2	130.8
Illini	30.8	3.2	44	+8.4	1.6	13.0	41.0	19.3	135.6
Harman	30.7	2.9	36	+1.4	1.7	15.9	43.0	19.0	135.5
A3-149	30.5	3.1	39	+3.4	1.3	16.6	39.7	20.2	133.2
Earlyana	30.0	2.9	38	-6.9	1.7	15.5	43.2	19.8	130.8
Pennsoy	29.9	3.1	39	+9.5	2.0	16.2	42.8	18.7	131.2
Richland	29.7	1.6	34	0	1.7	16.7	40.8	19.9	128.3
Mingo	29.6	3.0	40	+5.8	1.9	15.3	41.7	19.8	134.5
Dunfield	29.3	3.1	41	+6.8	1.4	14.6	39.6	20.2	132.2
Wis.Man.3	28.5	3.1	36	-6.8	1.5	17.3	41.6	20.0	132.4
Mean	31.3	2.6	39		1.5	15.5	41.6	19.9	131.7

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

[2] Composite sample of 14 tests and 4 individual tests.

Table 25. Summary of yields in bushels per acre for the strains in the Uniform Test, Group II, 1945.

Strain	Mean of 18 Tests	Columbus Ohio	Holgate Ohio	Bluffton Ind.	Greenfield Ind.	Walkerton Ind.	Wanatah Ind.	Lafayette Ind.	Jasper Mich.	East Lansing Mich.
A3-107	33.8	33.5	17.9	38.8	26.4	45.5	25.5	42.0	31.6	35.4
A3-108	33.8	34.0	19.3	40.6	24.4	38.1	23.8	42.8	28.4	36.6
A3-33	33.5	36.9	20.1	39.2	26.5	41.8	26.1	41.8	30.3	30.0
A3-94	32.7	30.5	21.8	41.7	29.2	36.5	27.7	39.5	25.7	28.9
Lincoln	32.7	32.5	21.1	42.3	29.3	42.0	25.2	40.9	31.8	21.4
H257-463	32.4	29.7	21.5	42.2	29.5	39.5	23.8	42.3	32.9	27.6
A3-10	32.0	33.9	17.7	42.2	26.7	34.2	24.9	42.3	24.2	32.4
A3-9	31.9	29.8	20.2	41.3	26.0	38.8	24.3	38.7	25.0	29.0
Mukden	31.0	35.0	17.2	41.5	22.5	37.7	23.2	44.1	27.2	30.8
Illini	30.8	33.2	19.8	36.9	31.4	35.7	24.2	43.4	33.3	19.4
Harman	30.7	31.5	24.0	37.3	24.0	37.1	25.2	38.4	25.9	21.5
A3-149	30.5	30.1	21.2	35.8	25.1	34.8	23.7	38.2	32.0	20.4
Earlyana	30.0	29.8	19.0	35.9	23.1	34.3	23.5	35.4	25.9	38.3
Pennsoy	29.9	30.9	20.5	38.2	28.5	37.0	23.7	39.4	26.8	21.0
Richland	29.7	35.7	18.3	39.5	25.0	36.8	21.9	37.1	26.3	23.4
Mingo	29.6	30.1	21.1	41.2	26.1	38.9	23.5	39.5	29.1	14.9
Dunfield	29.3	31.4	18.8	39.0	20.8	35.2	22.6	41.9	25.9	18.1
Wis.Man. 3	28.5	24.5	16.5	35.2	24.3	31.9	23.6	33.1	24.3	27.6
Mean	31.3	31.5	19.3	39.4	26.0	37.5	24.2	40.0	28.1	26.5
Coef. of Var. (%)		10.2	12.1	11.0	11.4	10.8	8.1	7.4		
Bu.Nec. for Sig.(5%)		4.5	3.3	6.1	4.2	5.7	2.9	4.2		

Table 25. (continued)

Strain	Urbana Ill.	Dwight Ill.	Compton Ill.	Madi-son Wis.	Hud-son Iowa	Ames Iowa	Kanawha Iowa	Marcus Iowa	Wayne Nebr.
A3-107	37.3	24.2	31.1	43.1	38.4	45.7	31.7	35.2	25.8
A3-108	34.8	24.8	33.1	42.6	41.4	47.0	34.4	34.3	27.8
A3-33	36.0	26.2	33.5	42.8	36.3	44.4	31.2	34.4	25.3
A3-94	32.5	26.9	34.2	39.9	34.6	41.8	32.3	39.0	26.5
Lincoln	36.8	26.5	30.1	34.7	40.6	43.4	31.1	36.1	22.1
H257-463	34.3	25.2	34.0	39.1	34.2	37.5	30.1	34.2	24.8
A3-10	31.6	23.6	32.9	41.5	36.5	41.3	31.2	32.9	25.9
A3-9	32.4	24.1	34.4	40.0	37.6	44.6	30.5	34.9	22.6
Mukden	32.7	24.3	29.9	38.3	33.7	41.9	26.1	30.6	21.2
Illini	31.1	22.4	29.2	30.1	37.4	42.7	29.5	35.8	19.4
Harman	28.6	24.8	32.2	41.1	31.7	38.1	32.4	33.4	26.2
A3-149	34.0	24.6	32.0	32.9	34.5	42.9	30.0	35.3	21.0
Earlyana	25.8	23.4	33.2	37.4	30.0	37.7	31.8	32.3	23.7
Pennsoy	32.4	21.5	28.3	36.1	34.5	39.8	29.0	30.9	18.9
Richland	30.9	22.8	31.6	35.4	28.4	37.7	28.7	29.6	24.8
Mingo	32.9	22.3	28.0	36.3	31.4	39.7	27.7	29.9	20.5
Dunfield	35.0	20.5	29.1	30.5	33.4	45.8	26.8	32.3	20.3
Wis.Man. 3	25.0	23.0	34.8	32.4	34.1	37.3	30.9	33.2	21.8
Mean	32.4	23.9	31.7	37.4	34.8	41.6	30.2	33.6	23.3
Coef.of Var.%	15.1	9.6	8.4	10.0	6.2	9.9	5.7	6.2	7.7
Bu.Nec.for sig. (5%)	Not sig.	3.3	3.8	5.3	3.1	5.6	2.4	2.9	2.6

Table 26. Summary of yield rank for the strains in the Uniform Test, Group II, 1945.

Strain	Columbus Ohio	Holgate Ohio	Bluffton Ind.	Greenfield Ind.	Walkerton Ind.	Wanatah Ind.	Lafayette Ind.	Jasper Mich.	East Lansing Mich.
A3-107	6	15	12	8	1	3	6	5	3
A3-108	4	11	8	13	7	9	3	9	2
A3-33	1	9	10	7	3	2	8	6	6
A3-94	12	2	4	4	12	1	10	15	8
Lincoln	8	5	1	3	2	4	9	4	13
H257-463	17	3	2	2	4	9	4	2	9
A3-10	5	16	2	6	17	6	4	18	4
A3-9	15	8	6	10	6	7	13	16	7
Mukden	3	17	5	17	8	16	1	10	5
Illini	7	10	15	1	13	8	2	1	16
Harman	9	1	14	15	9	4	14	7	12
A3-149	13	4	17	11	15	11	15	3	15
Earlyana	15	12	16	16	16	14	17	14	1
Pennsoy	11	7	13	5	10	11	12	11	14
Richland	2	14	9	12	11	18	16	12	11
Mingo	13	5	7	9	5	14	10	8	18
Dunfield	10	13	11	18	14	17	7	13	17
Wis.Man. 3	18	18	18	14	18	13	18	17	10

Table 26. (continued)

Strain	Urbana Ill.	Dwight Ill.	Compton Ill.	Madi-son Wis.	Hud-son Iowa	Ames Iowa	Kanawha Iowa	Marcus Iowa	Wayne Nebr.
A3-107	1	9	12	1	3	3	5	5	5
A3-108	5	5	7	3	1	1	1	8	1
A3-33	3	3	5	2	7	5	7	7	6
A3-94	10	1	3	7	8	10	3	1	2
Lincoln	2	2	13	14	2	6	8	2	11
H257-463	6	4	4	8	11	17	11	9	7
A3-10	13	11	8	4	6	11	6	12	4
A3-9	11	10	2	6	4	4	10	6	10
Mukden	9	8	14	9	13	9	18	16	13
Illini	14	15	15	18	5	8	13	3	17
Harman	16	5	9	5	15	14	2	10	3
A3-149	7	7	10	15	9	7	12	4	14
Earlyana	17	12	6	10	17	16	4	13	9
Pennsoy	11	17	17	12	10	12	14	15	18
Richland	15	14	11	13	18	15	15	18	7
Mingo	8	16	18	11	16	13	16	17	15
Dunfield	4	18	16	17	14	2	17	14	16
Wis.Man.3	18	13	1	16	12	18	9	11	12

Table 27. Summary of lodging data for the strains in the Uniform Test, Group II, 1945.

Strain	Mean of 18 Tests	Columbus Ohio	Holgate Ohio	Bluffton Ind.	Greenfield Ind.	Walkerton Ind.	Wanatah Ind.	Lafayette Ind.	Jasper Mich.	East Lansing Mich.
A3-107	1.7	2.8	1.0	1.3	1.0	1.8	1.3	1.0	1.5	1.7
A3-108	1.8	2.8	1.0	1.0	1.0	2.3	1.3	1.8	1.5	1.2
A3-33	2.1	2.5	1.0	1.3	1.0	2.0	1.5	1.0	1.5	3.0
A3-94	2.7	3.3	1.0	2.0	2.0	2.5	2.3	2.5	4.0	3.2
Lincoln	2.5	2.8	1.5	1.5	1.3	2.3	1.8	2.0	2.7	3.0
H257-463	3.0	4.0	1.3	2.0	2.0	3.0	3.0	2.0	3.0	2.5
A3-10	2.0	3.0	1.0	1.3	1.5	2.3	1.5	1.5	3.2	2.5
A3-9	1.9	2.0	1.0	1.0	1.3	1.8	1.8	1.5	1.7	2.0
Mukden	2.5	3.0	1.0	1.8	1.5	2.8	2.0	2.0	3.2	2.0
Illini	3.2	3.8	2.3	2.5	1.8	3.0	2.8	2.3	4.2	3.2
Harman	2.9	3.8	2.5	2.0	1.8	3.0	2.0	1.8	3.6	3.2
A3-149	3.1	3.0	1.8	2.5	2.5	2.8	2.3	2.3	3.0	4.0
Earlyana	2.9	3.8	1.0	2.3	1.8	3.0	2.5	2.8	3.7	3.0
Pennsoy	3.1	3.0	1.5	2.8	1.8	2.3	2.8	2.5	4.7	3.2
Richland	1.6	2.0	1.0	1.0	1.0	2.0	1.0	1.3	1.7	1.5
Mingo	3.0	3.3	1.0	2.0	2.5	2.5	2.5	2.8	4.0	3.7
Dunfield	3.1	3.3	2.0	2.8	2.3	2.5	2.8	2.5	4.0	2.5
Wis.Man.3	3.1	5.0	1.0	2.0	2.3	3.0	3.0	2.0	4.2	3.7
Mean	2.6	3.2	1.3	1.8	1.7	2.5	2.1	2.0	3.1	2.7

Table 27. (Continued)

Strain	Urbana Ill.	Dwight Ill.	Compton Ill.	Madison Wis.	Hudson Iowa	Ames Iowa	Kanawha Iowa	Marcus Iowa	Wayne Nebr.
A3-107	3.0	1.8	2.3	2.3	2.0	2.3	1.8	1.0	1.0
A3-108	3.0	1.8	2.0	1.5	2.3	2.5	2.0	1.5	1.0
A3-33	3.8	2.5	2.8	2.3	2.8	2.3	2.3	1.5	2.0
A3-94	4.3	2.0	3.0	3.8	3.0	3.0	2.3	1.8	3.0
Lincoln	4.3	2.8	3.0	3.3	3.5	2.8	2.8	2.3	2.0
H257-463	4.3	3.3	3.5	4.0	3.0	3.8	3.0	2.8	3.0
A3-10	3.0	2.0	2.3	2.0	2.5	2.5	1.8	1.0	1.0
A3-9	3.8	2.0	2.5	2.3	2.0	2.3	2.0	1.3	2.0
Mukden	4.3	2.8	3.0	3.5	2.8	3.3	3.0	1.5	2.0
Illini	4.5	3.0	3.3	4.0	3.5	3.3	3.0	4.0	3.0
Harman	4.3	2.8	3.0	3.5	4.0	3.0	2.3	1.8	3.0
A3-149	4.8	2.5	3.3	4.0	3.8	3.5	3.3	2.0	4.0
Earlyana	4.5	3.0	3.0	3.5	3.5	3.5	3.0	2.0	3.0
Pennsoy	4.5	3.0	3.3	3.8	4.0	3.5	3.0	2.8	4.0
Richland	3.3	1.8	2.3	1.5	2.3	1.5	1.5	1.0	1.0
Mingo	5.0	3.0	3.8	3.0	3.5	2.8	2.8	2.3	4.0
Dunfield	4.8	3.0	3.3	3.8	4.0	3.3	3.0	2.0	4.0
Wis.Man.3	4.3	3.0	2.8	3.8	3.3	3.5	3.0	2.8	3.0
Mean	4.1	2.6	2.9	3.1	3.1	2.9	2.6	2.0	2.6

Table 28. Summary of height data for the strains in the Uniform Test, Group II, 1945.

Strain	Mean of 18 Tests	Columbus Ohio	Holgate Ohio	Bluffton Ind.	Greenfield Ind.	Walkerton Ind.	Wanatah Ind.	Lafayette Ind.	Jasper Mich.	East Lansing Mich.
A3-107	37	35	27	36	29	39	34	37	37	39
A3-108	37	35	28	35	29	39	35	37	38	38
A3-33	39	33	31	38	32	40	38	37	40	38
A3-94	36	30	28	35	29	39	34	35	36	37
Lincoln	39	35	33	36	33	42	36	40	41	38
H257-463	40	31	35	40	35	45	36	40	44	40
A3-10	37	33	29	37	30	40	35	39	39	35
A3-9	40	36	32	40	32	42	36	41	40	39
Mukden	40	35	31	40	32	43	38	41	37	41
Illini	44	33	36	45	38	49	41	43	49	41
Harman	36	30	32	36	28	38	33	35	42	37
A3-149	39	34	34	39	33	43	36	40	41	42
Earlyana	38	34	33	39	31	39	35	36	40	39
Pennsoy	39	34	33	38	34	40	37	41	40	39
Richland	34	34	28	33	27	35	33	34	34	35
Mingo	40	33	32	39	32	40	36	42	38	40
Dunfield	41	34	35	39	36	42	37	44	43	40
Wis.Man.3	36	30	32	35	28	40	35	36	39	41
Mean	39	33	32	38	32	41	36	39	40	39

Table 28. (Continued)

Strains	Urbana Ill.	Dwight Ill.	Compton Ill.	Madi-son Wis.	Hudson Iowa	Ames Iowa	Kanawha Iowa	Marcus Iowa	Wayne Nebr.
A3-107	38	35	38	41	36	40	41	40	45
A3-108	37	35	37	40	36	39	42	39	45
A3-33	44	36	40	45	36	40	41	41	46
A3-94	40	35	36	40	35	39	38	39	40
Lincoln	46	37	39	45	39	42	39	40	45
H257-463	44	41	41	45	39	39	40	40	44
A3-10	38	36	40	41	35	38	41	39	46
A3-9	43	39	43	45	36	43	42	42	43
Mukden	48	40	42	48	38	42	44	43	45
Illini	54	43	47	50	43	43	43	43	46
Harman	38	35	37	43	36	36	39	37	40
A3-149	36	40	41	43	40	41	41	40	43
Earlyana	43	37	40	43	36	40	39	39	42
Pennsoy	46	38	40	47	37	40	42	40	43
Richland	35	32	36	37	32	37	40	37	40
Mingo	50	37	44	47	37	40	42	39	43
Dunfield	49	38	43	46	39	42	42	41	44
Wis.Man.3	37	33	37	43	35	37	38	36	43
Mean	43	37	40	44	37	40	41	40	44

Table 29. Summary of maturity data, days earlier (-) or later (+) than Richland, for the strains in the Uniform Test, Group II, 1945.

