N L. Burlison

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH ADMINISTRATION

BUREAU OF PLANT INDUSTRY,
SOILS, AND AGRICULTURAL ENGINEERING
cooperating with the
STATE AGRICULTURAL EXPERIMENT STATIONS
of the
NORTH CENTRAL REGION

RESULTS OF THE COOPERATIVE UNIFORM SOYBEAN TESTS

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1942

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U. S. REGIONAL SOYBEAN LABORATORY
Urbana, Illinois
February, 1943

RSIM 73

RESULTS OF THE COOPERATIVE UNIFORM SOYBEAN TESTS

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by

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CONTENTS

INTRODUCTION

One of the main objectives of the U. S. Regional Soybean Laboratory 2/ is to develop improved varieties and strains of soybeans for commerical and industrial utilization. In order that new strains developed through the cooperative breeding work could be evaluated more rapidly and accurately, four uniform tests were established and designated as Uniform Test Groups I, II, III, and IV.

Group I was designed to include varieties for the northernmost parts of the North Central states and contained material of approximately the maturity of Mandarin. Likewise, Group II was designed to include varieties adapted to the northern parts of the "soybean belt" immediately south of the region for Group I, and contained material of approximately the maturity of Richland. Group III was established to include varieties adapted to the central "soybean belt" area, namely, southern Ohio, central

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2/ A cooperative organization participated in by the Bureau of Plant Industry, Soils, and Agricultural Engineering of the U. S. Department of Agriculture and the Agricultural Experiment Stations of the North Central states of Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.

Indiana, central Illinois, southern Iowa, and northern Missouri, and contained material of approximately the maturity of Illini. Group IV contained material of approximately the maturity of Boone and Gibson, which are adapted to Missouri, southern Indiana, and southern Illinois.

This report includes the detailed results of all the Uniform Tests for the 1942 season, and also two- and three-year summaries of agronomic and chemical information for the different strains grown during the 1940-42 period.

COOPERATING AGENCIES AND PERSONNEL
for the
NORTH CENTRAL REGION

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Ohio Agricultural Experiment Station:
Agronomy Department: R. D. Lewis

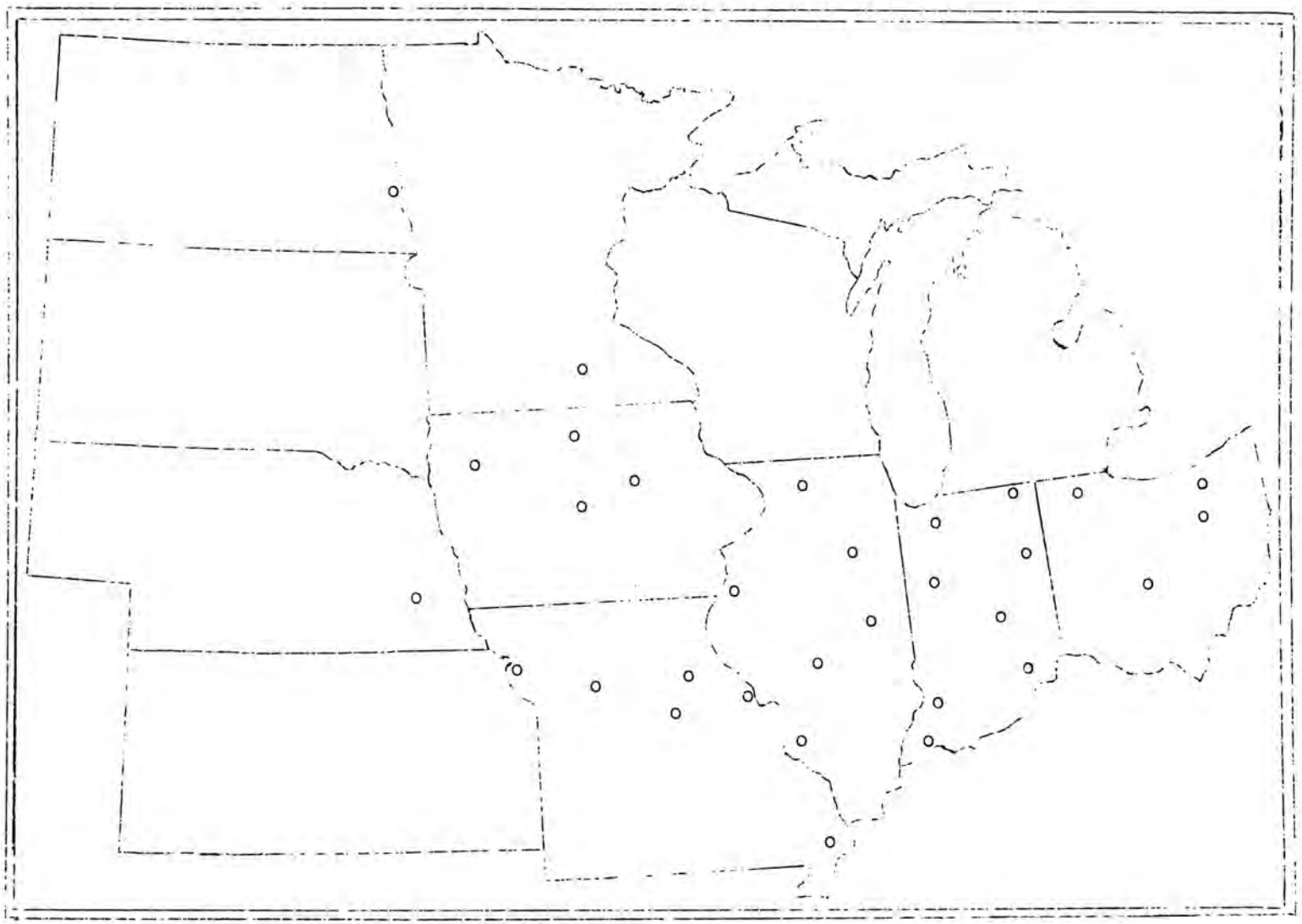
Purdue Agricultural Experiment Station:
Agronomy Department: G. H. Cutler

Minnesota Agricultural Experiment Station
Agronomy Department: A. C. Arny

LOCATION OF COOPERATIVE NURSERIES

Location	Cooperator	Uniform Test Group I	Uniform Test Group II	Uniform Test Group III	Uniform Test Group IV
Strongsville, Ohio	NE.Br.Ohio Agr.Exp.Sta.	x			
Wooster, Ohio	Ohio Agr. Exp. Sta.	x	x		
Holgate, Ohio	NW.Br.Ohio Agr.Exp.Sta.		x	x	
Columbus, Ohio	Ohio Agr. Exp. Sta.			x	
Dearborn, Michigan*	Ford Motor Co.		x		
La Grange, Ind.	E. Frey & E. Bender	x	x		
Bluffton, Ind.	Gerald Bayless		x		
Wanatah, Ind.	Purdue Agr. Exp. Sta.		x		
Lafayette, Ind.	Purdue Agr. Exp. Sta.		x	x	
Greenfield, Ind.	Raymond Roney			x	
North Vernon, Ind.	Charles Robbins			x	x
Wheatland, Ind.	B. F. Carr				x
Evansville, Ind.	Leo Hirsch				x
Mt. Morris, Ill.	Earl Kump		x		
Dwight, Ill.	Frank Roeder		x	x	
Urbana, Ill.	Ill. Agr. Exp. Sta.		x	x	x
Clayton, Ill.	Russell S. Davis			x	x
Stonington, Ill.	Frank Garwood & Sons			x	x
Freeburg, Ill.	Loren Wilderman			x	x
Paris, Mo.	N.E. Mo. Agr. Exp. Sta.		x	x	
St. Joseph, Mo.*	G. C. McClain		x	x	
Columbia, Mo.	Mo. Agr. Exp. Sta.			x	x
Carrollton, Mo.*	Roy Monier			x	x
Elsberry, Mo.	Mo. Rice Exp. Field				x
Sikeston, Mo.	S. E. Mo. Agr. Exp, Field				x
Ames, Iowa	Iowa Agr. Exp. Sta.		x	x	
Kanawha, Iowa	North Ia. Agr. Exp. Assn.		x		
Hudson, Iowa	George M. Strayer		x		
Cherokee, Iowa	Cherokee State Hospital		x		
Waseca, Minn.	Br.Sta.Minn.Agr.Exp.Sta.		x		
Lincoln, Nebr.	Nebraska Agr. Exp. Sta.			x	
Fargo, N. Dakota	N. Dakota Agr. Exp. Sta.	x			
Torrington, Wyo.*	Wyoming Agr. Exp. Sta.	x			

*No yield data included in report at these locations, samples were submitted for chemical analyses.



Map of the North Central states showing location of the cooperative Uniform Tests.

METHODS

All Uniform Tests have been planted in replicated rod-row plots, using either a lattice square design with three replications or a restricted randomized block design with four replications. Row widths used at the different test locations have varied from twenty-one to forty-two 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 in a Uniform Test on composite samples prepared by combining equal weights of seed from each replication at each location included in that particular Group Test. 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 moisture-free basis. Seed size for each strain was also determined on the variety composite 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 I, Mandarin; Group II, Illini; Group III, Illini; and Group IV, Gibson.