Strain	Mean of 13 Tests[1]	Columbus Ohio	Holgate Ohio	Bluffton Ind.	Walkerton Ind.	Wanatah Ind.	Lafayette Ind.
A3-107	0	+2	0	0	0	+1	-1
A3-108	-0.9	+1	0	0	0	0	-1
A3-33	+3.0	+2	+3	+1	+2	+5	+1
A3-94	+0.4	-2	0	-1	+1	0	-2
Lincoln	+5.1	+7	+13	+4	+6	+7	+5
H257-463	+2.7	+5	+2	+1	+4	+7	+1
A3-10	+0.9	+1	0	+1	+1	+1	0
A3-9	0	0	0	+2	-1	0	-2
Mukden	+4.6	+2	+11	+6	+3	+6	+5
Illini	+8.4	+11	+14	+9	+8	+13	+7
Harman	+1.4	+7	+2	+1	+1	+2	-1
A3-149	+3.4	+3	+5	+3	+2	+2	+4
Earlyana	-6.9	-3	0	-5	-12	-4	-12
Pennsoy	+9.5	+12	+12	+9	+10	+15	+8
Richland	0	0	0	0	0	0	0
Mingo	+5.8	+6	+14	+6	+8	+11	+7
Dunfield	+6.8	+7	+4	+8	+6	+9	+5
Wis.Man. 3	-6.8	-3	+2	-4	-11	-4	-11
Date Planted		5/28	6/6	5/30	5/29	5/28	6/1
Richland Matured		9/24	9/18	10/6	10/10	10/3	10/6
Days to Mature	130	119	104	129	134	128	127

[1]Holgate not included in the mean.

Table 29. (continued)

Strain	Urbana Ill.	Dwight Ill.	Madison Wis.	Hudson Iowa	Ames Iowa	Kanawha Iowa	Marcus Iowa	Wayne Nebr.
A3-107	-3	+3	+3	-3	+1	+1	-1	-5
A3-108	-3	+2	+1	-3	-1	0	-2	-6
A3-33	+6	+4	+7	+1	+3	+3	+3	+1
A3-94	-2	+3	+7	-2	+2	+2	0	-1
Lincoln	+8	+6	+8	+3	+5	+2	+3	+2
H257-463	+3	+6	+4	0	+4	+1	+1	-2
A3-10	+4	+1	+3	-2	+1	+2	0	-1
A3-9	-2	+2	+7	-4	+3	+1	-3	-1
Mukden	+7	+5	+9	+1	+6	+6	+3	+1
Illini	+11	+8	+10	+5	+10	+8	+6	+3
Harman	-1	+3	+6	-1	+2	+1	0	-2
A3-149	+4	+4	+10	+2	+6	+3	+2	-1
Earlyana	-7	-5	-9	-13	-4	-3	-6	-7
Pennsoy	+11	+7	+10	+7	+11	+8	+9	+6
Richland	0	0	0	0	0	0	0	0
Mingo	+9	+6	+6	+2	+7	+3	+4	+1
Dunfield	+9	+6	+10	+6	+9	+7	+5	+2
Wis.Man. 3	-7	-5	-9	-12	-6	-4	-6	-6
Date Planted	5/26	6/2	5/23	5/26	5/18	5/25	5/19	5/25
Richland Mat.	9/26	10/8	9/27	10/11	10/2	10/5	10/3	9/29
Days to Mat.	123	128	127	138	137	133	137	127

Table 30. Summary of seed quality data for the strains in the Uniform Test, Group II, 1945.

Strain	Mean of 15[1] Tests	Columbus Ohio	Holgate Ohio	Bluffton Ind.	Greenfield Ind.	Walkerton Ind.	Wanatah Ind.	Lafayette Ind.	Jasper Mich.	East Lansing Mich.
A3-107	1.3	2	1	2	1	1	1	1	1	2
A3-108	1.2	1	1	2	1	1	1	1	1	2
A3-33	1.5	1	2	2	2	1	1	1	1	3
A3-94	1.4	2	1	1	2	2	1	1	1	2
Lincoln	1.4	2	2	1	1	1	1	1	1	3
H257-463	1.4	2	1	1	1	1	1	1	1	3
A3-10	1.2	1	1	1	1	1	1	1	1	2
A3-9	1.2	1	2	1	1	1	1	1	1	1
Mukden	1.2	2	1	1	1	1	1	1	1	2
Illini	1.6	1	2	1	1	1	1	1	2	3
Harman	1.7	2	2	2	2	1	1	1	2	3
A3-149	1.3	1	2	1	1	1	1	1	1	3
Earlyana	1.7	3	3	1	3	2	1	1	1	1
Pennsoy	2.0	3	1	1	2	1	3	1	2	3
Richland	1.7	2	2	2	1	2	1	1	1	2
Mingo	1.9	3	1	1	2	2	2	1	2	3
Dunfield	1.4	2	1	1	2	2	1	1	1	1
Wis.Man.3	1.5	2	2	1	3	2	1	2	1	1
Mean	1.5	1.8	1.6	1.3	1.6	1.3	1.2	1.1	1.2	2.2

[1] Dwight, Compton, and Ames not included in the mean.

Table 30. (Continued)

Strain	Urbana Ill.	Dwight Ill.	Compton Ill.	Madison Wis.	Hudson Iowa	Ames Iowa	Kanawha Iowa	Marcus Iowa	Wayne Nebr.
A3-107	2	1	1	2	1	1	1	1	1
A3-108	2	1	1	1	1	1	1	1	1
A3-33	2	1	1	2	1	1	1	1	1
A3-94	2	1	1	2	1	1	1	1	1
Lincoln	1	1	1	3	1	1	1	1	1
H257-463	1	1	1	3	2	1	1	1	1
A3-10	2	1	1	2	1	1	1	1	1
A3-9	2	1	1	2	1	1	1	1	1
Mukden	1	1	1	2	1	1	1	1	1
Illini	2	1	1	4	1	1	1	1	2
Harman	2	1	1	3	1	1	1	1	1
A3-149	2	1	1	1	1	1	1	1	1
Earlyana	2	1	1	2	2	1	1	1	1
Pennsoy	1	1	1	3	1	1	2	2	4
Richland	2	1	1	4	2	1	1	1	1
Mingo	2	1	1	3	1	1	2	2	2
Dunfield	2	1	1	2	1	1	2	1	1
Wis.Man.3	2	1	1	2	1	1	1	1	1
Mean	1.8	1.0	1.0	2.4	1.2	1.0	1.2	1.1	1.3

Table 31. Summary of seed weight data in grams per 100 seeds for the strains in the Uniform Test, Group II, 1945.

Strain	Mean of 18 Tests	Composite of 14 Locations[1]	Columbus Ohio[2]	Holgate Ohio[2]	Bluffton Ind.[2]	Greenfield Ind.[2]	Walkerton Ind.[2]	Wanatah Ind.[2]	Lafayette Ind.[2]	Jasper Mich.	East Lansing Mich.	Madison Wis.	Wayne Nebr.
A3-107	17.1	17.1	14.6	14.9	17.6	15.5	19.5	16.9	19.3	16.1	17.5	19.0	15.4
A3-108	17.0	16.9	14.5	14.9	17.3	15.6	19.2	17.1	19.7	16.7	17.1	18.9	17.0
A3-33	16.2	16.2	13.8	15.2	16.2	14.0	19.1	17.3	19.3	15.4	15.1	18.3	15.1
A3-94	15.4	15.4	11.6	13.6	15.3	13.8	16.9	14.4	16.6	14.9	13.9	16.0	17.4
Lincoln	14.3	14.7	11.9	12.5	14.8	13.8	16.7	14.1	17.1	14.5	11.1	13.7	11.7
H257-463	14.1	14.4	12.0	11.4	15.0	12.2	15.9	13.9	15.9	13.0	12.5	13.8	12.7
A3-10	15.2	15.3	13.6	13.2	15.6	15.1	16.7	14.8	16.4	13.5	14.3	16.4	14.4
A3-9	14.2	14.4	12.3	12.5	15.0	13.2	15.5	14.4	16.4	13.6	13.1	14.5	13.6
Mukden	14.5	14.6	12.3	12.9	15.6	13.8	16.8	14.6	17.2	14.5	12.9	14.8	14.3
Illini	13.0	13.5	11.9	11.6	14.0	12.6	14.4	14.1	15.3	12.9	10.0	11.6	11.0
Harman	15.9	16.1	14.4	13.6	16.4	14.9	17.7	15.6	16.7	15.2	13.3	17.2	14.2
A3-149	16.6	16.8	13.7	14.5	17.5	13.8	17.8	16.3	19.8	16.4	13.8	17.0	16.9
Earlyana	15.5	15.4	12.5	13.4	14.8	13.5	16.5	13.7	17.2	14.9	16.8	16.8	15.2
Pennsoy	16.2	16.6	15.3	14.1	16.7	15.7	19.3	17.7	18.9	17.0	12.4	16.4	14.2
Richland	16.7	16.9	13.9	13.6	16.1	14.5	19.1	15.4	18.1	15.4	15.7	17.8	15.7
Mingo	15.3	15.7	13.5	13.8	16.5	15.2	19.0	16.0	17.8	15.2	11.4	16.3	13.3
Dunfield	14.6	14.7	12.8	13.8	16.7	12.9	16.4	15.7	18.0	15.2	13.3	14.3	14.9
Wis.Man.3	17.3	17.3	14.0	14.5	17.7	16.0	18.0	16.5	19.2	15.9	17.0	19.4	16.0
Mean	15.5	15.7	13.3	13.6	16.1	14.2	17.5	15.5	17.7	15.0	14.0	16.2	14.6

[1] Composite from Columbus, Holgate, Bluffton, Greenfield, Walkerton, Wanatah, LaFayette, Urbana, Dwight, Compton, Hudson, Ames, Kanawha, and Marcus.

[2] Individual seed weights also taken at these locations but not included in the mean.

Table 32. Two year summary of agronomic and chemical data for the strains in the Uniform Test, Group II, 1944-45.

Strain	Mean Yield Bu/A.	Lodging	Height Inches	Maturity[1]	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil	Iodine Number of Oil
No. of Tests	34	34	34	28	28	34	34	34	34
Lincoln	33.4	2.2	38	+7.1	1.3	14.5	40.1	20.6	136.1
A3-107	32.4	1.5	35	+0.5	1.3	17.3	41.0	20.6	129.1
A3-108	32.3	1.6	35	-0.5	1.3	17.2	41.6	20.4	129.7
A3-33	31.9	1.8	37	+3.0	1.4	16.4	40.5	20.6	130.7
Illini	31.3	3.1	42	+8.7	1.5	13.0	40.0	19.5	135.8
A3-10	30.7	1.8	35	+1.0	1.3	15.3	41.9	20.4	127.1
A3-149	30.6	2.8	38	+4.2	1.2	16.6	38.9	20.5	133.9
Mingo	30.1	2.8	38	+5.9	1.7	15.5	42.1	19.8	135.0
Mukden	30.1	2.3	39	+4.8	1.2	15.0	42.6	19.3	131.3
Harman	29.9	2.7	35	+1.7	1.5	15.7	42.6	19.1	135.4
Dunfield	28.9	2.9	39	+7.4	1.3	14.9	39.1	20.2	131.9
Richland	28.8	1.5	32	0	1.6	16.5	40.5	20.0	129.6
Earlyana	28.4	2.7	36	-6.0	1.9	15.1	42.5	20.1	132.4
Wis.Man.3	28.0	2.9	35	-5.9	1.6	17.2	41.1	20.2	133.4
Mean	30.5	2.3	37		1.4	15.7	41.0	20.1	132.2

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

Table 33. Two-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group II, 1944-45.

Strain	Mean of 34 Tests	Holgate Ohio	East Lansing Mich.	Green-field Ind.	Lafayette Ind.	Wanatah Ind.	Compton Ill.
Lincoln	33.4	22.9	28.7	35.1	40.9	23.7	26.0
A3-107	32.4	20.5	31.6	31.1	40.3	22.3	25.5
A3-108	32.3	20.5	32.3	30.4	40.0	21.3	25.5
A3-33	31.9	20.3	29.6	29.9	39.8	22.6	24.6
Illini	31.3	21.8	25.8	33.7	41.6	22.7	24.2
A3-10	30.7	19.6	29.9	31.4	39.0	20.7	25.8
A3-149	30.6	20.5	24.6	30.4	36.7	21.8	25.8
Mingo	30.1	21.6	24.3	31.7	37.6	21.4	23.4
Mukden	30.1	18.3	30.7	26.0	41.2	20.9	24.0
Harman	29.9	24.9	26.9	29.3	36.7	21.9	26.0
Dunfield	28.9	18.6	22.5	26.7	36.9	20.8	23.9
Richland	28.8	19.4	24.1	29.1	35.0	19.6	24.0
Earlyana	28.4	20.2	33.3	27.8	32.2	20.9	25.0
Wis.Man. 3	28.0	18.4	28.6	29.8	32.1	20.4	25.8
Mean	30.5	20.5	28.0	30.2	37.9	21.5	25.0
				Yield Rank			
Lincoln		2	7	1	3	1	1
A3-107		5	3	5	4	4	6
A3-108		5	1	6	5	8	6
A3-33		8	6	8	6	3	9
Illini		3	10	2	1	2	10
A3-10		10	5	4	7	12	3
A3-149		5	11	6	10	6	3
Mingo		4	12	3	8	7	14
Mukden		13	4	14	2	9	11
Harman		1	9	10	10	5	1
Dunfield		12	14	13	9	11	13
Richland		11	13	11	12	14	11
Earlyana		9	1	12	13	9	8
Wis.Man. 3		14	8	9	14	13	3

Table 33. (continued)

Strain	Dwight Ill.	Urbana Ill.	Madison Wis.	Hudson Iowa	Ames Iowa	Kanawha Iowa	Marcus Iowa	Wayne Nebr.
Lincoln	25.3	32.5	38.2	47.8	39.6	38.7	42.9	27.6
A3-107	21.8	32.4	39.9	44.8	40.6	38.5	42.5	26.5
A3-108	23.0	31.1	39.3	46.6	41.3	39.6	40.0	29.1
A3-33	22.8	31.8	38.3	42.3	39.8	38.2	41.7	27.9
Illini	23.2	29.8	32.6	43.4	39.4	35.4	44.6	24.0
A3-10	21.6	30.0	37.1	43.0	36.7	36.6	37.0	26.7
A3-149	23.1	30.6	33.8	40.3	39.4	37.6	42.0	26.2
Mingo	21.7	31.3	36.4	39.2	36.1	35.5	36.8	25.3
Mukden	20.9	30.5	36.9	40.7	37.6	33.9	35.2	24.2
Harman	21.5	28.4	37.2	36.3	35.8	37.3	35.4	27.4
Dunfield	19.0	31.3	32.6	38.7	40.0	32.7	40.3	23.8
Richland	21.4	31.0	33.0	33.0	33.7	34.3	36.7	26.7
Earlyana	21.1	25.4	33.6	36.1	34.0	35.2	33.7	25.1
Wis.Man. 3	21.4	24.5	32.1	38.7	34.9	35.4	33.8	23.7
Mean	22.0	30.0	35.8	40.8	37.8	36.4	38.8	26.0
				Yield Rank				
Lincoln	1	1	4	1	5	2	2	3
A3-107	6	2	1	3	2	3	3	7
A3-108	4	6	2	2	1	1	7	1
A3-33	5	3	3	6	4	4	5	2
Illini	2	11	12	4	6	9	1	12
A3-10	8	10	6	5	9	7	8	5
A3-149	3	8	9	8	6	5	4	8
Mingo	7	4	8	9	10	8	9	9
Mukden	13	9	7	7	8	13	12	11
Harman	9	12	5	12	11	6	11	4
Dunfield	14	4	12	10	3	14	6	13
Richland	10	7	11	14	14	12	10	5
Earlyana	12	13	10	13	13	11	14	10
Wis.Man. 3	10	14	14	10	12	9	13	14

Table 34. Six year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group II, 1940-45.