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

1. Very good
2. Good
3. Fair
4. Poor
5. Very poor

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

Uniform Test, Group I

The Group I Test was established in 1942 and was composed of sixteen named varieties, two selections from hybrids, and two U. S. D. A. foreign introductions. The origin of these varieties and strains is as follows:

Variety or Strain	Source or Originating Agency	Origin
Kabott	Central Exp.Farm,Ottawa	Selection from a Manchurian strain
Pagoda	Central Exp.Farm,Ottawa	Selection from(Manitoba Br.x Mandarin)
Cayuga	N.Y.Agr.Exp.Sta.,Ithaca	PI 65393 1/
Ontario	N.Y.Agr.Exp.Sta.,Ithaca	PI 65344
Goldsoy	Ontario Agr.College	Selection from O.A.C. 211
O.A.C. 211	Ontario Agr.College	Selection from Habaro
C39	Purdue Agr.Exp.Sta.	Selection from a natural hybrid
C40	Purdue Agr.Exp.Sta.	Selection from a natural hybrid
Earlyana	Purdue Agr.Exp.Sta.	C28 (Sel.from a natural hybrid)
Richland	Purdue Agr.Exp.Sta.	PI 70502-2
Minsoy	Minnesota Agr.Exp.Sta.	PI 27890
Manchu 831	S.Dakota Agr.Exp.Sta.	Selection from Manchu
P.I. 79610	Minnesota Agr.Exp.Sta.	Foreign Plant Introduction
P.I. 68666	U.S.Dept.of Agriculture	Foreign Plant Introduction
McR.Mandarin.2/	Agr.Exp.Farm,Winnipeg	Selection from Mandarin
Wis.Man.3 Sel.	Wisconsin Agr.Exp.Sta.	Selection from Wisconsin Manchu 3
Wis.Manchu 606	Wisconsin Agr.Exp.Sta.	Selection from Manchu
Habaro	-	PI 20405
Mandarin	-	PI 36653
Sioux	-	PI 81021

1/Division of Plant Exploration and Introduction, Bureau of Plant Industry, U. S. D. A.

2/McRostie Mandarin

In order to meet a demand for material earlier than that in the Group II test, a Group I test was organized in 1942 to include strains too early for Group II. Richland and Earlyana were included as strains for comparison with the Group II test.

As this test is newly organized, its composition and the areas to which it is adapted are not so definitely settled. Probably some revision will be necessary for 1943. The test was grown at two locations in Ohio, one each in Indiana and North Dakota, and at four locations in Wyoming. Three of the locations in Wyoming were discarded due to early frosts. The other location in Wyoming and that at Fargo, North Dakota were less severely frosted and were included in the chemical analyses. Since the Fargo results differed so much from those of Ohio and Indiana, they were not included in the means for yield. Table I presents a summary of the mean agronomic and chemical data for these strains. Table 2 includes the individual yield data and yield ranks for four locations.

It should be noted that C40, C39, and Earlyana (C28) are very closely related strains. These data are of particular interest since Earlyana is being released by the Purdue Agricultural Experiment Station as an early variety for northern Indiana. Most of the difference in the mean yields of these strains is due to the exceptionally high yield of C40 at Strongsville. The summary of yield rank in Table 2 indicates that there is some interaction between varieties and fields but the comparison of mean yields with mean maturity ratings in Table 1 shows a strong tendency for earlier maturity to be associated with lower yields.

Lodging and height summaries are presented in Table 3. Richland continues to be outstanding in lodging resistance but is equalled in this test by McRostie Mandarin, Ontario, and Pagoda, and exceeded by Sioux. Sioux, however, is so very early and short that it is really not comparable. Sioux also had the poorest seed quality as is indicated in Table 4, a summary of individual maturity and seed quality notes. P.I. 68666 and Cayuga had the highest average ranking in this respect. Sioux is also outstanding in percentage of protein and reached a high of 57.2% at LaGrange, Indiana as shown in Table 5, a summary of individual seed size and chemical analyses. This high protein content is accompanied by an unusually low oil content. Most of the iodine numbers of the oils are relatively high. This might be expected since these are all northern locations.

Table 1. Summary of agronomic and chemical data for the strains in the Uniform Test, Group I, 1942.

Strain	Yield Bu./A.	Lodging	Height Inches	Maturity[1]	Seed Quality	Seed Size	Percentage of Protein	Percentage of Oil	Iodine Number of Oil
Number of Tests	3	3	3	3	3	5[3]	5[3]	5[3]	5[3]
C40	35.2	1.8	32	+5.3	2.3	14.9	42.1	19.9	134
P.I.68666	34.7	2.2	25	+2.3	1.8	12.1	39.2	20.5	134
Manchu 831	34.4	1.8	27	+6.3	2.5	13.9	41.2	19.3	137
Habaro	34.2	1.5	24	+0.3	2.5	16.8	41.4	19.5	133
W.Man.3 Sel.	33.4	1.5	31	+3.7	2.3	16.0	39.5	20.6	135
Wis.Man.606	32.8	1.8	28	+7.3	2.0	15.7	40.4	20.3	135
C39	31.8	2.0	32	+4.3	2.2	14.4	41.7	20.0	135
Earlyana	31.7	2.0	33	+5.3	2.2	14.2	42.1	20.0	134
O.A.C. 211	31.7	1.8	23	+1.3	2.5	16.7	42.4	19.1	134
Richland	31.6	1.3	27	+10.7	2.2	14.0	37.7	20.4	130
McR.Mand.[2]	31.6	1.3	22	-3.0	2.7	18.7	42.7	19.4	132
Mandarin	27.4	1.8	25	0.0	2.8	16.6	43.3	18.6	135
P.I. 79610	25.7	1.5	22	+0.3	2.4	15.7	42.6	19.5	134
Goldsoy	24.9	2.0	22	-4.0	3.3	17.8	42.3	18.7	136
Ontario	24.3	1.3	21	-0.7	2.5	18.2	40.0	21.1	132
Cayuga	24.2	1.8	25	-1.0	1.8	13.2	41.8	18.3	131
Kabott	20.5	1.7	19	-6.3	2.8	18.8	45.0	17.5	134
Minsoy	18.6	2.0	16	-11.0	2.8	11.9	41.2	19.1	129
Pagoda	16.1	1.3	21	-14.3	2.8	13.9	42.5	18.7	130
Sioux	9.3	1.0	11	-7.0	4.5	15.2	52.2	13.8	133
Bu.Nec.for Sig. 5.5 (5% level)									

[1] Days earlier (-) or later (+) than Mandarin. Mandarin required 108 days to mature.

[2] McRostie Mandarin.

[3] Mean of individual tests, composition on dry basis.

Table 2. Summary of yields in bushels per acre, and yield rank for strains in the Uniform Test, Group I, 1942.

Variety or Strain	Yield in Bu./A.					Yield Rank			
	Mean of 3 Tests[1]	Strongsville Ohio	Wooster Ohio	La-Grange Ind.	Fargo N.Dak.	Strongsville Ohio	Wooster Ohio	La-Grange Ind.	Fargo N.Dak.
C40	35.2	50.5	29.1	25.9	20.7	1	11	4	14
P.I.68666	34.7	42.8	34.0	27.3	16.9	4	1	1	17
Manchu 831	34.4	42.8	33.6	26.7	23.6	4	3	3	12
Habaro	34.2	46.0	31.2	25.5	30.3	2	7	7	5
W.Man.3 Sel.	33.4	43.2	31.0	25.9	24.1	3	8	4	9
Wis.Man.606	32.8	42.1	31.4	24.8	23.9	6	5	8	11
C39	31.8	39.1	30.7	25.6	19.6	11	9	6	15
Earlyana	31.7	39.8	27.9	27.2	18.4	10	13	2	16
O.A.C. 211	31.7	41.6	32.4	21.0	21.1	7	4	10	13
Richland	31.6	40.5	31.4	22.8	11.9	9	5	9	20
McR.Mandarin[2]	31.6	40.9	33.8	20.1	39.8	8	2	12	2
Mandarin	27.4	33.2	28.6	20.6	34.5	15	12	11	3
P.I. 79610	25.7	33.3	25.9	17.6	25.5	14	15	14	7
Goldsoy	24.9	31.2	30.3	13.2	44.4	16	10	15	1
Ontario	24.3	35.1	20.2	17.8	26.9	12	19	13	6
Cayuga	24.2	34.2	26.3	11.8	24.0	13	14	16	10
Kabott	20.5	27.0	24.5	9.8	31.8	17	16	18	4
Minsoy	18.6	24.4	21.3	10.2	24.8	18	18	17	8
Pagoda	16.1	19.0	21.5	7.6	15.7	19	17	19	18
Sioux	9.3	13.8	12.6	1.6	12.7	20	20	20	19
Mean	27.7	36.0	27.9	19.2	24.5				
Coef.of Var.(%)	15.3	17.0	11.7	12.3	20.3				
Bu.Nec.for Sig. (5% level)	5.5	8.7	4.6	3.4	6.9				

[1] Fargo not included in mean because of severe frost damage on some varieties.

[2] McRostie Mandarin.

Table 3. Summary of lodging and height of strains in the Uniform Test, Group I, 1942.

Strain	Lodging				Height in Inches			
	Mean of 3 Tests	Strongsville Ohio	Wooster Ohio	La-Grange Ind.	Mean of 3 Tests	Strongsville Ohio	Wooster Ohio	La-Grange Ind.
C4C	1.8	3.5	1.0	1.0	32	40	30	26
P.I. 68666	2.2	4.5	1.0	1.0	25	30	24	20
Manchu 831	1.8	3.5	1.0	1.0	27	30	27	23
Habaro	1.5	2.5	1.0	1.0	24	30	23	20
W.Man.3 Sel.	1.5	2.5	1.0	1.0	31	38	29	25
Wis.Man.606	1.8	3.5	1.0	1.0	28	34	26	24
C39	2.0	3.5	1.5	1.0	32	40	29	27
Earlyana	2.0	4.0	1.0	1.0	33	45	29	25
O.A.C. 211	1.8	3.5	1.0	1.0	23	28	22	18
Richland	1.3	2.0	1.0	1.0	27	33	24	25
McR.Mandarin	1.3	2.0	1.0	1.0	22	26	21	19
Mandarin	1.8	3.5	1.0	1.0	25	26	24	24
P.I. 79610	1.5	2.5	1.0	1.0	22	26	21	18
Goldsoy	2.0	4.0	1.0	1.0	22	27	21	18
Ontario	1.3	2.0	1.0	1.0	21	26	19	17
Cayuga	1.8	3.5	1.0	1.0	25	32	23	20
Kabott	1.7	3.0	1.0	1.0	19	26	17	14
Minsoy	2.0	4.0	1.0	1.0	16	20	14	13
Pagoda	1.3	2.0	1.0	1.0	21	24	21	17
Sioux	1.0	1.0	1.0	1.0	11	12	11	9

Table 4. Summary of maturity and seed quality of strains in the Uniform Test, Group I, 1942.

Strain	Maturity				Seed Quality			
	Mean of 3 Tests	Strongsville Ohio	Wooster Ohio	LaGrange Ind.	Mean of 3 Tests	Strongsville Ohio	Wooster Ohio	LaGrange Ind.
C40	+5.3	+9	+12	-5	2.3	3.0	2.5	1.5
P.I. 68666	+2.3	+7	+12	-12	1.8	2.0	2.0	1.5
Manchu 831	+6.3	+7	+16	-4	2.5	3.0	3.0	1.5
Habaro	+0.3	+5	+12	-16	2.5	3.0	2.5	2.0
W.Man.3 Sel.	+3.7	+3	+12	-4	2.3	2.0	3.0	2.0
Wis.Man. 606	+7.3	+5	+16	+1	2.0	2.0	2.5	1.5
C39	+4.3	+7	+10	-4	2.2	2.0	2.5	2.0
Earlyana	+5.3	+10	+10	-4	2.2	3.0	2.0	1.5
O.A.C. 211	+1.3	+5	+10	-11	2.5	3.0	2.0	2.5
Richland	+10.7	+10	+18	+4	2.2	2.0	2.5	2.0
McR. Mandarin	-3.0	-1	-2	-6	2.7	3.0	2.0	3.0
Mandarin	0.0	0	0	0	2.8	4.0	2.0	2.5
P.I. 79610	+0.3	+1	+4	-4	2.4	2.8	2.0	2.5
Goldsoy	-4.0	-3	-3	-6	3.3	4.0	3.0	3.0
Ontario	-0.7	0	+4	-6	2.5	3.0	2.0	2.5
Cayuga	-1.0	+2	-5	0	1.8	2.0	2.0	1.5
Kabott	-6.3	-5	-5	-9	2.8	3.0	2.0	3.5
Minsoy	-11.0	-4	-7	-22	2.8	3.0	2.0	3.5
Pagoda	-14.3	-3	-7	-33	2.8	3.0	3.0	2.5
Sioux	-7.0	-8	-11	-2	4.5	5.0	4.0	4.5
Mandarin Matured		9/15	9/5	9/21				
Date of Planting		5/29	6/4	5/20				

Table 5. Summary of seed size and chemical data for the strains in the Uniform Test, Group I, 1942

Variety or Strain	Grams per 100 Seeds						Percentage of Protein					
	Mean of 5 Tests	Strongsville Ohio	Wooster Ohio	La-Grange Ind.	Fargo N.Dak.	Torrington Wyo.	Mean of 5 Tests	Strongsville Ohio	Wooster Ohio	La-Grange Ind.	Fargo N.Dak.	Torrington Wyo.
C40	14.9	17.6	14.9	18.3	13.9	12.9	42.1	41.8	44.9	45.8	40.2	38.0
PI. 68666	12.1	16.1	14.4	15.3	7.7	7.2	39.2	39.4	43.4	42.0	38.5	32.6
Manchu 831	13.9	17.3	15.0	15.5	10.9	11.0	41.2	42.9	44.7	45.1	40.2	33.3
Habaro	16.8	22.2	17.9	19.1	14.0	10.9	41.4	43.3	45.9	45.9	42.3	29.4
Wilan. 3 Sel.	16.0	19.4	14.9	18.9	12.5	14.0	39.5	40.3	42.7	43.3	38.4	33.0
Wis.Man. 606	15.7	17.6	16.1	18.2	12.9	13.7	40.4	40.7	42.3	44.5	38.9	35.7
C39	14.4	17.5	15.1	17.3	10.0	12.0	41.7	41.4	45.2	44.5	39.4	37.9
Earlyana	14.2	17.4	14.3	17.2	10.2	12.0	42.1	42.9	44.9	45.4	40.2	37.0
O. A. C. 211	16.7	21.7	17.2	19.5	14.5	10.6	42.4	43.5	46.2	47.1	43.1	32.3
Richland	14.0	18.2	16.8	18.7	8.6	7.6	37.7	39.8	41.7	41.6	37.1	28.4
McR. Mand.[1]	18.7	20.9	16.2	22.2	18.5	15.9	42.7	44.6	45.3	47.6	41.9	34.2
Mandarin	16.6	18.4	14.8	19.7	17.0	13.0	43.3	45.9	45.0	47.4	42.3	36.0
PI. 79610	15.7	17.3	13.4	18.3	14.8	14.7	42.6	41.9	44.9	45.7	40.4	40.1
Goldsoy	17.8	19.5	17.6	18.3	19.0	14.7	42.3	44.5	46.0	46.3	42.5	32.3
Ontario	18.2	20.0	17.7	21.4	17.0	14.9	40.0	41.6	42.4	45.3	39.1	31.8
Cayuga	13.2	15.8	11.4	15.7	12.6	10.6	41.8	44.8	44.1	46.0	41.9	32.0
Kabott	18.8	20.2	17.2	21.7	18.6	16.4	45.0	45.3	47.3	48.4	44.1	39.7
Minsoy	11.9	13.1	11.0	14.8	10.7	10.0	41.2	44.1	44.1	46.4	41.3	30.0
Pagoda	13.9	15.1	13.3	15.8	12.9	12.2	42.5	43.2	44.6	45.3	45.4	34.0
Sioux	15.2	17.4	14.8	14.3	15.6	14.0	52.2	49.2	53.4	57.2	51.0	50.1
Mean								43.1	45.0	46.0	41.4	34.9

[1] Mc Rostie Mandarin

Table 5. (continued)

Variety or Strain	Percentage of Oil						Iodine Number of Oil					
	Mean of 5 Tests	Strongsville Ohio	Wooster Ohio	La-Grange Ind.	Fargo N.Dak.	Torrington Wyo.	Mean of 5 Tests	Strongsville Ohio	Wooster Ohio	La-Grange Ind.	Fargo N.Dak.	Torrington Wyo.
C40	19.9	20.7	19.5	19.5	20.3	19.7	134	134	131	133	135	137
PI.68666	20.5	21.9	20.5	20.6	19.5	20.1	134	133	130	129	139	139
Manchu 831	19.3	19.6	18.8	18.0	19.3	20.6	137	137	135	134	138	141
Habaro	19.5	19.3	18.9	18.5	19.2	21.7	133	133	130	130	135	137
Wis.Man. 3 Sel.	20.6	20.7	20.7	19.6	20.6	21.5	135	134	134	132	138	139
Wis.Man. 606	20.3	20.4	20.5	19.0	20.7	20.7	135	135	133	132	138	137
C39	20.0	21.1	19.9	19.4	20.2	19.6	135	134	131	133	137	138
Earlyana	20.0	20.3	19.9	19.5	20.2	20.3	134	133	132	132	135	138
O. A. C. 211	19.1	19.3	18.8	17.7	19.1	20.7	134	134	131	132	136	139
Richland	20.4	20.7	20.4	20.5	19.6	21.0	130	129	126	126	136	135
Mc.R. Hand.[1]	19.4	18.6	18.5	17.9	19.5	22.4	132	133	131	129	136	131
Mandarin	18.6	17.7	18.2	17.8	19.3	20.2	135	137	133	131	139	135
PI.79610	19.5	20.1	18.8	19.3	20.3	19.1	134	136	131	130	137	136
Goldsoy	18.7	17.8	17.6	17.6	18.0	22.3	136	137	132	133	139	137
Ontario	21.1	20.4	21.2	19.8	21.8	23.0	132	134	129	128	136	134
Cayuga	18.3	17.4	17.3	17.5	18.5	20.9	131	131	129	125	136	135
Kabott	17.5	17.7	17.0	16.7	17.2	19.1	134	136	132	131	136	134
Minsoy	19.1	17.8	17.9	18.0	20.0	21.6	129	131	127	122	134	132
Pagoda	18.7	19.0	18.5	18.4	17.2	20.5	13	129	127	125	136	133
Sioux	13.8	15.1	13.1	12.3	14.2	14.1	133	135	132	127	135	136
Mean		19.3	18.8	18.4	19.2	20.5		134	131	13	137	136