Strain	Mean of 83 Tests	Holgate Ohio	East Lansing Mich.	Bluffton Ind.	Lafay-ette Ind.	Wanatah Ind.	Compton Ill.	Dwight Ill.
Years Tested		1940-1945	1943-1945	1940-43, 1945	1940-1945	1940-1945	1942-1945	1940-1945
Lincoln	33.9	26.1	25.7	39.9	44.2	26.7	22.5	32.7
Illini	30.1	22.3	22.0	34.6	38.7	24.9	20.9	28.6
Mingo	30.0	23.6	21.1	34.8	38.8	24.1	20.7	26.9
Dunfield	28.4	21.1	19.4	32.4	35.0	23.4	20.4	26.7
Mukden	28.1	19.9	25.7	33.0	38.4	22.6	20.2	26.4
Richland	27.5	20.6	20.3	31.5	33.1	21.5	19.9	26.0
Earlyana	26.8	21.3	26.6	30.5	31.7	22.7	21.7	24.5
Wis.Man.3	26.2	20.4	23.6	28.6	31.7	19.9	21.6	24.5
Mean	28.9	21.9	23.1	33.2	36.5	23.2	21.0	27.0
		Yield Rank						
Lincoln		1	2	1	1	1	1	1
Illini		3	5	3	3	2	4	2
Mingo		2	6	2	2	3	5	3
Dunfield		5	8	5	5	4	6	4
Mukden		8	2	4	4	6	7	5
Richland		6	7	6	6	7	8	6
Earlyana		4	1	7	7	5	2	7
Wis.Man.3		7	4	8	7	8	3	7

Table 34. (Continued)

Strain	Urbana Ill.	Madison Wis.	Hudson Iowa	Ames Iowa	Kanawha Iowa	Marcus Iowa	Wayne Nebr.
Years Tested	1940-1945	1943-1945	1942-1945	1942-1945	1940-1945	1942, 1944-45	1943-1945
Lincoln	41.1	37.8	41.1	43.9	30.5	41.0	29.9
Illini	33.9	32.9	37.5	39.7	28.8	43.4	26.3
Mingo	36.4	35.5	34.0	40.2	29.2	36.6	25.7
Dunfield	35.3	32.1	34.5	40.6	27.1	36.8	24.4
Mukden	32.9	35.6	35.2	40.2	27.2	34.7	25.7
Richland	33.6	30.7	31.9	38.0	28.7	35.0	27.9
Earlyana	28.1	32.1	32.6	37.0	30.8	36.1	27.7
Wis.Man.3	28.8	30.7	33.4	35.2	29.3	34.2	25.3
Mean	33.8	33.4	35.0	39.4	29.0	37.2	26.6
	Yield Rank						
Lincoln	1	1	1	1	2	2	1
Illini	4	4	2	5	6	1	4
Mingo	2	3	5	3	4	4	5
Dunfield	3	5	4	2	8	3	8
Mukden	6	2	3	3	7	7	5
Richland	5	7	8	6	6	6	2
Earlyana	8	5	7	7	1	5	3
Wis.Man.3	7	7	6	8	3	8	7

Table 35. Six-year summary of agronomic and chemical data for the strains in the Uniform Test, Group II, 1940-45.

Strain	Mean Yield Bu./A.	Lodging	Height Inches	Maturity[1]	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil	Iodine Number of Oil
Number of Tests	83	78	73	71	69	79	87	87	87
Lincoln	33.9	2.3	37	+6.2	1.4	14.9	40.7	21.0	136
Illini	30.1	3.0	41	+7.4	1.5	13.8	40.8	19.9	134
Mingo	30.0	2.9	37	+5.8	2.0	15.6	42.7	19.9	134
Dunfield	28.4	2.9	37	+6.6	1.5	15.7	40.0	20.5	130
Hokden	28.1	2.3	38	+3.0	1.5	14.8	43.7	19.5	130
Richland	27.5	1.5	32	0	1.7	16.4	41.1	20.2	128
Mukden	26.8	2.6	36	-4.7	2.0	14.9	43.5	20.1	132
Wis.Man. 3	26.2	2.9	33	-2.1	2.1	17.0	42.4	20.0	133
Mean	28.9	2.6	36		1.7	15.4	41.9	20.1	132

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

Table 36. Summary of chemical composition of A3-107 and A3-108 in comparison with Lincoln and Richland at 18 locations, 1945.

Strain	Mean of 18 Tests	Columbus Ohio	Holgate Ohio	Bluffton Ind.	Greenfield Ind.	Walkerton Ind.	Wanatah Ind.	Lafayette Ind.	Jasper Mich.
		Percentage of Protein							
A3-107	41.4	42.4	40.3	41.0	39.9	42.2	42.3	42.7	40.2
A3-108	42.0	43.4	40.2	41.5	40.4	42.4	43.2	42.9	41.3
Lincoln	40.5	42.4	40.4	40.6	42.0	39.6	40.9	41.3	39.1
Richland	40.8	41.7	36.7	39.2	39.4	41.9	41.8	41.3	38.2
		Percentage of Oil							
A3-107	20.4	19.5	21.3	20.8	20.9	19.9	20.0	20.4	20.9
A3-108	20.1	18.7	21.1	20.4	19.4	19.9	19.5	20.4	20.5
Lincoln	20.4	19.2	20.5	20.4	20.5	20.1	21.0	20.8	21.2
Richland	19.9	19.0	21.7	20.6	20.4	19.5	19.6	20.1	20.8
		Iodine Number of Oil							
A3-107	128.6	125.5	123.9	128.3	126.5	130.0	127.7	127.8	127.8
A3-108	128.9	126.9	124.1	128.6	127.2	130.7	128.5	127.7	128.0
Lincoln	135.7	134.5	133.3	134.3	134.7	136.3	136.0	134.3	134.5
Richland	128.9	124.9	125.4	128.3	127.5	130.0	128.1	128.2	129.9

Table 36. (continued)

Strain	East Lansing Mich.	Urbana Ill.	Dwight Ill.	Compton Ill.	Madison Wis.	Hudson Iowa	Ames Iowa	Kanawha Iowa	Marcus Iowa	Wayne Nebr.
	Percentage of Protein									
A3-107	43.7	40.6	40.2	40.6	41.5	41.9	42.9	41.1	43.4	39.1
A3-108	44.6	41.6	41.2	40.8	41.6	42.8	42.7	41.1	43.6	40.3
Lincoln	42.1	39.6	40.0	38.8	38.1	40.8	40.5	40.3	42.1	39.8
Richland	42.4	41.7	40.9	40.6	40.7	43.0	40.8	40.7	43.7	39.7
	Percentage of Oil									
A3-107	18.1	21.3	21.2	20.7	19.9	20.4	20.6	20.2	19.5	21.8
A3-108	17.7	21.1	21.1	20.6	19.9	20.2	20.5	19.8	19.5	21.5
Lincoln	17.3	21.4	21.4	21.4	20.6	20.2	20.9	20.4	19.7	20.0
Richland	17.7	20.6	20.4	20.1	19.7	19.0	20.1	19.7	18.8	20.8
	Iodine Number of Oil									
A3-107	136.2	126.7	128.3	131.5	131.2	129.1	129.6	132.3	131.0	121.2
A3-108	136.0	127.7	127.8	131.5	130.9	129.2	130.2	132.3	131.2	121.2
Lincoln	144.3	134.6	135.4	137.3	139.1	136.0	135.4	134.4	136.7	131.2
Richland	137.4	125.8	127.8	131.0	130.8	130.0	130.3	132.9	130.9	121.0

Table 37. Summary of mean agronomic and chemical data for the strains in the Uniform Test of selections from A3-107, A3-108, and A3-109.

Strain	Mean Yield Bu./A.	Lodging	Height Inches	Maturity[1]	Seed Weight	Percentage of Protein	Percentage of Oil	Iodine Number of Oil
A4-107-12	36.9	2.1	39	+1	18.1	42.2	20.3	129.6
A4-107-5	35.8	2.2	39	+1	18.0	42.3	20.0	129.5
A4-107-7	35.8	2.1	39	+1	18.1	42.5	20.1	130.0
A4-107-4	35.6	2.2	39	+1	18.8	43.1	20.0	129.0
A4-107-8	35.6	2.0	39	+1	17.9	42.5	20.0	130.1
A4-108-6	35.5	2.2	39	0	17.8	42.8	19.9	129.6
A4-108-12	35.3	2.3	39	+1	18.1	43.0	20.1	130.6
A4-107-2	35.3	2.1	38	0	17.7	42.8	20.3	129.6
A4-107-11	35.2	2.3	39	+1	18.1	41.7	20.1	130.1
A4-108-4	34.8	2.2	39	0	17.8	43.4	20.0	129.9
A4-109-8	34.1	2.1	39	+1	17.8	42.3	20.3	130.6
Lincoln	34.0	2.7	40	+4	15.2	40.8	20.9	136.1
Mukden	33.2	2.8	42	+4	15.1	43.4	19.1	132.2
Richland	31.6	1.9	36	0	17.8	41.3	20.0	129.2
Mean	34.9	2.2	39		17.6	42.4	20.1	130.4

[1]Days earlier (-) or later (+) than Richland. Richland required 133 days to mature. Average of Lafayette, Ames, and Kanawha.

Table 38. Analysis of variance and other pertinent statistical data for the Uniform Test of A3-107, A3-108, and A3-109 selections at Ames and Kanawha, Iowa; Compton, Illinois, and Lafayette, Indiana, 1945.

Source of Var.	D. F.	Mean Squares				
		Ames	Kanawha	Compton	Lafayette	Combined
Replications	3,3,3,3,12	122.19**	20.44**	56.39**	14.52*	53.88**
Strains	13	16.22	15.86**	4.40	23.27**	28.10**
Locations	3					2,880.76**
Strains x Locations	39					10.55*
Error (Ind. Tests)	39	8.60	4.23	3.01	3.93	
Error (Comb. Tests)	156					4.94
General mean (Bu./A.)		39.5	29.1	28.5	42.5	34.9
Coef. of Var. (%)		7.4	7.1	6.1	4.7	6.4
Bu. diff. nec. for sig. (5%)			2.9		2.8	1.6

* F value exceeds the level of significance at the 5% point.
**F value exceeds the level of significance at the 1% point.

Table 39. Summary of agronomic and chemical data at the individual locations for the strains in the Uniform Test of selections from A3-107, A3-108, and A3-109.

Strain	Lafayette Ind.	Compton Ill.	Ames Iowa	Kanawha Iowa	Lafayette Ind.	Compton Ill.	Ames Iowa	Kanawha Iowa
	Yield				Yield Rank			
A4-107-12	44.4	29.5	42.9	30.9	2	2	1	3
A4-107-5	44.3	30.7	39.2	28.9	3	1	9	7
A4-107-7	42.7	29.3	40.7	30.7	8	4	4	4
A4-107-4	45.4	26.9	40.3	29.7	1	13	7	6
A4-107-8	44.1	28.9	40.7	28.5	5	5	5	10
A4-108-6	44.2	28.5	36.9	32.4	4	8	12	1
A4-108-12	43.0	28.7	40.9	28.7	7	7	3	9
A4-107-2	42.3	27.9	40.1	31.1	9	10	8	2
A4-107-11	42.1	28.1	42.0	28.7	11	9	2	8
A4-108-4	41.6	29.5	37.9	30.4	12	3	11	5
A4-109-8	42.3	28.9	38.6	26.7	10	6	10	13
Lincoln	39.5	27.8	40.3	28.3	13	11	6	11
Mukden	43.5	27.8	36.7	24.8	6	12	13	14
Richland	35.9	26.8	36.3	27.3	14	14	14	12
	Lodging				Height			
A4-107-12	2.0	2.3	1.3	2.8	37	38	38	41
A4-107-5	2.0	2.0	1.8	2.8	39	39	38	40
A4-107-7	2.0	2.0	1.5	2.8	39	38	39	41
A4-107-4	2.0	1.8	1.8	3.0	38	37	38	41
A4-107-8	2.0	2.0	1.8	2.0	38	38	39	40
A4-108-6	2.0	2.0	1.8	2.8	39	38	38	41
A4-108-12	2.0	2.0	2.0	3.0	37	38	39	41
A4-107-2	2.0	2.0	1.8	2.5	36	37	39	41
A4-107-11	2.0	2.0	2.3	2.8	39	38	38	41
A4-108-4	2.0	1.8	2.3	2.5	39	38	38	41
A4-109-8	2.0	2.0	2.0	2.3	37	40	37	41
Lincoln	2.0	2.8	2.8	3.0	40	41	39	40
Mukden	2.8	2.8	2.5	3.0	42	42	41	43
Richland	2.0	2.0	1.8	1.8	34	34	35	39

Table 39. (continued)

Strain	Lafayette Ind.	Compton Ill.	Ames Iowa	Kanawha Iowa	Lafayette Ind.	Compton Ill.	Ames Iowa	Kanawha Iowa
	Maturity				Protein			
A4-107-12	-1		+1	+3	43.6	41.6	41.9	41.6
A4-107-5	-1		+2	+2	44.4	41.1	42.5	41.1
A4-107-7	0		+1	+3	44.1	41.6	43.4	41.0
A4-107-4	-1		+1	+3	44.6	42.9	42.4	42.4
A4-107-8	-1		+2	+2	43.5	42.2	43.8	40.6
A4-108-6	-2		0	+1	45.1	42.3	40.7	42.9
A4-108-12	-1		+1	+2	44.3	42.4	43.1	42.2
A4-107-2	-2		0	+2	44.2	42.0	43.2	41.9
A4-107-11	-1		+2	+2	43.2	42.0	42.9	38.7
A4-108-4	-2		+1	+1	44.6	42.5	43.9	42.6
A4-109-8	-1		+2	+3	43.6	42.4	41.7	41.3
Lincoln	+3		+6	+4	40.9	39.4	41.8	41.2
Mukden	+1		+5	+6	43.2	43.0	44.5	43.0
Richland	0		0	0	42.2	40.6	41.0	41.3
	Oil				Iodine Number of Oil			
A4-107-12	19.8	20.8	20.5	20.1	128.5	129.6	128.3	131.8
A4-107-5	19.5	20.5	20.2	19.9	128.2	130.1	128.1	131.7
A4-107.7	19.6	20.4	20.3	20.0	128.8	130.0	128.9	132.3
A4-107-4	19.4	20.3	20.4	19.9	127.9	129.5	127.6	130.9
A4-107-8	19.4	20.5	20.2	19.9	128.7	130.4	128.7	132.4
A4-108-6	19.3	20.3	20.2	19.7	128.7	129.6	128.3	131.7
A4-108-12	19.6	20.5	20.5	19.9	129.9	130.5	129.7	132.4
A4-107-2	19.8	20.6	20.5	20.2	128.7	130.0	128.6	131.0
A4-107-11	19.6	20.5	20.4	20.0	128.8	130.5	128.8	132.2
A4-108-4	19.5	20.4	20.4	19.7	129.4	129.6	128.6	131.9
A4-109-8	19.9	20.3	20.5	20.4	129.2	130.9	130.1	132.3
Lincoln	20.4	21.6	21.1	20.4	134.6	137.2	135.1	137.4
Mukden	18.6	20.0	19.1	18.6	130.2	132.7	130.6	135.1
Richland	19.5	20.3	20.5	19.7	128.4	129.4	127.2	131.7