[1]McRostie Mandarin

Uniform Test, Group II

The Group II Test in 1942 was composed of eleven named varieties, six U. S. D. A. foreign introductions, and three selections from hybrids. The origin of these strains 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.	C28 (natural hybrid)
Mandell	Purdue Agr. Exp. Sta.	Selection from Manchu
Richland	Purdue Agr. Exp. Sta.	P.I. 70502-2
Mukden	Iowa Agr. Exp. Sta.	P.I. 50523-Q
Mingo	Ohio Agr. Exp. Sta.	Selection from Manchu
Seneca	N.Y.Agr.Exp.Sta.,Ithaca	F.C. 06654G 2/
Illini	Illinois Agr. Exp. Sta.	Selection from A. K.
L6-12	Illinois Agr. Exp. Sta.	Selection from (Mandarin x Manchu)
L6-685	Illinois Agr. Exp. Sta.	Selection from (Mandarin x Manchu)
L6-700	Illinois Agr. Exp. Sta.	Selection from (Mandarin x Manchu)
P.I.68474	U.S.Dept.of Agriculture	Foreign Plant Introduction
P.I.70478	U.S.Dept.of Agriculture	Foreign Plant Introduction
P.I.91109	U.S.Dept.of Agriculture	Foreign Plant Introduction
P.I.91161	U.S.Dept.of Agriculture	Foreign Plant Introduction
P.I.92592	U.S.Dept.of Agriculture	Foreign Plant Introduction
P.I.92717	U.S.Dept.of Agriculture	Foreign Plant Introduction
Wis.Manchu 3	Wisconsin Agr.Exp.Sta.	Selection from Manchu
Wis.Man.3 Sel.	Wisconsin Agr.Exp.Sta.	Selection from Wisconsin Manchu 3
Wis.Man. 606	Wisconsin Agr.Exp.Sta.	Selection from Manchu

1/ Division of Plant Exploration and Introduction, Bureau of Plant Industry, U. S. D. A.

2/ Division of Forage Crops and Diseases, Bureau of Plant Industry, U. S. D. A.

The varieties and strains included in the Uniform Test, Group II, in 1942 varied widely in yield among the various locations and show a range of ten bushels between the means of the thirteen tests. There was, likewise, a wide range in maturity of the strains at the individual stations and a range of twelve days between the variety means of the ten stations at which maturity data were obtained. The wide variation in maturity appears to reflect itself upon the yield, and in the main the later maturing strains have been the higher both in 1942 and in the summary of three years, 1940-42, as shown in Table 13.

Two strains of hybrid origin, L6-685 and L6-12, were significantly higher in yield in 1942 than any of the commercial varieties in the test. Of these two strains, L6-685 is somewhat more promising when the whole array of agronomic and chemical features are considered. The three-year summary, Table 13, shows the outstanding performance of this strain in comparison to the commercial varieties and other strains. It is most worthy to note that L6-685 has yielded, on the average, six bushels more than the combined average of Lingo, Illini, Lukden, Mandell, and Dunfield which are of approximately the same maturity and represent the most commonly grown varieties of comparable maturity in the central area of the "soybean belt". In addition to the exceptional yielding ability of L6-685, it likewise has a higher oil content and a higher iodine number than any of the commercial varieties listed above. A comparison of the chemical analyses of L6-685 and L6-12 with several commercial varieties is shown in Table 17 for 1942 and in Table 16 for the 1941-42 summary.

Earlyana, the earliest variety in the test, was also grown in the Group I test and is being released by the Purdue Agricultural Experiment Station. It is recommended especially for northern Indiana where conditions require an earlier and taller growing variety than Richland. Earlyana compares favorably with Richland in yield, oil content, and seed quality. It grows taller and is usually about four days earlier than Richland, thus meeting the demands of farmers who prefer early harvesting of soybeans in order to seed wheat soon after the Hessian fly-free date. The taller growth also makes it more desirable on soils of low fertility. This new variety is not as lodging resistant as Richland and may be expected to lodge more excessively on highly fertile soils.

In addition to L6-685 and the named varieties, several strains merit consideration as possible breeding material. Notable among these are P.I. 60474 which is quite favorable in yield, oil content, and maturity, but is rather short; and P.I. 70478 which is high in oil content and has about the same maturity as Richland.

Wisconsin Manchu 3 Selection was selected from Wisconsin Manchu 3 for the purpose of purification of the latter variety. The 1942 data indicate that the selection varies considerably in agronomic characteristics from the parent variety. The most notable variations, as shown in Table 6, are maturity, seed quality, and yield.

Early frost probably affected the yields in 1942, particularly of the later maturing strains. This is shown by the fact that at several locations the earlier varieties were comparatively higher in yield than is usually obtained.

In a number of cases, due to early frost, maturity records represent not actual maturity, but the best estimates based on the stage of development of the plant at the time of the frost.

Table 6. Summary of agronomic and chemical data for the strains in the Uniform Test, Group II, 1942.

Strain	Yield in Bu./A.	Lodging	Height Inches	Maturity[1]	Seed Quality	Seed Size	Percentage of Protein	Percentage of Oil	Iodine Number of Oil
Number of Tests	13	15	12	10	10	16[2]	16[2]	16[2]	16[2]
L6-685	40.4	2.6	40	-1.6	1.6	14.7	39.9	22.1	136
L6-12	38.1	2.8	40	-1.4	1.6	14.0	41.4	21.3	137
L6-700	35.6	3.3	39	-1.2	1.6	14.5	41.6	21.5	137
P.I.92717	35.3	2.8	37	-5.2	1.8	14.3	41.5	20.9	136
Mingo	33.9	3.1	39	-1.7	2.2	15.4	42.2	20.8	134
P.I.68474	33.7	3.2	32	-4.7	1.6	14.7	38.8	22.2	135
Illini	33.4	3.3	43	0.0	1.9	13.9	40.7	21.0	135
P.I.91161	33.0	3.3	35	-4.8	2.0	16.7	38.5	22.2	132
P.I.92592	32.9	3.0	32	-4.7	1.8	16.9	40.2	22.3	134
Dunfield	32.8	3.1	39	-1.7	1.5	15.2	39.5	21.7	129
P.I.91109	32.7	3.0	31	-6.5	2.1	15.2	41.9	20.3	129
Seneca	32.5	2.8	38	-5.8	2.8	15.4	40.2	21.7	134
Mandell	32.3	2.6	40	-3.0	2.1	15.5	43.6	19.9	136
P.I.70478	32.1	3.0	31	-6.9	1.8	14.9	39.0	22.1	133
Mukden	31.8	2.6	40	-5.3	1.8	15.0	43.1	20.2	131
Wis.Man. 3	31.7	3.2	38	-6.4	2.6	16.9	41.9	20.8	135
Wis.Man.606	31.5	3.1	35	-6.7	2.1	16.7	41.9	20.7	135
Earlyana	31.4	2.7	36	-11.8	1.8	14.7	42.6	20.7	133
Richland	31.0	2.0	33	-7.5	2.0	15.9	40.3	21.1	129
W.Man.3 Sel.	30.4	3.0	37	-10.9	2.0	17.0	41.3	20.9	135
Bu.Nec.for Sig. 2.5 (5% level)									

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

[2] Composite sample of 16 locations, composition on dry basis.

Table 7. Summary of rank for yield, arranged in order of mean yields, for the Uniform Test, Group II, 1942

Strain	Ames Iowa	Urbana Ill.	Bluffton Ind.	Lafayette Ind.	Dwight Ill.	Cherokee Iowa	Wanatah Ind.	Kanawha Iowa	LaGrange Ind.	Wooster Ohio	Holgate Ohio	Hudson Iowa	Waseca Minn.	Paris Mo.	Mt. Morris Ill.
L6-685	1	1	1	1	1	5	3	9	1	1	1	1	6	1	10
L6-12	12	2	2	3	2	2	2	13	2	13	3	3	10	5	18
L6-70[illegible]	19	3	4	2	8	4	1	20	4	3	4	18	16	5	20
P.I. 92717	11	7	5	6	5	13	5	12	8	1	2	9	5	5	10
Mingo	8	5	6	4	11	8	11	19	3	4	11	14	20	8	17
P.I. 68474	7	9	9	11	3	9	4	16	6	20	7	19	14	4	15
Illini	16	12	3	5	17	1	8	17	5	19	16	5	19	17	19
P.I. 91161	10	10	15	7	9	11	6	5	10	7	11	10	9	9	3
P.I. 92592	18	4	7	13	6	16	17	14	7	5	4	19	12	2	4
Dunfield	4	6	10	9	15	20	12	15	15	12	18	3	18	10	16
P.I. 91109	6	16	17	16	10	10	9	3	19	9	15	2	8	3	3
Seneca	5	17	8	15	4	7	13	10	12	17	19	6	15	15	12
Mandell	2	11	11	10	13	15	19	18	13	16	9	8	7	12	13
P.I. 70478	15	13	13	17	12	13	14	1	6	9	5	16	16	20	6
Mukden	3	8	12	8	14	18	18	11	11	14	20	12	4	18	14
Wis.Man.3	9	14	14	14	16	6	20	6	17	11	10	11	1	15	7
Wis.Man.606	13	15	19	11	18	17	10	8	13	5	8	14	13	13	1
Earlyana	17	19	18	18	19	2	7	4	18	14	6	13	3	19	2
Richland	10	18	16	19	7	19	16	7	20	17	17	7	2	11	9
W.Lan.3 Sel.	13	20	20	20	20	12	15	2	16	7	11	17	11	14	5

Table 8. Summary of yields in bushels per acre for the strains in the Uniform Test, Group II, 1942.

Strain	Mean of 13 Tests[1]	Ames Iowa	Urbana Ill.	Bluffton Ind.	Lafayette Ind.	Dwight Ill.	Cherokee Iowa	Wanatah Ind.
L6-685	40.4	52.3	57.3	54.8	50.0	45.8	37.4	40.6
L6-12	38.1	44.0	53.4	53.9	45.9	44.9	40.8	41.4
L6-700	35.6	40.8	51.3	48.2	46.4	38.8	39.2	**43.4**
P.I.92717	35.3	44.1	45.8	45.6	42.5	40.5	34.9	38.4
Mingo	33.9	46.3	47.9	42.4	43.2	36.2	36.0	33.7
P.I. 68474	33.7	46.5	45.3	41.7	39.0	42.8	35.7	40.5
Illini	33.4	42.0	40.5	39.2	42.6	31.4	41.0	35.2
P.I. 91161	33.0	40.2	42.1	36.3	41.7	38.6	**35.1**	36.1
P.I. 92592	32.9	41.7	48.2	42.2	38.3	39.6	34.4	31.1
Dunfield	32.8	47.3	46.2	41.2	41.2	34.9	29.7	33.2
P.I. 91109	32.7	46.6	38.2	35.4	37.2	37.8	35.5	34.4
Seneca	32.5	47.2	38.1	42.0	37.6	40.6	36.1	33.0
Mandell	32.3	48.3	41.3	39.7	40.2	35.6	34.8	30.0
P.I. 70478	32.1	42.9	40.1	38.2	37.0	36.1	34.9	32.0
Mukden	31.8	47.9	45.3	38.7	41.4	35.1	33.7	30.8
Wis.Man.3	31.7	45.0	39.4	36.7	37.7	33.6	36.7	29.2
Wis.Man.606	31.5	43.3	38.9	33.6	39.0	30.8	34.1	34.2
Earlyana	31.4	41.8	37.4	35.1	35.4	30.6	40.8	35.8
Richland	31.0	44.4	37.9	35.6	34.0	38.9	31.6	31.2
W.Man.3 Sel.	30.4	43.3	36.6	31.9	33.2	30.5	35.0	31.4
Mean	33.3	44.8	43.5	41.1	40.2	37.1	35.9	34.8
Coef. of Var.	11.7	9.4	10.1	14.0	8.8	11.5	9.6	10.6
Bu. Nec. for Sig.(5% level)	2.5	6.0	6.2	8.1	5.0	6.0	4.8	5.2

[1] Waseca and Mt. Morris not included in the mean.

Table 3 (con't)

Strain	Kana-wha Iowa	La-Grange Ind.	Wooster Ohio	Holgate Ohio	Hudson Iowa	Waseca Minn.[a]	Paris Mo.	Mt. Morris Ill.[a]
L6-685	32.2	36.7	30.8	36.6	32.4	24.2	18.1	13.2
L6-12	30.6	35.0	28.0	32.1	30.2	18.8	15.5	11.1
L6-700	24.5	31.2	30.5	31.9	21.2	12.4	15.5	10.7
P.I. 92717	31.0	28.9	30.8	33.9	27.2	25.0	15.5	13.2
Mingo	27.3	32.0	30.4	26.2	24.0	9.8	15.2	11.7
P.I. 68474	29.9	29.2	25.1	28.2	20.4	15.6	15.7	11.9
Illini	29.7	30.9	26.3	24.0	28.9	12.0	12.9	10.8
P.I. 91161	34.8	27.7	28.7	26.2	26.7	19.6	15.0	13.5
P.I. 92592	30.3	29.0	29.3	23.5	20.4	17.4	18.0	14.8
Dunfield	30.1	26.5	28.1	23.0	30.2	15.2	14.7	11.8
P.I. 91109	35.6	24.4	28.3	25.0	31.1	21.1	15.9	15.4
Seneca	31.6	27.1	26.9	21.1	27.9	13.0	15.0	13.1
Mandell	29.0	26.8	24.7	27.8	27.6	21.2	13.9	12.9
P.I. 70478	36.2	28.9	28.3	29.5	22.9	12.4	10.6	13.8
Mukden	31.1	27.4	27.4	17.2	25.8	25.6	12.1	12.0
Wis. Man.3	34.5	25.5	28.2	26.3	25.9	32.2	13.0	13.5
Wis.Man.606	33.8	26.8	29.3	27.9	24.0	16.0	13.6	18.0
Earlyana	35.1	25.2	27.4	28.3	24.7	26.0	10.7	16.9
Richland	34.2	22.4	26.9	23.7	27.8	27.4	14.6	13.2
W.Man.3 Sel.	35.8	25.6	28.7	26.2	21.8	17.8	15.1	14.0
Mean	31.8	28.4	28.2	27.0	26.1	19.0	14.3	13.3
Coef. of Var.	6.3	11.0	10.2	19.0	17.2	-	12.6	15.0
Bu. Nec. for Sig.(5% level)	2.8	4.4	4.1	7.2	6.4	-	2.5	2.8

[a] Only one replication at Waseca

[a] Mt. Morris planted quite late, some varieties severely frosted.

Table 9. Summary of lodging notes for the strains in the Uniform Test, Group II, 1942

Strain	Mean of 15 Tests	Ames Iowa	Urbana Ill.	Bluffton Ind.	Lafayette Ind.	Dwight Ill.	Cherokee Iowa	Wenatah Ind.
L6-685	2.6	3.0	2.0	2.2	2.0	2.5	4.0	3.6
L6-12	2.8	3.3	2.0	2.9	2.1	2.0	3.5	3.6
L6-700	3.3	4.3	3.0	3.2	2.9	3.0	4.8	4.0
P.I. 92717	2.8	3.0	3.0	2.9	2.7	2.0	4.0	4.2
Mingo	3.1	3.0	3.0	3.1	2.4	4.0	4.0	3.9
P.I. 68474	3.2	3.0	4.0	2.7	3.2	3.0	5.0	4.4
Illini	3.3	4.5	3.0	3.0	2.4	4.0	4.5	4.1
P.I. 91161	3.3	3.5	3.5	3.1	2.7	3.0	5.0	4.2
P.I. 92592	3.0	3.0	4.0	3.0	3.1	2.0	4.3	4.4
Dunfield	3.1	3.3	3.0	3.5	2.2	3.0	4.0	4.1
P.I. 91109	3.0	3.5	4.0	2.9	2.5	2.5	4.5	4.4
Seneca	2.8	3.0	2.5	2.6	2.7	2.5	3.8	3.5
Mandell	2.6	3.5	2.0	3.0	2.6	2.0	3.3	3.9
P.I. 70478	3.0	3.5	3.5	2.7	2.6	3.0	4.3	4.2
Mukden	2.6	2.8	2.0	2.9	2.9	2.5	3.8	3.7
Wis.Man.3	3.2	3.3	4.0	2.7	3.6	4.0	4.5	4.1
Wis.Man.606	3.1	3.3	3.5	2.7	3.2	3.0	3.8	4.1
Earlyana	2.7	3.8	2.0	2.6	3.0	2.5	3.8	4.0
Richland	2.0	1.8	2.0	2.0	1.5	2.0	2.8	3.6
W.Man.3 Sel.	3.0	3.3	3.0	2.4	2.7	3.0	3.8	4.1

Table 9 (continued)

Strain	Kanawha Iowa	LaGrange Ind.	Wooster Ohio	Holgate Ohio	Hudson Iowa	Waseca Minn.	Paris Mo.	Mt. Morris Ill.
L6-585	2.8	1.1	1.0	2.3	3.0	5.0	1.5	2.5
L6-12	3.0	1.5	2.0	2.5	3.5	5.0	1.5	3.0
L6-700	3.5	1.5	1.0	2.3	4.3	5.0	2.0	4.0
P.I. 92717	2.3	1.1	1.0	3.5	3.5	5.0	1.5	2.5
Mingo	3.3	1.4	1.0	2.8	3.5	5.0	2.5	3.0
P.I. 68474	3.3	1.6	1.0	2.3	4.8	5.0	1.0	4.0
Illini	4.3	1.6	1.0	2.5	4.8	5.0	2.5	3.0
P.I. 91161	3.8	1.4	1.0	3.5	4.3	5.0	2.0	3.5
P.I. 92592	3.3	1.0	1.0	2.8	3.3	5.0	1.5	3.0
Dunfield	3.0	1.5	1.0	3.8	3.5	5.0	2.5	3.0
P.I. 91109	2.5	1.0	1.0	3.3	4.3	4.0	1.5	3.0
Seneca	2.8	1.0	1.0	2.8	3.8	5.0	1.5	3.0
Mandell	2.3	1.1	1.0	3.0	3.3	4.0	1.5	2.5
P.I. 70478	2.8	1.0	1.0	3.5	4.3	5.0	1.0	3.0
Hukden	2.3	1.1	1.0	2.8	3.5	4.0	1.0	2.0
Wis.Man.3	3.3	1.4	1.0	2.8	4.3	3.0	2.0	3.5
Wis.Man.606	2.8	1.1	1.0	3.8	3.8	5.0	2.0	3.0
Earlyana	2.8	1.0	1.0	2.8	3.8	4.0	1.0	2.5
Richland	1.3	1.0	1.0	2.5	2.5	3.0	1.0	2.0
W.Man.3 Sel.	3.0	1.0	1.0	3.8	3.5	4.0	3.0	4.0

Table 10. Summary of plant height for the strains in the Uniform Test, Group II, 1942