Uniform Test, Group III

The Group III Test was composed of six named varieties and seven selections from hybrids. The origin of these strains and varieties is as follows:

Variety or Strain	Source or Originating Agency	Origin
Chief	Ill. Agr. Exp. Sta.	Sel. from Illini x Manchu
Dunfield	Purdue Agr. Exp. Sta.	P.I. 36846[1]
Illini	Ill. Agr. Exp. Sta.	Selection from A. K.
Lincoln	Ill.A.E.S. and U.S.Reg.Soybean Lab.	L6-685 (Mandarin x Manchu)
Patoka	Purdue Agr. Exp. Sta.	Sel. from P.I. 70218-2[1]
Viking	Ill. Agr. Exp. Sta.	T118 (Illini x Manchu)
A3-117	Iowa A.E.S. and U.S.Reg.Soybean Lab.	Sel. from Illini x Dunfield
A3-128	Iowa A.E.S. and U.S.Reg.Soybean Lab.	Sel. from Richland x Mandell
A3-163	Iowa A.E.S. and U.S.Reg.Soybean Lab.	Sel. from Dunfield x Richland
A3-176	Iowa A.E.S. and U.S.Reg.Soybean Lab.	Sel. from Illini x Dunfield
A3-1411-20	Iowa A.E.S. and U.S.Reg.Soybean Lab.	Sel. from Mukden x Dunfield
C84	Purdue Agr. Exp. Sta.	Sel.from Cx531(Midwest x Dunfield)
C461	Purdue A.E.S.and U.S.Reg.Soybean Lab.	Sel. from Dunfield x Mansoy

[1]Division of Plant Exploration and Introduction, Bureau of Plant Industry, Soils, and Agricultural Engineering, U.S.D.A.

Group III was grown at 19 locations in 1945, and agronomic and chemical data are available from most of the locations. Group III was planted at 5 new locations, Georgetown, Delaware; Beltsville, Maryland; Worthing, Indiana; Shelbyville and Lathrop, Missouri. The test was planted late at Georgetown, Freeburg, Columbia, and Thayer. Due to this late planting, the number of days to maturity for the check, Illini, was only 105 and 104, respectively, for Freeburg and Columbia.

Only one new strain was added to the Group III test in 1945. This strain, C461, is also entered in the Group IV tests. It has been quite erratic in yield. It ranked first at Beltsville and Columbus but was last at four other locations.

The two-year summaries (Tables 48 and 49) for Group III contain 12 strains. A3-176 (Dunfield x Illini) is the most promising of the 6 unnamed selection. It has averaged 0.5% more oil than Lincoln and has yielded about as well. A3-1411-20, from a Mukden x Dunfield cross, has averaged highest in oil content. This strain was third in yield in 1945 but was quite low in yield in 1944. On the basis of the two-year data, A3-128 and C84 can probably be dropped from the test.

Lincoln has averaged 2 bushels higher than Chief and 4 bushels higher than Illini in the four years that they have been compared in Group III (Table 50). It has averaged as high as Dunfield in oil content and as high as Patoka in lodging resistance. Even in the more southern locations of Group III Lincoln has yielded about as well as the later varieties, Chief and Patoka.

Table 40. Summary of agronomic and chemical data for the strains in the Uniform Test, Group III, 1945.

Strain	Mean Yield Bu/A.	Lodging	Height Inches	Maturity[1]	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil	Iodine Number of Oil
No. of Tests	19	16	15	16	14	18	18	18	18
A3-176	27.7	2.2	33	-2.6	1.6	13.7	40.1	21.7	130.3
Lincoln	27.0	2.4	34	-2.1	1.6	13.2	40.6	21.1	134.0
A3-1411-20	26.9	2.2	33	-2.0	1.9	14.8	40.5	21.9	128.6
A3-128	26.7	2.0	33	+0.9	2.1	16.4	42.6	20.4	130.8
A3-163	26.4	2.1	29	-1.5	1.6	15.3	40.1	21.0	126.0
C84	26.2	3.0	37	+3.8	2.0	14.3	39.6	20.6	133.3
Chief	25.9	2.9	43	+6.1	1.9	11.8	40.1	20.3	133.7
A3-117	25.8	2.7	36	-1.9	1.7	13.1	39.7	21.3	128.3
C461	25.8	2.3	35	+6.1	1.7	12.6	39.6	20.2	132.5
Viking	25.7	3.1	42	+3.8	2.0	13.0	40.2	20.2	133.3
Illini	25.4	3.0	37	0	1.7	12.6	40.5	20.3	132.7
Patoka	24.9	2.3	34	+9.1	1.6	16.5	42.1	19.9	133.5
Dunfield	24.0	3.0	35	-1.9	1.9	13.8	39.0	21.6	129.7
Mean	26.0	2.5	36		1.8	13.9	40.3	20.8	131.3

[1] Days earlier (-) or later (+) than Illini. Illini required 126 days to mature.

Table 41. Summary of yield in bushels per acre for the strains in the Uniform Test, Group III, 1945.

Strain	Mean of 19 Tests	George-town Del.	Belts-ville Md.	Colum-bus Ohio	Green-field Ind.	Lafay-ette Ind.	Worth-ington Ind.	Dwight Ill.	Ur-bana Ill.	Clay-ton Ill.
A3-176	27.7	17.8	33.9	23.8	26.4	40.9	32.3	21.2	37.6	23.4
Lincoln	27.0	16.7	33.8	29.4	29.3	40.9	36.8	20.3	38.8	23.2
A3-1411-20	26.9	16.1	34.5	26.7	25.2	43.3	38.5	19.7	34.6	25.2
A3-128	26.7	16.0	33.7	31.5	25.2	39.3	40.7	18.2	41.5	23.1
A3-163	26.4	18.4	34.6	25.8	25.7	38.5	35.4	21.0	32.8	27.7
C84	26.2	16.1	36.3	31.9	28.6	42.2	41.8	18.2	33.9	24.3
Chief	25.9	18.1	36.6	27.4	31.4	43.4	44.6	16.7	37.2	17.4
A3-117	25.8	17.7	30.0	25.9	29.1	40.3	33.4	20.2	36.3	23.0
C461	25.8	16.2	40.3	32.9	26.8	34.4	39.1	16.0	38.9	18.9
Viking	25.7	16.3	32.5	28.4	28.0	39.2	36.1	18.5	39.6	20.8
Illini	25.4	15.4	32.5	24.3	31.4	43.4	32.7	20.0	32.6	19.1
Patoka	24.9	17.2	37.7	26.8	28.6	34.5	41.9	16.9	34.0	17.9
Dunfield	24.0	17.2	26.2	21.3	20.8	41.9	31.2	18.4	31.1	23.6
Mean	26.0	16.9	34.0	27.8	27.4	40.2	37.3	18.9	36.0	22.1
Coef.of Var.(%)			11.7	12.2	12.3	7.8	8.2	8.2	12.6	8.8
Bu.Nec.for Sig. (5% Level)		1.8	5.7	4.9	4.8	4.5	4.4	2.2	Not.Sig.	2.8

Table 42. Summary of yield rank for the strains in the Uniform Test, Group III, 1945.

Strain	George-town Del.	Belts-ville Md.	Colum-bus Ohio	Green-field Ind.	Lafay-ette Ind.	Worth-ington Ind.	Dwight Ill.	Ur-bana Ill.	Clay-ton Ill.	Ston-ington Ill.
A3-176	3	7	12	8	6	12	1	5	5	3
Lincoln	7	8	4	3	6	7	3	4	6	7
A3-1411-20	10	6	8	10	3	6	6	8	2	2
A3-128	12	9	3	10	9	4	9	1	7	9
A3-163	1	5	10	9	11	9	2	11	1	5
C84	10	4	2	4	4	3	9	10	3	13
Chief	2	3	6	1	1	1	12	6	13	10
A3-117	4	12	9	2	8	10	4	7	8	12
C461	9	1	1	7	13	5	13	3	11	3
Viking	8	10	5	6	10	8	7	2	9	6
Illini	13	10	11	1	1	11	5	12	10	11
Patoka	5	2	7	4	12	2	11	9	12	1
Dunfield	5	13	13	13	5	13	8	13	4	8

Table 41. (Continued)

Strain	Stoning-ton Ill.	Edge-wood Ill.	Free-burg Ill.	Ottum-wa Iowa	Ames Iowa	Shelby-ville Mo.	Colum-bia Mo.	Lath-rop Mo.	Linc-oln Nebr.	Man-hattan Kansas
A3-176	36.1	20.3	25.1	31.8	43.1	17.9	13.7	26.3	24.2	30.1
Lincoln	31.8	21.7	21.2	28.6	42.0	15.1	13.4	22.8	22.8	23.7
A3-1411-20	37.9	20.9	19.7	28.0	37.5	16.4	13.5	24.6	23.1	25.2
A3-128	30.7	19.6	19.7	27.6	38.4	17.6	13.2	23.2	23.5	24.5
A3-163	33.8	18.5	22.5	27.3	38.4	17.4	14.3	21.7	23.2	25.4
C84	27.6	21.4	19.8	24.0	36.6	16.0	12.6	22.4	20.5	24.2
Chief	29.9	17.7	19.2	24.9	34.7	15.5	13.7	22.0	17.8	24.7
A3-117	29.1	21.9	19.5	28.2	39.2	16.1	12.7	22.3	22.4	23.4
C461	36.1	20.9	18.2	24.2	33.7	15.4	11.1	21.4	20.5	24.4
Viking	32.9	21.9	20.8	24.2	34.8	15.6	12.0	24.6	18.8	22.6
Illini	29.2	16.8	19.8	26.0	40.8	16.9	12.7	23.2	22.8	22.6
Patoka	39.0	19.3	19.8	22.4	32.7	14.6	12.2	20.4	16.5	20.1
Dunfield	30.8	20.5	19.6	25.5	33.8	17.5	13.0	19.6	21.9	22.9
Mean	32.7	20.1	20.4	26.1	37.3	16.3	12.9	22.6	21.4	24.1
C.V. (%)	9.4	10.1	12.3	8.1	8.4	9.9	7.5	8.7	7.4	7.9
Bu.Nec.for Sig. (5% Level)	4.4	2.9	Not Sig.	3.0	4.5	2.3	1.4	2.8	2.3	2.7

Table 42. (Continued)

Strain	Edge-wood Ill.	Free-burg Ill.	Ottum-wa Iowa	Ames Iowa	Shelby-ville Mo.	Colum-bia Mo.	Lath-rop Mo.	Linc-oln Nebr.	Man-hattan Kansas
A3-176	8	1	1	1	1	2	1	1	1
Lincoln	3	3	2	2	12	5	6	5	8
A3-1411-20	5	8	4	7	6	4	2	4	3
A3-128	9	8	5	6	2	6	4	2	5
A3-163	11	2	6	5	4	1	10	3	2
C84	4	5	12	8	8	10	7	9	7
Chief	12	12	9	10	10	2	9	12	4
A3-117	1	11	3	4	7	8	8	7	9
C461	5	13	10	12	11	13	11	9	6
Viking	1	4	11	9	9	12	2	11	11
Illini	13	5	7	3	5	8	4	5	11
Patoka	10	5	13	13	13	11	12	13	13
Dunfield	7	10	8	11	3	7	13	8	10

Table 43. Summary of lodging data for the strains in the Uniform Test, Group III, 1945.

Strain	Mean of 16 Tests[1]	Belts-ville Md.	Colum-bus Ohio	Green-field Ind.	Lafay-ette Ind.	Worth-ington Ind.	Dwight Ill.	Ur-bana Ill.	Clay-ton Ill.	Ston-ington Ill.
A3-176	2.2	2.2	2.8	1.8	1.8	3.3	2.3	3.8	2.0	3.0
Lincoln	2.4	2.7	2.8	1.3	2.0	3.0	2.0	4.0	2.0	3.8
A3-1411-20	2.2	2.5	2.8	1.3	1.8	3.3	2.0	4.0	2.0	3.0
A3-128	2.0	3.0	2.3	1.3	2.0	2.8	2.0	3.8	2.0	2.5
A3-163	2.1	3.0	3.0	1.3	1.5	2.8	1.5	4.0	2.0	2.5
C84	3.0	3.2	3.8	2.8	2.8	4.0	2.3	4.3	2.0	4.0
Chief	2.9	3.2	3.5	2.5	2.8	3.8	2.8	4.0	2.0	4.0
A3-117	2.7	2.7	2.5	2.0	2.0	3.3	2.5	4.0	2.0	4.3
C461	2.3	3.0	2.3	2.3	2.3	2.8	2.0	3.0	2.0	3.0
Viking	3.1	3.5	4.0	2.3	2.5	3.5	3.0	4.3	2.0	4.3
Illini	3.0	3.0	5.0	1.8	2.3	3.8	3.0	4.0	2.0	4.3
Patoka	2.3	3.0	3.0	1.5	2.0	3.0	2.0	4.0	2.0	3.0
Dunfield	3.0	3.0	3.5	2.3	2.5	4.0	2.5	4.3	2.0	4.0
Mean	2.5	2.9	3.2	1.9	2.2	3.3	2.3	4.0	2.0	3.5

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

Table 44. Summary of height data for the strains in the Uniform Test, Group III, 1945.