Strain	Mean of 13 Tests	Ames Iowa	Urbana Ill.	Bluffton Ind.	Lafayette Ind.	Dwight Ill.	Cherokee Iowa	Kanawha Iowa	LaGrange Ind.	Wooster Ohio	Holgate Ohio	Hudson Iowa	Paris Mo.
L6-685	40	48	39	38	42	48	41	43	32	28	53	43	30
L6-12	40	48	39	37	41	47	41	43	34	25	51	43	30
L6-700	39	46	39	34	41	46	40	42	28	28	51	43	30
P.I. 92717	37	44	36	32	39	44	40	42	29	26	47	40	27
Mingo	39	45	37	32	40	44	42	43	31	26	51	41	31
P.I. 68474	32	37	32	24	35	37	34	34	25	20	49	35	23
Illini	43	51	47	35	49	50	43	47	35	25	55	46	31
P.I. 91161	35	42	32	29	38	41	33	40	27	24	45	39	27
P.I. 92592	32	38	31	29	34	38	33	35	25	22	46	28	23
Dunfield	39	46	40	35	41	45	41	42	33	25	50	42	31
P.I. 91109	31	39	31	27	34	38	33	34	23	22	40	32	21
Seneca	38	49	39	24	42	49	44	46	25	23	43	45	26
Mandell	40	46	40	34	44	44	42	44	33	24	49	44	30
P.I. 70478	31	37	36	22	34	38	32	33	23	21	44	33	22
Mukden	40	49	44	32	44	49	40	46	28	25	49	48	28
Wis.Man.3	38	45	40	30	43	45	42	41	25	24	44	43	29
Wis.Man.606	35	44	37	27	39	43	41	36	26	20	44	37	28
Earlyana	36	44	37	27	38	40	40	40	27	25	45	43	24
Richland	33	40	32	25	34	40	38	40	23	22	40	36	25
Wis.Man.3 Sel.	37	45	40	27	43	44	38	42	25	26	47	41	28

Table 11. Summary of maturity notes for the strains in the Uniform Test, Group II, 1942.

Strain	Mean of 10 Tests	Ames Iowa	Urbana Ill.	Bluffton Ind.	Lafayette Ind.	Cherokee Iowa	Kanawha Iowa	LaGrange Ind.	Wooster Ohio	Waseca Minn.	Paris Mo.
L6-685	-1.6	-6	+4	0	-3	-3	-3	-2	0	-4	+1
L6-12	-1.4	-5	+2	0	-2	-3	-3	-2	+1	-4	+2
L6-700	-1.2	-4	+4	-1	-3	-2	-2	-2	0	-4	+2
P.I. 92717	-5.2	-9	0	-5	-6	-8	-8	-4	-6	-4	-2
Mingo	-1.7	-7	+8	-1	-4	-5	-5	-5	0	0	+2
P.I. 68474	-4.7	-6	-1	-6	-8	-3	-5	-7	-6	-4	-3
Illini	0.0	0	0	0	0	0	0	0	0	0	0
P.I. 91161	-4.8	-8	+2	-6	-7	-5	-4	-6	-7	-4	-3
P.I. 92592	-4.7	-6	0	-5	-7	-3	-5	-9	-6	-4	-4
Dunfield	-1.7	-2	-2	-2	-5	-2	-2	-5	0	0	+3
P.I. 91109	-6.5	-8	0	-6	-8	-6	-6	-6	-9	-9	-7
Seneca	-5.8	-8	-1	-10	-7	-4	-4	-7	-11	0	-6
Mandell	-3.0	-8	+2	+1	-2	-5	-5	-2	-1	-9	-1
P.I. 70478	-6.9	-8	+4	-8	-15	-5	-5	-15	-7	-4	-6
Mukden	-5.3	-7	-1	-4	-5	-7	-7	-7	-6	-4	-5
Wis.Man.3	-6.4	-13	+3	-6	-6	-9	-5	-6	-7	-14	-1
Wis.Man.606	-6.7	-11	-2	-9	-8	-8	-6	-7	-11	-4	-1
Earlyana	-11.8	-14	-6	-14	-21	-8	-8	-16	-15	-9	-7
Richland	-7.5	-12	-3	-8	-8	-8	-4	-9	-8	-9	-6
W.Man.3 Sel.	-10.9	-13	-6	-9	-20	-9	-6	-16	-14	-9	-7
Illini Matured		10/2	9/18	10/4	10/7	10/3	10/3	10/5	10/2	10/14	9/15
Date of Planting		5/16	5/21	5/21	5/25	5/27	5/26	5/20	6/4	5/23	5/29

Table 12. Summary of seed quality notes for the strains in the Uniform Test, Group II, 1942.

Strain	Mean of 10 Tests	Urbana Ill.	Bluffton Ind.	Lafayette, Ind.	Dwight Ill.	Wanatah Ind.	LaGrange Ind.	Wooster Ohio	Holgate Ohio	Paris Mo.	Mt. Morris Ill.
L6-685	1.6	1.0	1.0	1.0	2.0	2.5	1.0	2.0	1.0	1.0	3.0
L6-12	1.6	1.0	1.0	1.5	1.5	2.5	1.0	2.0	1.0	1.0	3.0
L6-700	1.6	1.0	1.5	1.0	2.0	2.0	1.5	2.0	1.5	1.0	3.0
P.I. 92717	1.8	2.0	1.0	1.0	1.0	2.5	2.0	1.5	1.0	2.5	3.0
Mingo	2.2	2.0	1.5	1.5	3.0	3.0	1.5	2.0	2.0	2.5	3.0
P.I.68474	1.6	1.0	1.0	1.5	1.0	2.5	2.0	2.5	1.0	1.5	2.0
Illini	1.9	1.0	2.0	2.0	2.0	2.5	1.5	2.5	2.0	1.5	2.0
P.I. 91161	2.0	1.0	2.0	2.0	1.5	3.5	2.0	2.5	2.0	1.5	2.0
P.I. 92592	1.8	1.0	2.5	2.0	1.0	2.0	2.5	3.0	1.5	1.0	2.0
Dunfield	1.5	1.0	1.5	1.5	1.0	2.5	1.0	2.0	1.5	2.0	1.0
P.I. 91109	2.1	2.0	1.5	2.0	2.0	3.0	2.0	3.0	1.5	2.0	2.0
Seneca	2.8	2.0	3.0	3.0	2.0	4.0	3.0	3.0	3.0	1.0	2.0
Mandell	2.1	2.0	2.5	1.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0
P.I. 70478	1.8	1.0	2.0	2.0	1.0	2.5	1.0	3.0	1.5	2.0	2.0
Mukden	1.8	1.0	2.0	1.5	1.0	2.0	2.5	3.0	2.0	1.0	2.0
Wis.Man.3	2.6	2.0	2.0	3.0	3.0	4.0	2.0	3.0	2.0	2.0	3.0
Wis.Man.606	2.1	2.0	2.0	2.0	1.0	3.5	2.5	2.0	2.0	2.0	2.0
Earlyana	1.8	2.0	2.0	2.0	2.0	2.5	1.5	1.5	2.0	2.0	1.0
Richland	2.0	2.0	2.0	2.5	2.0	2.5	2.0	1.5	1.5	2.0	2.0
Wis.Man.3 Sel.	2.0	2.0	2.0	2.5	1.0	3.5	1.5	3.0	1.5	1.5	2.0

Table 13. Three-year summary of mean agronomic and chemical data for the strains in the Uniform Test, Group II, 1940-1942.

Strain	Mean Yield Bu/A	Lodging	Height Inches	Maturity[1]	Seed Quality	Seed Size	Percent Protein	Percent Oil	Iodine Number of Oil
No. of Tests	31	27	22	27	28	.35*	.35*	.35*	.35*
L6-685	34.2	2.3	36	-0.8	1.5	15.0	41.x	21.x	135
L6-12	33.9	2.x	36	-0.7	1.5	14.5	42.x	20.8	135
P.I. 92717	29.9	2.3	33	-x.1	1.8	14.1	43.2	20.0	13x
Mingo	29.8	2.9	35	-1.0	2.1	15.7	43.6	20.0	132
Illini	29.0	2.8	38	0.0	1.6	14.2	41.7	20.3	133
P.I. 68474	28.8	2.7	29	-6.2	1.6	14.6	40.3	21.3	132
Mandell	28.3	2.2	36	-1.7	1.9	14.9	45.1	19.1	133
Dunfield	27.9	2.7	3x	-0.x	1.6	16.x	41.0	20.8	127
P.I. 91161	27.9	2.6	32	-x.5	2.1	16.1	40.x	21.1	128
P.I. 70478	26.8	2.3	28	-5.8	1.7	1x.3	40.1	21.x	128
Mukden	26.1	2.1	36	-x.x	1.8	1x.3	4x.8	19.5	128
Richland	26.1	1.5	31	-5.8	1.9	16.2	41.7	20.2	126
Earlyana	25.1	2.3	33	-9.6	2.1	1x.x	4x.x	20.0	130
Wis.Man.3	25.0	2.7	35	-x.5	2.3	16.6	43.6	19.9	131
Wis.Man.606	2x.x	2.3	31	-8.3	2.x	16.1	43.6	20.0	132

[1] Days earlier (-) or later than (+) Illini. Illini required 130 days to mature (3 year average of all locations).

* Mean of composite samples by years, composition on dry basis. Sixteen tests in 1942, 10 tests in 1941, and 9 tests in 1940.