Strain	Mean of 15 Tests	Belts-ville Md.	Colum-bus Ohio	Green-field Ind.	Lafay-ette Ind.	Worth-ington Ind.	Dwight Ill.	Stoning-ton Ill.
A3-176	33	39	31	33	42	38	36	40
Lincoln	34	40	31	33	40	37	35	40
A3-1411-20	33	34	32	34	41	38	36	39
A3-128	33	39	32	32	41	37	34	39
A3-163	29	32	30	29	35	30	32	33
C84	37	39	33	39	42	40	38	46
Chief	43	51	34	49	49	50	44	54
A3-117	36	38	32	36	44	41	36	48
C461	35	39	35	36	44	42	35	42
Viking	42	50	34	44	50	48	42	52
Illini	37	39	30	38	43	41	39	56
Patoka	34	40	34	34	41	38	35	40
Dunfield	35	34	29	36	44	35	37	42
Mean	36	40	32	36	43	40	37	44

Table 43. (Continued)

Strain	Edgewood Ill.	Freeburg Ill.	Ottumwa Iowa	Ames Iowa	Shelbyville Mo.	Columbia Mo.	Lathrop Mo.	Lincoln Nebr.	Manhattan Kansas
A3-176	3.0	2.3	2.3	2.5	1.3	1.0	1.0	1.0	1.0
Lincoln	3.0	2.3	2.0	2.5	1.5	1.0	1.3	2.0	2.0
A3-1411-20	2.5	1.8	2.3	2.8	1.3	1.0	1.3	1.0	1.0
A3-128	2.0	2.3	1.5	1.8	1.0	1.0	1.0	2.0	1.0
A3-163	2.5	2.0	2.0	2.8	1.0	1.0	1.0	1.0	1.0
C84	2.5	2.0	3.5	3.0	2.0	1.0	2.0	3.0	2.0
Chief	2.0	2.3	3.5	3.3	2.0	1.0	2.0	3.0	2.0
A3-117	3.0	2.3	3.0	3.0	1.5	1.0	1.5	2.0	3.0
C461	2.0	2.0	3.0	3.0	1.8	1.0	1.5	2.0	1.0
Viking	3.0	2.8	3.5	3.3	2.0	1.0	2.0	2.0	3.0
Illini	2.5	2.3	3.0	3.8	1.5	1.0	2.3	3.0	2.0
Patoka	2.0	1.5	2.3	3.0	1.3	1.0	1.5	2.0	1.0
Dunfield	3.0	3.0	3.5	3.3	1.8	1.0	1.5	2.0	3.0
Mean	2.5	2.2	2.7	2.9	1.5	1.0	1.5	2.0	1.8

Table 44. (Continued)

Strain	Freeburg Ill.	Ottumwa Iowa	Ames Iowa	Shelby ville Mo.	Columbia Mo.	Lathrop Mo.	Lincoln Nebr.	Manhattan Kansas
A3-176	23	35	39	27	20	32	31	33
Lincoln	25	36	41	30	20	34	32	35
A3-1411-20	21	34	40	26	20	35	32	33
A3-128	21	33	41	28	20	33	29	32
A3-163	21	31	38	27	18	28	28	30
C84	26	38	41	30	23	38	37	40
Chief	27	42	50	36	24	44	44	44
A3-117	24	39	42	32	21	37	38	37
C461	24	35	41	28	20	36	34	35
Viking	27	42	46	39	23	41	41	44
Illini	30	40	43	30	22	38	35	36
Patoka	26	32	40	26	19	32	35	36
Dunfield	26	37	41	30	21	36	36	34
Mean	25	37	42	30	21	35	35	36

Table 45. Summary of maturity data, days earlier (-) or later (+) than Illini, for the strains in the Uniform Test, Group III, 1945.

Strain	Mean of 16 Tests	Belts-ville Md.	Colum-bus Ohio	Green-field Ind.	Lafay-ette Ind.	Worthing-ton Ind.	Dwight Ill.	Urbana Ill.
A3-176	-2.6	+5	-10	-3	-3	+3	-2	-9
Lincoln	-2.1	0	-6	-5	-2	-3	-1	-8
A3-1411-20	-2.0	0	-5	-4	-1	0	-1	-11
A3-128	+0.9	+5	+1	0	+1	+4	-2	0
A3-163	-1.5	0	+3	-3	0	-1	-4	-11
C84	+3.8	+5	+3	+3	+2	+8	+2	+1
Chief	+6.1	+10	+6	+6	+5	+10	+2	+4
A3-117	-1.9	+2	-8	-2	-1	+2	-1	-12
C461	+6.1	+5	+6	+7	+3	+11	+5	+4
Viking	+3.8	+5	+6	+4	+2	+8	+3	+2
Illini	0	0	0	0	0	0	0	0
Patoka	+9.1	+5	+13	+9	+8	+13	+6	+7
Dunfield	-1.9	-2	-4	-5	-3	+2	-1	-11
Date Planted	6/4	5/24	5/28	5/27	6/1	5/23	6/2	5/26
Illini Mat.	10/6	9/25	10/6	10/10	10/13	9/23	10/14	10/10
Days to Mat.	125	124	131	136	134	123	134	137

Table 46. Summary of seed quality data for the strains in the Uniform Test, Group III, 1945.

Strain	Mean of 14 tests[1]	George-town Del.	Belts-ville Md.	Colum-bus Ohio	Green-field Ind.	Lafay-ette Ind.	Worth-ington Ind.	Dwight Ill.	Urbana Ill.	Clayton Ill.
A3-176	1.6	4	3.0	1	1	1	2	1	1	1
Lincoln	1.6	4	2.5	2	1	1	2	1	1	1
A3-1411-20	1.9	4	2.5	1	2	1	3	1	2	1
A3-128	2.1	4	3.0	2	2	2	3	1	2	1
A3-163	1.6	4	1.5	1	1	1	2	1	2	1
C84	2.0	5	2.5	3	3	1	2	1	1	1
Chief	1.9	4	2.5	1	1	1	3	1	1	1
A3-117	1.7	3	3.0	1	1	1	3	1	1	1
C461	1.7	4	2.0	1	2	1	2	1	1	1
Viking	2.0	4	3.0	1	2	1	3	1	1	1
Illini	1.7	4	3.0	2	1	1	2	1	1	1
Patoka	1.6	5	2.0	1	1	1	1	1	1	1
Dunfield	1.9	4	3.0	2	2	1	2	1	2	1
Mean	1.8	4.1	2.6	1.5	1.5	1.1	2.3	1.0	1.3	1.0

[1]Dwight, Clayton, Edgewood, Freeburg, and Lathrop not included in the mean.

Table 45. (continued)

Strain	Stoning-ton Ill.	Free-burg Ill.	Ottumwa Iowa	Ames Iowa	Shelby-ville Mo.	Colum-bia Mo.	Lath-rop Mo.	Lin-coln Nebr.	Man-hattan Kans.
A3-176	-5	+1	-3	-4	-5	-1	+1	-7	+1
Lincoln	-1	+2	-2	-4	0	+1	+1	-5	-1
A3-1411-20	-2	+2	-1	-1	-1	-2	+1	-6	0
A3-128	+1	+1	-1	+1	+1	+2	+3	-3	+1
A3-163	-3	+2	-3	-3	0	+2	+2	-6	+1
C84	+2	+8	+7	+3	+3	+4	+6	-1	+4
Chief	+3	+5	+7	+3	+6	+5	+7	+8	+11
A3-117	-2	+1	-2	-3	-4	+3	+2	-7	+1
C461	+4	+7	+7	+3	+10	+9	+8	+5	+3
Viking	0	+5	+4	+3	+5	+3	+6	+2	+3
Illini	0	0	0	0	0	0	0	0	0
Patoka	+8	+8	+9	+6	+15	+7	+12	+7	+12
Dunfield	-2	+2	0	0	0	0	+2	-7	-1
Date Planted	6/5	7/9	6/5	5/18	6/2	7/6	6/1	5/29	6/5
Illini Mat.	10/10	10/22	10/8	10/11	9/30	10/18	10/1	9/29	9/19
Days to Mat.	127	105	125	146	120	104	122	123	106

Table 46. (continued)

Strain	Stoning-ton Ill.	Edge-wood Ill.	Free-burg Ill.	Ottum-wa Iowa	Ames Iowa	Shelby-ville Mo.	Colum-bia Mo.	Lath-rop Mo.	Lin-coln Nebr.	Man-hattan Kans.
A3-176	1	1	1	1	1	1.0	1.8	1	1	2
Lincoln	1	1	1	1	1	1.5	1.5	1	1	2
A3-1411-20	1	1	1	1	1	1.3	2.0	1	2	3
A3-128	2	1	1	1	1	1.3	2.3	1	1	3
A3-163	1	1	1	1	1	1.0	1.3	1	1	3
C84	1	1	1	1	1	2.0	2.3	1	1	2
Chief	1	1	1	1	2	2.3	1.8	1	2	3
A3-117	1	1	1	1	1	1.0	2.0	1	1	4
C461	1	1	1	2	2	1.3	2.0	1	1	2
Viking	1	1	1	1	1	2.3	2.3	1	2	3
Illini	1	1	1	1	1	1.0	2.0	1	1	3
Patoka	1	1	1	1	2	1.5	1.5	1	2	2
Dunfield	1	1	1	1	1	1.0	1.0	1	1	4
Mean	1.1	1.0	1.0	1.1	1.2	1.4	1.8	1.0	1.3	2.8

Table 47. Summary of seed weight data in grams per 100 seeds for the strains in the Uniform Test, Group III, 1945.

Strain	Mean of 18 Tests	Composite of 13 Tests[1]	Georgetown Del.	Beltsville Md.	Columbus Ohio[2]	Greenfield Ind.[2]	Lafayette Ind.[2]	Worthington Ind.[2]	Freeburg Ill.	Shelbyville Mo.[2]	Columbia Mo.[2]	Lathrop Mo.[2]	Lincoln Nebr.	Manhattan Kansas
A3-176	13.7	13.6	12.9	16.2	12.1	13.3	16.2	17.6	14.3	11.8	13.1	13.4	11.9	14.1
Lincoln	13.2	13.3	13.9	13.6	11.7	13.8	17.1	15.4	14.5	11.5	11.8	13.2	10.9	11.9
A3-1411-20	14.8	14.5	15.5	17.9	13.6	13.9	18.6	18.4	15.4	13.8	14.1	14.3	13.6	15.3
A3-128	16.4	16.7	15.9	17.3	15.9	15.8	19.8	19.0	16.0	14.2	13.7	15.4	13.3	15.1
A3-163	15.3	15.3	15.4	15.8	15.3	14.1	19.5	17.8	17.2	14.3	13.5	15.7	12.5	14.9
C84	14.3	14.5	14.1	15.9	14.8	15.7	17.8	16.5	14.0	13.1	12.5	13.8	11.6	13.4
Chief	11.8	11.8	11.8	13.9	12.5	13.2	14.8	14.7	12.0	10.9	10.6	11.7	10.3	11.4
A3-117	13.1	13.2	12.8	14.2	12.0	13.1	16.3	15.1	14.0	11.2	11.8	12.9	11.7	12.1
C461	12.6	12.8	11.8	13.2	13.7	13.0	14.7	16.2	12.8	11.7	11.3	11.8	10.4	11.5
Viking	13.0	13.2	12.7	14.9	13.8	14.5	16.3	15.2	13.3	11.9	11.4	13.5	10.4	11.7
Illini	12.6	12.7	11.9	14.7	11.9	12.6	15.3	14.3	13.0	10.9	11.5	11.8	11.2	10.8
Patoka	16.5	16.9	16.8	17.5	17.4	18.2	20.3	19.7	17.4	15.0	14.6	16.6	12.3	13.0
Dunfield	13.8	13.8	13.5	15.7	13.0	12.9	18.0	16.0	14.2	11.7	13.3	14.4	11.8	14.4
Mean	13.9	14.0	13.8	15.4	13.7	14.2	17.3	16.6	14.5	12.5	12.4	13.7	11.7	13.0

[1] Composite from Columbus, Greenfield, Lafayette, Worthington, Dwight, Urbana, Clayton, Stonington, Ottumwa, Ames, Shelbyville, Columbia, and Lathrop.

[2] Individual seed weights also taken at these locations but not included in the mean.

Table 48. Two-year summary of agronomic and chemical data for the strains in the Uniform Test, Group III, 1944–45.

Strain	Mean Yield Bu./A.	Lodging	Height Inches	Maturity[1]	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil	Iodine Number of Oil
Number of Tests	33	29	27	25	28	32	32	32	32
Lincoln	28.9	2.3	35	-2.1	1.5	13.8	40.1	21.3	135.0
A3-176	28.2	2.2	34	-2.7	1.5	14.2	40.1	21.8	131.3
C84	28.0	3.0	38	+2.9	1.7	14.8	39.7	20.5	133.3
Chief	27.3	2.8	43	+6.4	1.8	12.3	40.0	20.3	133.6
A3-163	27.3	2.1	31	-1.5	1.4	15.6	40.0	21.0	126.8
Viking	27.2	2.9	43	+4.1	1.8	13.6	40.0	20.3	133.6
A3-117	27.1	2.7	37	-1.4	1.5	13.3	39.0	21.3	129.1
A3-128	26.9	1.9	34	-0.8	2.0	16.2	42.3	20.6	131.9
A3-1411-20	26.9	2.2	34	-3.1	1.7	15.3	40.8	21.9	129.4
Patoka	26.6	2.3	34	+8.1	1.5	17.5	42.6	20.0	133.0
Illini	26.2	3.0	38	0	1.5	13.1	40.1	20.3	133.5
Dunfield	25.4	2.9	36	-2.5	1.7	14.6	39.0	21.4	129.2
Mean	27.2	2.5	36		1.6	14.5	40.3	20.9	131.6

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

Table 49. Two year summary of yields in bushels per acre and yield rank for the strains in the Uniform Test, Group III, 1944-45.

Strain	Mean of 33 Tests	Green-field Ind.	Lafay-ette Ind.	Dwight Ill.	Urbana Ill.	Clay-ton Ill.	Stoning-ton Ill.	Edge-wood Ill.	Free-burg Ill.	Ottumwa Iowa	Ames Iowa	Colum-bia Mo.	Lin-coln Nebr.	Man-hattan Kansas
Lincoln	28.9	35.2	40.0	23.8	32.5	26.8	30.9	21.5	26.4	32.1	41.2	19.2	22.3	26.8
A3-176	28.2	32.1	39.9	24.0	33.9	24.6	32.5	14.9	25.4	32.8	43.1	19.7	23.0	28.6
C84	28.0	31.0	39.0	20.2	31.1	25.2	29.7	20.2	26.0	28.2	36.7	22.0	21.3	27.8
Chief	27.3	31.0	38.2	17.4	31.6	23.3	27.8	17.3	24.6	28.4	36.2	22.0	21.2	27.1
A3-163	27.3	28.6	36.4	20.7	31.6	29.6	30.0	15.4	27.2	30.1	38.4	20.1	21.3	25.1
Viking	27.2	31.2	37.1	20.6	32.6	23.8	32.0	19.2	23.0	27.9	35.2	17.6	21.6	26.7
A3-117	27.1	31.0	38.8	20.7	29.9	26.1	28.2	20.2	26.4	30.8	37.1	19.1	22.7	25.8
A3-128	26.9	29.7	36.5	20.4	34.4	22.1	28.1	16.3	24.7	30.9	39.4	18.6	21.7	26.3
A3-1411-20	26.9	29.0	38.5	21.4	31.7	24.7	31.2	16.4	23.1	30.6	39.1	18.3	22.3	25.4
Patoka	26.6	29.8	32.5	19.3	33.9	24.8	31.3	17.2	25.9	25.0	33.5	20.1	18.5	24.7
Illini	26.2	32.5	40.6	23.1	28.6	22.1	29.8	16.2	20.6	28.8	38.8	15.7	21.7	23.9
Dunfield	25.4	26.2	34.9	18.8	29.5	25.7	27.1	18.8	23.6	27.6	35.6	18.9	21.4	25.6
Mean	27.2	30.6	37.7	20.9	31.8	24.9	29.9	17.8	24.7	29.4	37.9	19.3	21.6	26.1

	Yield Rank												
Lincoln	1	2	2	5	2	5	1	2	2	2	6	3	4
A3-176	3	3	1	2	8	1	12	6	1	1	5	1	1
C84	5	4	9	9	5	8	2	4	9	8	1	9	2
Chief	5	7	12	7	10	11	6	8	8	9	2	11	3
A3-163	11	10	5	7	1	6	11	1	6	6	3	9	10
Viking	4	8	7	4	9	2	4	11	10	11	11	7	5
A3-117	5	5	5	10	3	9	2	2	4	7	7	2	7
A3-128	9	9	8	1	11	10	9	7	3	3	9	5	6
A3-1411-20	10	6	4	6	7	4	8	10	5	4	10	3	9
Patoka	8	12	10	2	6	3	7	5	12	12	4	12	11
Illini	2	1	3	12	11	7	10	12	7	5	12	5	12
Dunfield	12	11	11	11	4	12	5	9	11	10	8	8	8

Table 50. Four-year summary of agronomic and chemical data for the strains in the Uniform Test, Group III, 1942-45.