Table 14. Analysis of variance for yield of seed for the Uniform Test, Group II, 1942.

Source of Variation	Degrees of Freedom	Mean Squares
Replications	39	107.52**
Locations	12	5,808.54**
Varieties	19	308.00**
Varieties x Locations	228	x2.68**
Error	741	15.18

**Highly significant

Table 15. Three-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group II, 1940-1942.

Strain	Mean of 31 Tests	Lafayette Ind	Bluffton Ind.	Wanatah Ind.	Urbana Ill.	Mazon or Dwight Ill.	Clayton Ill.*	Stonington Ill.*	Kanawha Iowa	Holgate or Van Wert, Ohio
				Yield, Bu/A						
L6-685	34.2	44.7	37.3	26.5	47.8	38.6	34.0	28.3	27.3	28.8
L6-12	33.9	41.4	36.9	27.9	46.5	39.2	32.9	30.8	28.0	29.1
P.I. 92717	29.9	37.3	31.6	23.8	40.3	33.2	27.3	25.1	27.2	27.1
Mingo	29.8	37.0	30.7	23.0	41.2	31.2	31.1	25.8	26.2	24.6
Illini	29.0	35.7	33.5	24.2	35.9	32.2	27.0	25.7	26.5	22.1
P.I.68474	28.8	34.7	29.4	25.4	36.5	34.9	27.6	24.9	24.4	26.0
Mandell	28.3	34.2	29.8	19.5	37.8	33.0	28.7	24.9	26.4	22.6
Dunfield	27.9	32.6	28.5	22.4	37.7	31.8	30.9	25.7	25.1	20.5
P.I. 91161	27.9	35.1	27.1	22.2	36.1	32.6	25.7	24.0	26.9	23.7
P.I. 70478	26.8	32.6	27.9	21.9	34.2	28.8	24.3	24.4	25.2	24.7
Mukden	26.1	35.0	27.4	20.8	34.5	30.7	23.1	20.5	24.3	18.0
Richland	26.1	30.9	26.5	20.4	35.1	29.9	27.2	20.6	25.6	20.1
Earlyana	25.1	30.5	25.9	22.0	29.7	27.9	21.2	19.4	27.4	20.8
Wis.Man.3	25.0	30.1	26.0	17.4	31.4	27.6	23.7	20.7	25.5	21.2
Wis.Man.606	24.4	30.0	23.6	19.7	32.2	25.0	21.7	18.1	24.7	22.9
Mean Yield	28.2	34.8	29.5	22.5	37.1	31.8	27.1	23.9	26.0	23.5
					Yield Rank					
L6-685		1	1	2	1	2	1	2	3	2
L6-12		2	2	1	2	1	2	1	1	1
P.I. 92717		3	4	5	4	4	7	6	4	3
Mingo		4	5	6	3	9	3	3	8	6
Illini		5	3	4	9	7	9	4	6	10
P.I. 68474		8	7	3	7	3	6	7	14	4
Mandell		9	6	14	5	5	5	7	7	9
Dunfield		11	8	7	6	8	4	5	12	13
P.I. 91161		6	11	8	8	6	10	10	5	7
P.I. 70478		10	9	10	12	12	11	9	11	5
Mukden		7	10	11	11	10	13	13	15	15
Richland		12	12	12	10	11	8	12	9	14
Earlyana		13	14	9	15	13	15	14	2	12
Wis.Man.3		14	13	15	14	14	12	11	10	11
Wis.Man.606		15	15	13	13	15	14	15	13	8

* Two-year data only, 1940-1941.

Table 16. Two-year summary of chemical composition of two improved strains in comparison with three commercial varieties grown at twelve locations, 1941-1942.

Variety or Strain	Mean of 24 Tests	Columbus Ohio	Holgate Ohio	Bluffton Ind.	Wanatah Ind.	Lafayette Ind.	North Vernon Ind.	Greenfield Ind.	Dwight Ill.	Urbana Ill.	Clayton Ill.	Stoningston Ill.	Kanawha Iowa
						Percentage of Protein							
L6-685	41.5	42.8	40.4	41.6	43.4	41.0	44.6	41.0	40.5	37.9	42.3	41.5	41.9
L6-12	42.4	42.5	41.7	42.3	44.2	42.0	45.8	42.0	42.8	38.7	43.2	42.7	41.8
Mingo	-	-	42.2	44.0	46.0	44.0	-	-	42.6	40.6	-	-	43.9
Illini	41.7	42.4	39.8	41.9	44.4	41.4	46.0	40.2	41.6	38.1	42.3	40.2	42.3
Dunfield	40.6	41.7	39.6	41.0	44.0	40.5	43.4	38.4	39.9	37.9	40.7	40.1	39.9
						Percentage of Oil							
L6-685	21.7	20.7	21.7	21.2	20.7	22.2	20.9	21.7	22.2	23.0	21.9	22.5	21.3
L6-12	21.1	20.5	21.1	21.0	20.5	21.6	20.2	21.3	21.5	22.6	21.1	21.7	20.6
Mingo	-	-	21.1	20.3	19.5	20.2	-	-	21.1	21.6	-	-	20.1
Illini	20.6	19.8	21.1	20.4	19.5	20.9	19.4	21.0	21.1	21.9	20.6	21.5	20.1
Dunfield	21.5	20.8	21.3	20.7	20.3	21.6	20.8	22.3	22.1	23.0	22.3	22.5	21.1
						Iodine Number of Oil							
L6-685	134	134	135	132	134	135	132	133	134	134	134	133	136
L6-12	134	135	135	133	134	134	133	133	136	134	134	134	136
Mingo	-	-	131	131	130	132	-	-	133	131	-	-	134
Illini	132	134	134	131	132	132	131	132	133	132	133	131	134
Dunfield	126	128	129	123	126	124	124	126	127	124	126	125	131

Table 17. Summary of chemical composition of two improved strains and three commercial varieties grown at twenty-six locations in 1942.

Variety or Strain	Mean of 26 Tests	Wooster Ohio	Columbus Ohio	Holgate Ohio	Dearborn Mich.	Bluffton Ind.	Wanatah Ind.	LaGrange Ind.	Lafayette Ind.	Greenfield Ind.	North Vernon Ind.	Mt. Morris Ill.	Dwight Ill.
						Percentage of Protein							
L6-685	40.1	41.4	41.1	39.4	43.3	41.3	42.0	42.1	40.2	40.5	44.7	33.0	40.7
L6-12	41.5	43.1	41.8	41.4	45.3	42.3	42.5	42.7	41.5	40.8	45.5	34.6	43.9
Mingo	-	44.4	-	41.3	44.9	43.7	44.6	42.1	42.9	-	-	35.9	43.1
Illini	40.7	43.0	41.5	38.9	44.7	41.2	43.2	42.2	40.6	38.0	46.6	35.9	43.1
Dunfield	39.5	42.3	40.4	38.6	43.2	40.5	41.7	40.3	39.5	35.5	43.2	33.6	39.8
						Percentage of Oil							
L6-685	22.2	21.2	21.1	21.9	20.2	21.5	21.6	21.2	22.2	21.4	20.9	23.4	22.5
L6-12	21.4	20.9	20.8	20.8	19.4	21.1	21.3	20.9	21.6	21.4	20.2	22.0	21.5
Mingo	-	20.1	-	21.1	18.8	20.4	20.5	20.4	20.5	-	-	21.7	21.4
Illini	21.0	19.7	19.9	20.9	18.4	20.6	20.2	20.3	21.0	21.4	19.2	21.4	21.4
Dunfield	21.9	20.9	20.8	21.2	19.2	20.9	21.2	21.6	21.7	23.0	20.9	21.7	22.3
						Iodine Number of Oil							
L6-685	135	136	137	137	138	136	136	135	136	135	135	138	135
L6-12	136	136	137	138	139	136	136	136	137	137	136	139	137
Mingo	-	132	-	134	133	135	133	134	135	-	-	136	134
Illini	134	134	136	136	136	133	134	135	134	134	131	137	134
Dunfield	130	128	131	132	130	129	128	128	127	130	127	133	129

Table 17. (continued)

Variety or Strain	Urbana Ill.	Clayton Ill.	Stonington Ill.	Freeburg Ill.	Paris Mo.	St. Joseph Mo.	Carrollton Mo.	Columbia Mo.	Waseca Minn.	Lanawha Iowa	Hudson Iowa	Cherokee Iowa	Ames Iowa	Lincoln Neb.
						Percentage of Protein								
L6-685	36.9	44.0	40.3	41.0	40.4	37.2	29.8	40.8	41.8	40.8	39.6	38.6	41.7	41.3
L6-12	37.2	44.8	42.0	42.3	39.9	41.1	31.6	42.3	43.1	42.5	41.5	39.7	43.4	41.8
Mingo	38.8	-	-	-	40.7	40.6	-	-	42.1	43.8	42.7	40.5	44.4	-
Illini	36.0	42.9	41.0	40.1	40.0	37.3	30.4	44.6	41.1	42.0	41.4	38.4	42.7	40.7
Dunfield	36.5	42.1	39.8	38.6	38.3	38.5	31.6	41.7	41.5	40.3	39.2	38.0	41.3	40.6
						Percentage of Oil								
L6-685	23.1	21.5	22.7	22.4	22.7	24.1	25.9	23.1	20.5	22.0	22.2	22.8	21.4	22.6
L6-12	22.8	20.7	21.8	21.1	22.3	22.3	25.0	21.8	20.0	21.1	21.2	21.9	20.4	21.8
Mingo	22.2	-	-	-	21.2	21.6	-	-	19.3	20.3	20.9	21.4	20.1	-
Illini	22.4	20.5	21.4	21.5	21.8	23.1	24.8	20.2	18.9	20.7	21.1	21.8	20.4	22.3
Dunfield	23.2	21.9	22.5	22.8	23.0	22.8	24.9	21.7	19.5	21.9	22.3	22.6	21.4	22.8
						Iodine Number of Oil								
L6-685	135	135	133	133	134	132	135	134	137	136	137	137	136	134
L6-12	135	136	135	134	135	134	136	134	137	136	137	139	136	133
Mingo	134	-	-	133	133	133	-	-	135	133	135	136	134	-
Illini	133	135	132	130	132	132	127	130	137	136	137	137	134	134
Dunfield	126	129	130	127	129	130	132	129	133	132	134	133	130	128