Strain	Mean Yield Bu./A.	Lodging	Height Inches	Maturity[1]	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil	Iodine Number of Oil
No. of Tests	62	58	56	47	53	60	63	63	63
Lincoln	30.5	2.3	36	-1.7	1.6	13.9	40.1	21.6	135
Chief	28.4	2.8	45	+6.0	1.8	12.1	40.0	20.6	133
Patoka	27.5	2.3	36	+7.8	1.7	17.0	42.3	20.4	133
Dunfield	26.2	2.9	37	-2.0	1.8	14.3	38.8	21.6	130
Illini	26.2	3.1	40	0.0	1.7	12.9	40.4	20.5	134
Mean	27.8	2.6	39		1.7	14.0	40.3	20.9	132

[1]Days earlier (-) or later (+) than Illini. Illini required 121 days to mature.

Table 51. Four-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group III, 1942-1945.

Strain	Mean of 62 Tests	Lafayette Ind.	Greenfield Ind.	Urbana Ill.	Freeburg Ill.	Stonington Ill.	Clayton Ill.	Dwight Ill.	Columbia Mo.	Ames Iowa	Lincoln Nebr.
Lincoln	30.5	41.0	33.4	38.1	30.4	31.5	26.9	29.2	20.1	40.8	23.9
Chief	28.4	38.5	30.7	37.4	30.0	29.0	23.9	22.8	21.7	34.3	22.1
Patoka	27.5	34.0	28.9	37.8	30.9	28.7	23.9	22.2	20.6	31.1	19.0
Dunfield	26.2	33.3	25.2	34.6	25.5	29.3	26.1	25.1	18.2	36.7	23.2
Illini	26.2	38.5	28.3	31.1	23.6	30.5	21.5	26.8	16.3	36.5	24.2
Mean	27.8	37.1	29.3	35.8	28.1	29.8	24.5	25.2	19.4	35.9	22.5
						Yield Rank					
Lincoln		1	1	1	2	1	1	1	3	1	2
Chief		2	2	3	3	4	3	4	1	4	4
Patoka		4	3	2	1	5	3	5	2	5	5
Dunfield		5	5	4	4	3	2	3	4	2	3
Illini		2	4	5	5	2	5	2	5	3	1

Uniform Test, Group IV

The Group IV test consisted of five named varieties, twelve selections from hybrids and one selection obtained as a rogue.

Variety or Strain	Source or Originating Agency	Origin
Boone	Missouri Agr. Exp. Station	Sel. from P.I. 54563-3
C101	Purdue Agr. Exp. Station	Sel. from Dunfield x Manchu
C425	Purdue Agr.Exp.Sta. & U.S.R.S.L.	Sel. from T117 x Mansoy
C439	Purdue Agr.Exp.Sta. & U.S.R.S.L.	Sel. from Dunfield x Mansoy
C447	Purdue Agr.Exp.Sta. & U.S.R.S.L.	Sel. from Dunfield x Mansoy
C453	Purdue Agr.Exp.Sta. & U.S.R.S.L.	Sel. from Dunfield x Mansoy
C458	Purdue Agr.Exp.Sta. & U.S.R.S.L.	Sel. from Dunfield x Mansoy
C461	Purdue Agr.Exp.Sta. & U.S.R.S.L.	Sel. from Dunfield x Mansoy
C463	Purdue Agr.Exp.Sta. & U.S.R.S.L.	Sel. from Dunfield x Mansoy
C464	Purdue Agr.Exp.Sta. & U.S.R.S.L.	Sel. from Dunfield x Mansoy
C470	Purdue Agr.Exp.Sta. & U.S.R.S.L.	Sel. from Rogue in P.I. 54592
Chief	Ill. Agr. Exp. Station	Sel. from Illini x Manchu
Gibson	Purdue Agr. Exp. Station	Sel. from Midwest x Dunfield
Macoupin	Elmer Hulcher	Sel. from commercial lot
Patoka	Purdue Agr. Exp. Station	Sel. from P.I. 70218-2
S55-10	Missouri Agr. Exp. Station	Sel. from Virginia x P.I. 37062
S55-19	Missouri Agr. Exp. Station	Sel. from Virginia x P.I. 37062
S100	Missouri Agr. Exp. Station	Rogue from Illini

The 18 strains included in the Uniform Test, Group IV, were grown at 15 locations in 4 states of the North Central Region, at Georgetown, Delaware, and at Beltsville, Maryland, in 1945.

There were 10 new entries in 1945. Nine of these entries were from selections made in Indiana and were previously tested in preliminary tests in Indiana, Illinois, Missouri, and Virginia. The detailed report of these strains was presented in Tables 66 to 68 of the 1944 report. Strain S55-19 was previously tested in, and entered from, Missouri.

The performance data for 1945 are presented in Tables 52 to 59. The two-year summary (Tables 60 and 61) gives a comparison of C101 and S55-10 with the other strains which have been grown for a longer period. C101 is second in yield but is very lodging susceptible and is only average in oil content. C101 has little possibility of being released as a variety because of its lodging susceptibility, and does not appear to warrant further testing. S55-10 has been just average in yield and oil content and is not very lodging resistant. It likewise does not appear to warrant further testing.

Five commercially important varieties and S100 have been tested 4 years and are summarized in Tables 62 and 63. S100 ranks third in yield and is lowest in oil content. S100 is too late for Indiana, since it is about a week later than Gibson. S100 is best adapted to extreme southern Illinois, the southern parts of Missouri and Kansas and some of the southern states.

Chief was tied with C463 for high yield while the remaining named varieties were at or near the bottom of the group in yield. Strains S55-10 and S55-19 were also low in yield and among the lower oil content strains. S100 was second in yield in 1945 but was the lowest in oil content and the latest in maturity, being seven days later than Gibson. The three-year data presented in Table 64 show that all the new entiries from Indiana excel Chief, Patako, and Gibson in yield. Several of these are likewise equal to Patoka in lodging resistance, and also excel the check varieties in oil content. C463 is the most outstanding of the group in all-round performance.

Table 52. Summary of agronomic and chemical data for the strains in the Uniform Test, Group IV, 1945.

Strain	Mean Yield Bu/A.	Lodging	Height Inches	Maturity[1]	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil	Iodine Number of Oil
No. of Tests	17	13	13	11	14	13	16	16	16
C463	27.1	2.3	37	-3.4	1.5	13.4	39.8	20.9	130.1
Chief	27.1	2.7	41	-3.6	1.9	12.3	40.4	20.3	132.8
S100	27.0	2.4	41	+7.0	2.1	13.6	41.6	18.9	134.3
C470	26.9	2.8	37	-1.5	1.7	12.9	40.3	19.8	134.6
C464	26.9	2.3	37	+0.8	1.8	14.1	40.8	20.5	131.3
C461	26.8	2.2	34	-6.8	1.4	12.7	40.3	20.5	130.8
C101	26.6	2.9	35	-0.5	2.3	15.5	40.0	20.4	135.1
C453	26.5	2.9	37	-0.4	1.8	13.7	39.3	20.5	133.1
C425	26.5	2.8	36	-2.0	1.9	13.0	39.8	20.6	132.2
C458	26.4	2.7	36	+1.1	1.9	14.6	38.6	20.8	130.4
C439	26.2	2.5	36	-1.4	1.6	13.3	40.4	20.5	131.0
C447	26.0	3.0	39	0	2.0	13.1	38.1	20.8	133.5
Patoka	25.6	2.2	31	-3.4	1.7	16.6	42.1	20.2	133.1
S55-10	25.2	2.6	37	-3.2	1.9	14.4	41.6	19.8	134.3
S55-19	25.0	2.6	37	-3.9	1.8	14.5	41.9	20.0	134.4
Macoupin	23.9	3.0	39	-1.0	1.6	14.6	39.5	21.1	133.7
Gibson	22.5	2.8	35	0	1.8	13.2	40.1	19.5	135.7
Boone	21.5	2.8	37	+0.2	1.8	12.9	41.0	20.3	133.6
Mean	25.8	2.6	37		1.8	13.8	40.3	20.3	133.0

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

Table 53. Summary of yields in bushels per acre for the strains in the Uniform Test, Group IV, 1945.

Strain	Mean of 17 Tests	George-town Del.	Belts-ville Md.	Worth-ington Ind.	Vin-cennes Ind.	Evans-ville Ind.[1]	Evans-ville Ind.[2]	Urbana Ill.	Edge-wood Ill.
C463	27.1	30.4	33.4	37.6	42.6	37.6	40.9	42.9	22.1
Chief	27.1	32.7	32.8	37.9	40.0	38.8	43.7	41.1	18.9
S100	27.0	34.6	38.1	44.0	41.9	36.6	48.2	30.0	20.3
C470	26.9	33.4	35.4	39.7	39.0	37.0	43.6	32.4	19.0
C464	26.9	30.6	37.8	41.2	43.0	35.0	45.1	36.5	19.7
C461	26.8	27.0	34.1	32.6	37.9	37.0	41.0	40.8	23.8
C101	26.6	31.1	31.5	37.7	41.0	36.7	46.2	37.0	19.9
C453	26.5	35.4	32.0	34.8	36.9	31.9	45.1	36.4	19.5
C425	26.5	34.3	27.5	33.8	36.1	33.2	41.2	38.2	21.8
C458	26.4	34.3	30.6	35.5	39.4	36.4	45.0	35.0	18.4
C439	26.2	28.8	35.9	37.5	39.0	37.0	38.5	37.1	19.3
C447	26.0	35.4	33.5	33.1	36.9	29.5	44.1	35.0	19.3
Patoka	25.6	27.9	33.0	34.5	34.1	39.1	42.5	35.2	20.2
S55-10	25.2	30.0	24.2	30.2	35.1	33.7	40.3	34.0	17.4
S55-19	25.0	30.9	30.7	27.5	31.1	32.6	38.5	28.8	20.4
Macoupin	23.9	31.0	26.9	32.3	36.8	32.0	46.2	26.7	19.1
Gibson	22.5	28.8	27.3	27.7	33.1	26.1	33.2	31.8	16.2
Boone	21.5	24.4	25.2	32.1	36.1	32.7	36.8	26.5	14.9
Mean	25.8	31.2	31.3	35.0	37.7	34.6	42.2	34.7	19.4
Coef. of Var. (%)		-	10.4	10.8	10.2	13.0	10.8	18.0	12.2
Bus. Nec. for Sig. (5% Level)		4.7	4.6	5.3	5.4	6.4	7.4	8.9	3.4

[1] Low fertility level

[2] High fertility level

Table 53. (Continued)

Strain	Stoning-ton Ill.	Free-burg Ill.	Clay-ton Ill.	Sikes-ton Mo.	Shelby-ville Mo.	Colum-bia Mo.	Lath-rop Mo.	Thayer Kansas	Man-hattan Kansas
C463	29.4	15.1	16.2	25.3	17.9	13.0	19.9	13.1	22.9
Chief	28.7	20.5	17.1	23.6	16.7	13.0	19.1	13.4	22.0
S100	22.5	16.0	14.0	31.4	18.7	9.9	15.7	16.9	20.2
C470	28.7	18.0	19.8	27.2	15.6	13.5	20.0	13.7	21.6
C464	28.1	15.0	14.9	26.6	19.2	11.8	17.7	13.8	21.0
C461	33.5	20.2	19.1	22.9	15.6	12.6	20.7	13.9	22.4
C101	24.4	18.2	17.8	28.3	16.8	11.2	17.6	15.6	20.6
C453	25.4	18.0	19.1	28.8	19.2	13.0	20.4	12.7	22.3
C425	31.6	16.2	21.3	25.4	18.1	14.1	20.7	13.7	22.7
C458	29.0	16.5	17.7	27.1	18.8	11.5	19.5	13.0	21.0
C439	28.3	17.6	18.1	28.8	16.5	11.9	17.5	13.6	20.5
C447	24.7	17.2	19.4	27.9	18.8	13.3	20.0	13.2	20.9
Patoka	32.1	18.3	17.1	24.5	14.7	12.8	16.7	13.3	19.7
S55-10	24.7	19.9	24.6	27.3	17.5	13.4	20.0	13.2	22.4
S55-19	26.7	19.1	25.5	28.5	17.0	13.6	19.6	13.1	21.6
Macoupin	21.0	16.3	11.1	26.2	17.0	11.8	19.1	14.2	17.9
Gibson	20.8	14.9	18.7	21.8	17.0	12.4	16.3	16.3	19.5
Boone	19.6	11.5	10.4	22.7	14.2	10.8	15.7	14.4	17.9
Mean	26.6	17.1	17.9	26.5	17.2	12.4	18.7	13.9	20.9
Coef. of Var. (%)	12.5	11.7	7.5	7.4	9.8	8.6	11.5	5.7	7.1
Bu. Nec. for Sig. (5% Level)	4.7	2.8	1.9	2.8	2.4	1.5	3.1	1.1	2.1

Table 54. Summary of yield rank for the strains in the Uniform Test, Group IV, 1945.

Strain	George-town Del.	Belts-ville Md.	Worth-ington Ind.	Vin-cennes Ind.	Evans-ville Ind.[1]	Evans-ville Ind.[2]	Urbana Ill.	Edge-wood Ill.	Ston-ington Ill.
C463	12	7	6	2	3	13	1	2	4
Chief	7	9	4	5	2	8	2	14	6
S100	3	1	1	3	8	1	15	5	15
C470	6	4	3	7	4	9	13	13	6
C464	11	2	2	1	10	4	7	8	9
C461	17	5	13	9	4	12	3	1	1
C101	8	11	5	4	7	2	6	7	14
C453	1	10	9	10	16	4	8	9	11
C425	4	14	11	13	12	11	4	3	3
C458	4	13	8	6	9	6	10	15	5
C439	14	3	7	7	4	15	5	10	8
C447	1	6	12	10	17	7	10	10	12
Patoka	16	8	10	16	1	10	9	6	2
S55-10	13	18	16	15	11	14	12	16	12
S55-19	10	12	18	18	14	15	16	4	10
Macoupin	9	16	14	12	15	2	17	12	16
Gibson	14	15	17	17	18	18	14	17	17
Boone	18	17	15	13	13	17	18	18	18

[1] Low fertility level

[2] High fertility level

Table 54. (Continued)

Strain	Free-burg Ill.	Clay-ton Ill.	Sikes-ton Mo.	Shelby-ville Mo.	Colum-bia Mo.	Lath-rop Mo.	Thayer Kansas	Man-hattan Kansas
C463	15	14	13	7	6	7	15	1
Chief	1	12	15	13	6	10	11	6
S100	14	16	1	5	18	17	1	14
C470	7	4	8	15	3	4	8	7
C464	16	15	10	1	13	12	7	9
C461	2	6	16	15	10	1	6	3
C101	6	10	5	12	16	13	3	12
C453	7	6	2	1	6	3	18	5
C425	13	3	12	6	1	1	8	2
C458	11	11	9	3	15	9	17	9
C439	9	9	2	14	12	14	10	13
C447	10	5	6	3	5	4	13	11
Patoka	5	12	14	17	9	15	12	15
S55-10	3	2	7	8	4	4	13	3
S55-19	4	1	4	9	2	8	15	7
Macoupin	12	17	11	9	13	10	5	17
Gibson	17	8	18	9	11	16	2	16
Boone	18	18	17	18	17	17	4	17

Table 55. Summary of lodging data for the strains in the Uniform Test, Group IV, 1945.

Strain	Mean of 13 Tests	Belts-ville Md.	Worth-ington Ind.	Vin-cennes Ind.	Evans-ville Ind.[1]	Evans-ville Ind.[2]	Ur-bana Ill.	Ston-ington Ill.	Free-burg Ill.	Sikes-ton Mo.	Shelby-ville Mo.	Colum-bia Mo.	Lath-rop Mo.	Man-hattan Kansas
C463	2.3	2.7	3.3	2.0	2.8	2.0	4.3	2.8	2.0	2.3	2.0	1.0	1.5	1.0
Chief	2.7	3.0	3.3	2.5	2.8	2.5	4.3	4.0	2.0	2.8	2.3	1.3	1.5	3.0
S100	2.4	2.0	3.3	2.5	3.0	2.3	4.0	3.0	1.5	2.8	2.3	1.0	2.0	1.0
C470	2.8	3.2	3.8	2.3	3.3	3.0	4.3	3.5	1.5	2.8	2.3	1.3	1.5	3.0
C464	2.3	2.7	3.0	2.0	2.5	2.0	4.0	3.3	2.0	2.5	2.5	1.0	1.8	1.0
C461	2.2	2.2	3.3	2.3	3.0	2.3	4.0	2.5	1.5	2.3	2.0	1.0	1.0	1.0
C101	2.9	3.0	4.0	2.8	3.5	2.7	4.5	4.0	3.0	2.5	2.3	1.0	2.0	2.0
C453	2.9	3.5	4.0	2.3	3.3	3.0	4.0	4.0	2.0	3.3	3.0	1.8	2.0	2.0
C425	2.8	3.2	3.5	2.8	3.5	3.0	4.5	2.8	2.0	3.3	2.5	1.3	1.5	2.0
C458	2.7	3.2	4.3	2.3	3.3	2.7	4.8	3.3	2.0	3.0	2.5	1.0	1.5	1.0
C439	2.5	2.5	3.3	2.0	3.0	2.7	3.8	3.3	2.5	2.5	2.0	1.0	1.8	2.0
C447	3.0	3.2	4.0	2.5	3.8	3.0	4.5	3.8	2.0	3.8	2.8	1.8	2.0	2.0
Patoka	2.2	3.0	3.3	2.3	2.5	2.3	4.5	3.0	1.0	1.8	1.8	1.0	1.0	1.0
S55-10	2.6	3.7	3.0	2.8	3.0	2.3	4.0	4.3	1.5	2.8	1.8	1.0	1.5	2.0
S55-19	2.6	3.0	3.0	3.0	3.0	2.3	4.5	4.0	1.5	2.8	2.0	1.0	1.5	2.0
Macoupin	3.0	3.2	3.8	2.5	3.5	3.0	4.5	3.8	3.0	3.0	2.5	1.8	2.0	2.0
Gibson	2.8	3.2	4.3	2.7	3.0	3.0	4.8	3.8	2.5	3.0	2.8	1.0	1.8	1.0
Boone	2.8	3.2	3.5	3.0	2.8	3.0	4.0	3.3	2.0	3.3	2.3	1.8	2.0	2.0
Mean	2.6	3.0	3.6	2.5	3.1	2.6	4.3	3.5	2.0	2.8	2.3	1.2	1.6	1.7

[1] Low fertility level.

[2] High fertility level.

Table 56. Summary of height data for the strains in the Uniform Test, Group IV, 1945.

Strain	Mean of 13 Tests	Belts-ville Md.	Worth-ington Ind.	Vin-cennes Ind.	Evans-ville Ind.[1]	Evans-ville Ind.[2]	Ston-ington Ill.	Free-burg Ill.	Sikes-ton Mo.	Shelby-ville Mo.	Colum-bia Mo.	Lath-rop Mo.	Thayer Kansas	Man-hattan Kansas
C465	37	42	47	46	48	47	46	27	27	31	22	33	20	39
Chief	41	51	51	51	53	51	51	26	34	36	23	36	21	43
S100	41	46	54	47	53	51	46	33	37	34	28	37	22	45
C470	37	42	47	46	48	52	45	28	28	30	22	34	20	39
C464	37	43	46	46	49	48	44	27	29	31	23	34	21	39
C461	34	41	42	43	46	43	41	27	24	28	20	32	21	35
C101	35	40	39	42	44	45	46	28	29	30	23	34	21	39
C453	37	42	50	45	46	47	45	26	31	31	25	34	21	39
C425	36	42	44	44	47	46	44	28	28	32	24	34	19	40
C458	36	42	44	45	45	46	42	28	29	31	23	34	20	38
C439	36	42	43	45	48	49	43	26	27	30	21	33	20	38
C447	39	44	48	50	52	48	48	27	33	33	25	35	20	41
Patoka	31	40	36	35	37	40	42	23	24	28	19	29	19	36
S55-10	37	40	38	42	46	53	50	31	27	33	24	34	22	39
S55-19	37	42	39	46	46	47	53	28	30	34	21	37	21	39
Macoupin	39	44	45	45	54	57	44	28	31	36	27	38	20	44
Gibson	35	39	40	43	47	49	41	28	27	30	23	32	20	37
Boone	37	42	43	44	49	50	46	28	30	30	27	36	20	35
Mean	37	42	44	45	48	48	46	28	29	32	23	34	20	39

[1] Low fertility level.

[2] High fertility level.

Table 57. Summary of maturity data, days earlier (-) or later (+) than Gibson, for the strains in the Uniform Test, Group IV, 1945.

Strain	Mean of 11 Tests	Beltsville Md.	Worthington Ind.	Vincennes Ind.	Evansville Ind.[1]	Evansville Ind.[2]	Freeburg Ill.	Sikeston Mo.	Shelbyville Mo.	Columbia Mo.	Thayer Kansas	Manhattan Kansas
C465	-3.4	0	-4	-9	-3	-8	+2	-2	-2	+1	0	-12
Chief	-3.6	0	-8	-2	-6	-6	-3	-1	-2	-4	-2	- 6
S100	+7.0	+10	+4	+5	+8	+8	+6	+10	+7	+10	+3	+ 6
C470	-1.5	0	-3	-6	0	-4	0	0	+2	+1	-1	- 5
C464	+0.8	0	+3	0	+4	-4	+3	+1	0	+2	0	0
C461	-6.8	-5	-8	-11	-6	-12	-5	-4	-7	-2	-1	-14
C101	-0.5	-5	-2	-1	-1	-4	+3	+3	+3	+1	+1	- 3
C453	-0.4	+5	+1	-3	+1	-5	0	0	+1	+2	-1	- 5
C425	-2.0	0	-5	-2	-2	-5	+2	0	-2	+1	-2	- 7
C458	+1.1	0	0	+2	+3	-2	+3	+2	0	+5	0	- 1
C439	-1.4	+5	-2	-3	0	-6	-1	0	-1	0	0	- 7
C447	0	0	0	-3	+1	-4	0	+2	+1	+2	-1	0
Patoka	-3.4	0	-7	-4	-4	-8	-3	-1	-1	-1	-2	- 6
S55-10	-3.2	-5	-7	-3	-5	-6	0	-1	0	-2	0	- 6
S55-19	-3.9	-5	-8	-4	-6	-8	0	-1	0	-4	-1	- 6
Macoupin	-1.0	0	-5	-1	-1	-4	0	-1	0	+1	-1	+ 1
Gibson	0	0	0	0	0	0	0	0	0	0	0	0
Boone	+0.2	+5	-7	-1	-3	-3	+4	+2	+3	+2	0	0
Date Planted	6/8	5/24	5/23	5/25	5/24	5/24	7/12	5/21	6/2	7/6	7/16	6/4
Gibson Mat.	10/16	10/5	10/14	10/17	10/9	10/17	11/7	9/26	10/21	10/28	10/22	10/7
Days to Mat.	130	134	144	145	138	146	118	128	141	114	98	125

[1] Low fertility level.

[2] High fertility level.

Table 58. Summary of seed weight data in grams per 100 seeds for the strains in the Uniform Test, Group IV, 1945.

Strain	Mean of 16 Tests	Composite of 10 Tests [1]	George-town Del.	Belts-ville Md.	Worth-ington Ind. [2]	Vin-cennes Ind. [2]	Evans-ville A Ind. [2]	Evans-ville B Ind. [2]	Free-burg Ill.	Sikes-ton Mo.	Shelby-ville Mo. [2]	Colum-bia Mo. [2]	Lath-rop Mo. [2]	Thayer Kansas	Man-hattan Kansas
C463	13.4	13.4	15.2	14.4	14.7	15.9	17.0	16.2	12.4	14.1	13.8	11.7	13.2	13.0	11.4
Chief	12.3	12.3	12.9	14.2	13.1	14.6	15.1	15.3	12.0	12.8	11.1	10.3	11.6	11.4	10.8
S100	13.6	13.6	15.1	14.7	14.4	15.9	17.4	18.3	13.5	13.9	15.6	12.3	15.4	13.4	10.9
C470	12.9	12.7	15.1	15.7	14.4	15.9	16.5	16.6	13.0	13.5	12.5	11.5	13.2	12.1	10.6
C464	14.1	14.4	15.5	15.1	16.5	16.6	17.5	17.1	12.5	13.8	15.4	12.3	14.7	13.2	12.2
C461	12.7	12.8	14.0	13.9	14.6	15.2	15.3	15.4	12.6	12.2	11.6	11.3	12.1	12.2	10.2
C101	15.5	15.3	17.1	16.8	17.4	18.2	18.9	19.1	15.8	16.4	15.2	13.2	15.0	16.6	12.6
C453	13.7	13.7	15.5	14.7	14.7	15.8	16.9	17.3	12.9	14.0	15.8	12.2	14.6	14.0	11.7
C425	13.0	13.2	14.8	13.8	13.9	15.0	16.0	15.9	11.9	13.9	12.7	11.6	13.1	13.2	10.0
C458	14.6	14.8	17.6	15.9	15.9	17.6	18.8	18.1	13.4	13.6	15.7	12.1	15.3	13.1	12.1
C439	13.3	13.3	14.8	14.6	14.9	16.1	16.9	16.8	13.4	13.6	13.6	11.6	13.3	11.9	10.8
C447	13.1	13.3	14.2	14.0	13.7	14.9	15.6	16.7	12.5	12.9	14.6	11.6	13.5	12.3	11.1
Patoka	16.6	16.7	17.5	18.4	18.6	18.9	21.1	20.7	16.3	17.4	14.8	14.5	16.0	16.6	12.8
S55-10	14.4	14.2	16.1	15.2	15.6	16.6	17.1	18.3	14.5	15.8	13.7	12.5	13.7	14.0	12.7
S55-19	14.5	14.5	16.2	15.3	15.3	17.1	17.3	17.9	13.8	15.3	13.4	12.4	14.3	13.9	12.4
Macoupin	14.6	14.9	16.2	14.0	15.3	15.9	16.7	17.9	13.5	14.9	15.8	12.5	15.4	14.2	11.8
Gibson	13.2	13.4	13.8	14.6	13.3	13.8	15.6	17.0	12.1	14.5	13.5	11.6	13.1	12.5	10.4
Boone	12.9	12.7	15.2	12.8	12.4	14.0	15.9	15.5	12.2	15.0	14.2	11.1	13.8	13.0	11.5
Mean	13.8	13.8	15.4	14.9	14.9	16.0	17.0	17.2	13.2	14.4	14.1	12.0	13.9	13.4	11.4

[1] Composite from Worthington, Vincennes, Evansville A-low fertility level, Evansville B-high fertility level, Urbana, Stonington, Clayton, Shelbyville, Columbia, and Lathrop.

[2] Individual seed weights also taken at these locations but not included in the mean.

Table 59. Summary of seed quality data for the strains in the Uniform Test, Group IV, 1945.

Strain	Mean of 14 Tests[1]	Georgetown Del.	Beltsville Md.	Worthington Ind.	Vincennes Ind.	Evansville Ind.[2]	Evansville Ind.[3]	Urbana Ill.	Edgewood Ill.
C463	1.5	4	2.0	2	1	1	1	1	1
Chief	1.9	3	2.5	3	2	2	1	1	1
S100	2.1	4	2.0	1	1	2	1	1	1
C470	1.7	4	2.0	1	2	2	1	1	1
C464	1.8	3	2.5	2	1	2	1	1	1
C461	1.4	4	2.0	1	1	1	1	1	1
C101	2.3	4	3.0	1	2	2	1	1	1
C453	1.8	4	2.0	1	1	3	1	1	1
C425	1.9	5	2.5	2	1	3	1	1	1
C458	1.9	3	2.5	2	2	3	1	1	1
C439	1.6	4	2.0	1	1	1	1	1	1
C447	2.0	4	2.5	2	1	3	1	1	1
Patoka	1.8	5	2.0	2	1	2	2	1	1
S55-10	1.9	5	3.0	2	1	2	2	1	1
S55-19	1.8	5	2.5	2	1	2	1	1	1
Macoupin	1.5	4	2.0	1	1	2	1	1	1
Gibson	1.8	5	3.0	1	1	2	1	1	1
Boone	1.8	4	2.5	1	1	1	1	1	1
Mean	1.8	4	2.4	1.6	1.2	2.0	1.1	1.0	1.0

[1]Urbana and Edgewood not included in the mean.

[2]Low fertility level.

[3]High fertility level.

Table 59. (continued)

Strain	Stoning-ton Ill.	Free-burg Ill.	Clay-ton Ill.	Sikes-ton Mo.	Shelby-ville Mo.	Colum-bia Mo.	Lath-rop Mo.	Man-hattan Kans.
C463	1	1	1	1.8	1.5	1.8	1.0	1
Chief	1	1	1	3.0	1.8	1.8	1.0	3
S100	2	2	1	2.5	1.5	2.0	5.0	2
C470	1	1	1	2.0	1.5	1.3	1.0	3
C464	1	1	1	3.0	1.0	2.0	3.0	2
C461	1	1	1	1.5	1.8	1.5	1.0	1
C101	1	1	1	3.8	2.5	2.3	4.0	4
C453	1	1	1	2.0	1.3	1.8	1.5	3
C425	1	1	1	1.8	1.0	1.8	1.0	3
C458	1	1	1	1.8	1.5	1.8	2.5	3
C439	1	1	1	2.0	1.3	1.8	1.0	3
C447	1	1	1	3.3	1.3	1.8	2.0	3
Patoka	1	1	1	3.5	1.0	1.0	1.0	2
S55-10	1	1	1	2.3	1.8	1.5	1.0	2
S55-19	1	1	1	3.0	1.8	1.5	1.0	2
Macoupin	1	1	1	1.3	1.0	1.8	1.0	2
Gibson	1	1	1	2.0	1.0	1.5	2.3	2
Boone	1	1	2	2.8	1.3	2.0	2.3	3
Mean	1.1	1.1	1.1	2.4	1.4	1.7	1.8	2.4

Table 60. Two year summary of agronomic and chemical data for the strains in the Uniform Test, Group IV, 1944-45.

Strain	Mean Yield Bu/A.	Lodging	Height Inches	Maturity[1]	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil	Iodine Number of Oil
No. of Tests	28	20	20	18	23	24	27	27	27
S100	26.8	2.7	41	+7.4	1.8	14.0	42.9	18.6	133.6
C101	25.9	2.9	35	+1.4	2.4	16.3	40.9	20.2	133.7
Chief	24.7	2.8	40	-2.4	2.1	12.7	41.1	20.3	132.3
S55-10	24.5	2.6	37	-1.3	1.9	15.3	42.4	19.9	133.7
Patoka	24.1	2.0	30	-2.9	2.0	16.9	43.2	20.1	132.7
Gibson	23.5	2.6	35	0	1.8	13.8	40.9	19.5	134.4
Macoupin	23.0	2.8	39	-0.7	1.6	15.0	40.6	20.8	132.2
Boone	21.9	2.9	36	+0.8	1.7	13.4	41.6	20.3	132.0
Mean	24.3	2.7	37		1.9	14.7	41.7	20.0	133.1

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

Table 61. Two year summary of yields in bushels per acre and yield rank for the strains in the Uniform Test, Group IV, 1944-45.

Strain	Mean Yield Bu/A.	Evansville Ind.	Urbana Ill.	Clayton Ill.	Stoningston Ill.	Edgewood Ill.	Freeburg Ill.	Sikeston Mo.	Columbia Mo.	Thayer Kansas	Manhattan Kansas
S100	26.8	39.0	32.6	18.9	23.2	18.5	24.8	26.2	20.5	21.3	27.3
C101	25.9	36.1	33.9	22.9	24.9	20.1	23.0	21.7	19.4	20.3	28.1
Chief	24.7	33.4	34.6	21.9	26.3	17.8	24.4	17.3	18.9	17.3	27.0
S55-10	24.5	31.5	32.9	27.2	25.0	15.9	24.5	21.4	20.2	17.5	27.7
Patoka	24.1	34.2	33.9	22.1	27.1	14.9	22.8	18.4	19.5	17.4	25.9
Gibson	23.5	31.5	31.3	20.6	23.8	17.2	21.8	18.6	21.2	20.4	26.9
Macoupin	23.0	32.8	26.7	17.4	21.1	18.4	21.1	20.4	19.8	18.0	23.4
Boone	21.9	32.0	26.4	15.6	19.7	15.6	18.6	17.9	21.7	18.0	25.0
Mean	24.3	33.8	31.5	20.8	23.9	17.3	22.6	20.2	20.2	18.8	26.4
					Yield Rank						
S100		1	5	6	6	2	1	1	3	1	3
C101		2	2	2	4	1	4	2	7	3	1
Chief		4	1	4	2	4	3	8	8	8	4
S55-10		7	4	1	3	6	2	3	4	6	2
Patoka		3	2	3	1	8	5	6	6	7	6
Gibson		7	6	5	5	5	6	5	2	2	5
Macoupin		5	7	7	7	3	7	4	5	4	8
Boone		6	8	8	8	7	8	7	1	4	7

Table 62. Four year summary of mean agronomic and chemical data for the strains in the Uniform Test, Group IV, 1942-45.

Strain	Mean Yield Bu/A.	Lodging	Height Inches	Maturity[1]	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil	Iodine Number of Oil
No. of Tests	49	41	40	33	41	46	49	49	49
Chief	25.9	2.7	43	-2.9	2.1	12.4	40.4	20.8	132
Patoka	25.8	2.0	33	-2.6	2.0	16.5	43.2	20.6	132
S100	25.6	2.6	43	+7.6	2.0	13.0	42.0	19.0	134
Gibson	24.5	2.7	37	0	1.7	13.3	40.3	20.2	134
Macoupin	23.2	2.6	41	-0.8	1.85	14.5	39.9	21.3	132
Boone	22.0	2.7	39	+1.2	1.8	13.1	40.9	20.7	132
Mean	24.5	2.6	39		1.9	13.8	41.1	20.4	133

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

Table 63. Four year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group IV, 1942-45.

Strain	Mean of 49 Tests	Evansville Ind.	Urbana Ill.	Stonington Ill.	Freeburg Ill.	Clayton Ill.	Sikeston Mo.	Columbia Mo.
Chief	25.9	34.1	36.2	26.5	29.3	22.9	18.2	18.2
Patoka	25.8	34.1	37.2	25.7	29.9	23.2	17.9	19.9
S100	25.6	38.8	32.6	23.4	29.1	19.3	22.9	19.4
Gibson	24.5	34.1	35.2	22.7	26.6	21.0	18.3	20.0
Macoupin	23.2	32.1	29.1	20.7	24.9	19.7	18.6	19.5
Boone	22.0	29.9	30.6	18.8	21.6	17.1	17.7	21.7
Mean	24.5	33.9	33.5	23.0	26.9	20.5	18.9	19.8
		Yield Rank						
Chief		2	2	1	2	2	4	6
Patoka		2	1	2	1	1	5	3
S100		1	4	3	3	5	1	5
Gibson		2	3	4	4	3	3	2
Macoupin		5	6	5	5	4	2	4
Boone		6	5	6	6	6	6	1

Table 64. Three year summary, 1943-45, of agronomic and chemical data for the Preliminary Uniform Test, Group IV strains.

Strain	Mean Yield Bu/A.	Lodging	Height Inches	Maturity[1]	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil	Iodine Number of Oil
No. of Tests	24	18	18	15	20	16	23	23	23
C470	26.5	2.8	36	-0.8	1.8	13.1	40.8	20.0	134.4
C458	26.2	2.6	35	+1.1	2.1	14.8	38.7	21.0	130.0
C463	26.1	2.2	36	-3.0	1.7	13.7	40.0	21.1	129.8
C464	26.1	2.3	36	+0.9	1.9	14.2	40.9	20.6	130.9
C453	25.9	2.8	36	+0.2	2.0	13.9	39.6	20.6	132.8
C447	25.6	2.9	38	+0.3	2.0	13.3	38.3	21.0	133.0
C461	25.5	2.0	33	-6.6	1.6	12.8	40.5	20.7	130.6
C425	25.4	2.6	36	-2.0	2.0	13.1	39.8	20.8	131.8
C439	25.2	2.3	35	-1.3	1.6	13.4	40.4	20.7	131.0
Chief	25.0	2.6	40	-3.2	2.1	12.5	40.5	20.5	132.6
Patoka	23.9	2.1	30	-3.0	1.9	16.8	42.6	20.3	132.8
Gibson	22.5	2.7	35	0	1.9	13.5	40.2	19.7	135.2
Mean	25.3	2.5	36		1.9	13.8	40.2	20.6	32.1

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

EFFECT OF LOCATION ON COMPOSITION

Average chemical composition of soybean varieties and strains at each selection nursery location would be of importance in evaluating individual strains. The most desirable way of obtaining this information for the uniform nurseries would be to analyze each strain at each location in the area where the nursery is grown. Since this would entail the analysis of many samples it appears more feasible to analyze composites. The strain composites were prepared by including equal weights of seed from each location where that group was grown. These composition data have been presented in the preceding sections and give a satisfactory estimate of the performance of the strains in the area of their adaptation.

Group composites were prepared for each location by taking equal weights of seed from each strain in the test. These composites furnish information on the effect of location on chemical composition of soybean seed. Table 65 gives the chemical analysis of the location composites for the 1945 season and for the two-year and three-year means. As the same strains within each group are grown at each location, the chemical analyses give comparable information between locations. Previous studies have shown varieties x locations interaction to be low for percent protein, percent oil, and iodine number of oil, within the area of adaptation of the strains.

Table 65. Chemical composition of soybean seed grown at each of the Uniform Test locations for 1945, the two-year means for 1944-45, and the three-year means for 1943-45 (composite sample or mean of all strains grown in each respective group Test).

Location	1945			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 16 strains in 1945 and 12 in 1944)									
Bath, Mich.	42.6	17.7	139	--	--	--	--	--	--
Spooner, Wis.	42.0	18.6	137	44.5	17.9	135	--	--	--
Eau Claire, Wis.	43.1	18.8	132	45.4	18.2	130	--	--	--
St. Paul, Minn.	44.0	18.0	133	43.2	18.7	133	--	--	--
Waseca, Minn.	41.0	19.3	131	41.7	19.1	134	--	--	--
Fargo, N.D.	34.0	21.1	134	38.6	19.3	138	--	--	--
Park River, N.D.	40.7	19.1	134	41.1	18.7	136	--	--	--
Corvallis, Ore.	42.2	17.0	135	--	--	--	--	--	--
Group I (Mean of 16 strains, 16 in 1944 and 25 in 1945)									
Strongsville, O.	43.0	18.8	129	42.3	19.9	130	41.7	20.0	131
Wooster, Ohio	42.1	19.8	129	--	--	--	--	--	--
Columbus, Ohio	41.8	19.7	128	--	--	--	--	--	--
E.Lansing, Mich.	44.4	17.8	137	42.0	19.3	134	43.0	18.9	135
Madison, Wis.	40.4	20.3	132	40.8	20.6	131	41.7	20.4	130
Eau Claire, Wis.	42.1	19.2	134	44.0	18.5	134	44.6	18.3	134
St. Paul, Minn.	41.8	18.7	136	41.9	19.0	136	41.9	19.2	135
Waseca, Minn.	40.6	19.5	133	41.4	19.1	136	43.0	18.8	134
Cresco, Iowa	43.0	19.6	131	44.2	18.7	135	--	--	--
Kanawha, Iowa	41.4	18.7	138	40.1	20.1	136	--	--	--
Brookings, S.D.	40.7	18.9	137	40.9	19.0	137	40.8	19.2	136
Group II (Composite of 18 strains in 1945, 25 in 1944, and 16 in 1943)									
Columbus, Ohio	43.4	19.1	130	--	--	--	--	--	--
Holgate, Ohio	40.3	20.8	129	41.4	20.5	129	41.0	20.3	131
Bluffton, Ind.	41.7	20.3	130	--	--	--	--	--	--
Greenfield, Ind.	41.6	20.1	131	41.4	20.3	131	--	--	--
Walkerton, Ind.	42.8	19.4	133	--	--	--	--	--	--
Wanatah, Ind.	42.5	19.7	131	44.1	19.1	131	44.6	19.0	132
LaFayette, Ind.	42.8	20.1	130	42.0	20.3	131	41.6	20.4	131
Jasper, Mich.[1]	39.9	20.2	131	--	--	--	--	--	--
E.Lansing, Mich.[1]	43.5	17.2	140	41.1	18.9	137	40.9	18.9	138
Urbana, Ill.	40.9	20.9	130	39.8	21.6	129	39.6	21.5	129
Dwight, Ill.	39.8	21.0	132	40.2	21.0	132	40.7	20.7	132
Compton, Ill.	40.4	20.5	133	38.2	21.0	134	37.7	21.3	134
Madison, Wis.[1]	39.8	19.5	136	39.2	20.4	135	39.6	20.4	135
Hudson, Iowa	43.1	19.5	132	42.4	19.6	133	41.8	19.8	133
Ames, Iowa	42.3	20.3	132	41.8	19.9	133	41.7	20.0	133
Kanawha, Iowa	41.3	19.7	135	39.6	20.3	135	39.8	19.9	136
Marcus, Iowa	43.1	19.4	133	41.9	19.7	134	--	--	--
Wayne, Nebr.[1]	40.3	20.5	125	38.9	20.7	130	39.2	21.0	130

Table 65. (Continued)

Locations	1945 Percentage of Protein	1945 Percentage of Oil	1945 Iodine Number of Oil	Two-Year Mean Percentage of Protein	Two-Year Mean Percentage of Oil	Two-Year Mean Iodine Number of Oil	Three-Year Mean Percentage of Protein	Three-Year Mean Percentage of Oil	Three-Year Mean Iodine Number of Oil
Group III (Composite of 13 strains in 1945, 20 in 1944 and 25 in 1943)									
Georgetown, Del.[1]	41.9	21.1	130	--	--	--	--	--	--
Beltsville, Md.	41.2	20.9	130	--	--	--	--	--	--
Columbus, Ohio	41.9	19.8	132	--	--	--	--	--	--
Greenfield, Ind.	41.3	20.2	133	40.9	20.2	132	40.6	20.7	133
LaFayette, Ind.	41.4	20.3	133	40.9	20.3	133	40.9	20.3	134
Worthington, Ind.	43.0	20.4	128	--	--	--	--	--	--
Dwight, Ill.	39.3	21.2	133	39.8	20.8	133	40.2	20.4	134
Urbana, Ill.	39.5	21.3	131	38.6	21.7	131	38.7	21.6	132
Clayton, Ill.	41.4	19.8	134	42.1	19.8	134	42.4	19.6	135
Stonington, Ill.	40.4	20.9	133	40.2	21.3	132	40.3	21.1	133
Freeburg, Ill.[1]	43.7	19.0	136	42.8	19.8	134	42.8	20.2	135
Ottumwa, Iowa	38.0	21.7	133	37.7	21.3	134	38.1	20.4	136
Ames, Iowa	40.4	20.0	135	41.2	20.0	135	41.3	19.9	136
Shelbyville, Mo.	40.9	20.8	129	--	--	--	--	--	--
Columbia, Mo.	39.0	20.8	135	41.3	20.7	132	41.3	20.8	130
Lathrop, Mo.	37.8	22.6	127	--	--	--	--	--	--
Lincoln, Nebr.[1]	38.7	21.2	127	36.7	21.9	129	38.2	21.5	129
Manhattan, Kan.[1]	37.6	23.1	126	39.5	22.0	127	40.5	21.2	127
Group IV (Composite of 18 strains in 1945, 9 in 1944 and 9 in 1943)									
Georgetown, Del.[1]	40.6	22.2	128	--	--	--	--	--	--
Beltsville, Md.[1]	42.0	20.3	133	--	--	--	--	--	--
Worthington, Ind.	42.0	21.0	133	--	--	--	--	--	--
Vincennes, Ind.	40.3	20.0	132	--	--	--	--	--	--
Evansville, Ind.	41.2	20.9	130	42.1	20.8	130	41.7	20.9	131
Urbana, Ill.	39.3	19.9	137	38.7	20.4	136	38.6	20.2	136
Stonington, Ill.	39.9	20.1	136	40.6	20.2	134	40.8	19.7	135
Freeburg, Ill.[1]	43.3	18.0	138	42.9	19.0	136	41.8	19.3	136
Clayton, Ill.	40.9	18.6	137	41.8	18.9	137	42.0	18.7	137
Sikeston, Mo.[1]	41.6	21.2	127	43.8	20.3	128	44.2	19.6	128
Shelbyville, Mo.	40.3	20.4	133	--	--	--	--	--	--
Columbia, Mo.	38.2	19.8	138	40.1	20.0	136	39.8	20.3	134
Lathrop, Mo.	37.3	22.1	132	--	--	--	--	--	--
Thayer, Kan.[1]	41.4	18.9	135	41.8	19.1	134	43.1	18.7	133
Manhattan, Kan.[1]	37.6	22.0	130	39.4	21.3	130	40.4	20.8	131

1 Means secured from individual variety analyses.