Uniform Test, Group III

The Group III Test in 1942 was composed of six named varieties, 23 selections from hybrids, and one selection obtained as a rogue. The origin of these varieties and strains is as follows:

Variety or Strain	Source or Originating Agency	Origin
C2	Purdue Agr. Exp. Sta.	Selection from X231 (Dunfield x Midwest)
C56	Purdue Agr. Exp. Sta.	Selection from X331 (Illini x Mandell)
C60	Purdue Agr. Exp. Sta.	Selection from X331 (Illini x Mandell)
C66	Purdue Agr. Exp. Sta.	Selection from X831 (Dunfield x Manchu)
C72	Purdue Agr. Exp. Sta.	Selection from X831 (Dunfield x Manchu)
Dunfield	Purdue Agr. Exp. Sta.	P.I. 36846 1/
Patoka	Purdue Agr. Exp. Sta.	Selection from P.I. 70218-2
L4-12	Illinois Agr. Exp. Sta.	Selection from mixed hybrid population
L4-42	Illinois Agr. Exp. Sta.	Selection from mixed hybrid population
L4-45	Illinois Agr. Exp. Sta.	Selection from mixed hybrid population
L6-12	Illinois Agr. Exp. Sta.	Selection from (Mandarin x Manchu)
L6-685	Illinois Agr. Exp. Sta.	Selection from (Mandarin x Manchu)
L6-690	Illinois Agr. Exp. Sta.	Selection from (Mandarin x Manchu)
L6-700	Illinois Agr. Exp. Sta.	Selection from (Mandarin x Manchu)
L7-1087	Illinois Agr. Exp. Sta.	Selection from X157 (Illini x T48)
L7-1111	Illinois Agr. Exp. Sta.	Selection from X157 (Illini x T57)
L7-1280	Illinois Agr. Exp. Sta.	Unknown
L7-1355	Illinois Agr. Exp. Sta.	Rogue from a plot of P.I.81041
Chief	Illinois Agr. Exp. Sta.	Selection from (Illini x T95)
Illini	Illinois Agr. Exp. Sta.	Selection from A. K.
S32-3	Missouri Agr. Exp. Sta.	Selection from (P.I.37062 x Illini)
S32-8	Missouri Agr. Exp. Sta.	Selection from (P.I.37062 x Illini)
Scioto	Ohio Agr. Exp. Sta.	Selection from Manchu
McClave	Charles McClave	Farmer's selection

1/ Division of Plant Exploration and Introduction, Bureau of Plant Industry, U. S. D. A.

The Uniform Test, Group III was enlarged in 1942 to include additional promising strains. Among the additional strains entered which are of particular interest because of their previous outstanding performance in Group II were L6-685 and L6-12. Their entry in this group afforded an opportunity to test them still more widely than in Group II alone. In this test, as in Group II, L6-685 was higher in yield than any other variety or strain, and averaged 8.5 bushels per acre above the mean of Illini, Scioto, and Dunfield which are commonly grown varieties of similar maturity. The summary of the 1942 agronomic and chemical data is presented in Table 16.

McClave was the latest maturing variety in the test and was likewise the lowest in yield both in 1942, as shown in Table 13, and for the two-year period, 1941-42, as shown in Table 27. In addition to being low in yield of seed, it is also lower in oil content than any other entry in the test and over 2% lower than Illini. The two-year data, Table 25, also shows McClave to be the lowest in oil content in the test and 2.4% lower than Illini.

Comparisons of varieties grown in this test two and three years are shown in Tables 25 to 26 inclusive, In these periods L6-690 and C2 have been higher in yield than the commercial varieties but are about as low as, or lower than, the lowest of the commercial varieties in oil content.

As in the other tests, there was frost damage, particularly to the later maturing strains and varieties, at some locations. Because of frost damage, maturity data in some cases represents the best estimates of the investigator based upon the stage of development at frost.

Table 18. Summary of agronomic and chemical data for the strains in the Uniform Test, Group III, 1942.

Strain	Mean Yield Bu/A	Lodging	Height	Maturity[1]	Seed Quality	Seed Size	Percentage of Protein	Percentage of Oil	Iodine Number of Oil
No. of Tests	13	14	13	9	14	15[2]	15[2]	15[2]	15[2]
L6-685	35.2	2.4	39	-1.1	1.7	15.0	39.7	22.4	135
L6-12	31.9	2.7	39	-0.7	1.8	14.1	40.1	21.9	136
L4-45	31.8	2.7	37	-2.3	1.9	14.3	42.7	21.0	134
L4-12	31.7	2.7	37	-0.6	1.7	13.9	40.8	21.9	136
L4-42	31.4	2.6	44	+0.8	1.7	13.0	43.0	20.6	138
C56	31.3	2.9	40	-0.4	2.2	13.9	42.0	20.5	135
L7-1280	31.0	2.9	49	+3.9	1.9	13.0	40.2	21.5	135
L6-700	30.9	3.0	39	-0.3	1.7	14.6	44.8	21.5	134
L6-690	30.7	2.7	43	+2.5	2.0	11.8	42.4	20.8	137
L7-1087	30.1	3.1	44	+4.0	1.9	12.1	43.0	20.5	134
L7-1111	30.1	2.6	41	+1.1	2.0	12.5	41.1	20.7	136
Chief	29.6	3.0	47	+6.1	2.1	12.0	39.8	21.5	133
Patoka	29.4	2.6	36	+6.6	2.1	16.8	41.6	21.8	133
C2	29.2	3.1	43	+6.0	2.3	12.7	40.6	21.5	132
C60	29.1	2.6	38	-1.3	1.7	17.3	41.9	21.1	128
C66	28.5	2.1	34	-3.6	2.0	14.8	39.9	22.2	128
Dunfield	27.9	2.9	37	-1.3	1.8	14.2	37.9	22.2	130
C72	27.8	3.1	41	+1.9	2.1	15.4	39.6	21.8	131
L7-1355	27.7	2.8	50	+6.7	2.6	13.3	39.4	22.1	130
Scioto	26.2	3.8	40	+3.6	2.2	13.6	39.6	22.5	136
Illini	26.0	3.3	42	0.0	1.9	12.8	40.4	21.1	134
S32-3	25.3	2.8	44	+0.2	1.6	12.1	41.4	21.1	136
S32-8	23.0	2.8	47	+5.4	2.4	12.0	41.3	21.3	134
McClave	21.5	2.7	34	+9.2	3.1	9.5	42.3	18.9	136
Bu.Nec. for Sig. (5% level)	2.7								

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

[2] Composite sample of 15 locations, composition on dry basis.

Table 19. Summary of yield rank for the strains in the Uniform Test, Group III, 1942.

Strain	Urbana Ill.	Columbus Ohio	Lafayette Ind.	Greenfield Ind.	Ames Iowa	Dwight Ill.	Stonington Ill.	North Vernon Ind.	Freeburg Ill.	Clayton Ill.	Holgate Ohio	Columbia Mo.	Lincoln Neb.	Paris Mo.
L6-685	1	1	1	3	2	1	1	14	3	1	1	9	3	1
L6-12	11	3	7	1	13	6	7	15	14	2	4	5	17	19
L4-45	3	4	8	16	1	3	2	23	10	5	3	19	1	10
L4-12	12	2	11	9	4	4	12	6	17	6	2	12	8	8
L4-42	6	11	21	6	11	13	4	12	3	16	6	3	2	5
C56	4	7	10	11	8	8	3	20	8	11	5	18	6	2
L7-1280	5	15	12	12	19	11	11	8	2	3	15	1	11	4
L6-700	10	16	6	5	9	7	14	3	11	17	7	2	13	17
L6-690	16	5	13	2	12	14	5	16	9	10	11	11	9	12
L7-1087	14	9	19	4	14	15	15	8	13	14	8	6	10	11
L7-1111	9	6	9	8	7	2	8	12	23	20	10	22	13	7
Chief	13	14	14	10	20	17	13	4	6	8	19	8	18	15
Patoka	7	7	15	15	21	19	21	1	1	13	22	12	20	13
C2	2	13	5	17	17	18	20	5	6	9	18	10	21	18
C60	19	10	4	6	5	9	17	7	12	11	13	20	16	20
C66	17	12	16	19	3	10	16	11	17	23	9	16	4	23
Dunfield	8	19	22	24	6	5	6	21	15	4	16	21	5	14
C72	20	17	2	14	16	16	18	10	16	21	17	6	12	6
L7-1355	15	21	3	13	22	22	18	2	5	6	21	4	22	20
Scioto	18	22	23	18	18	21	21	18	21	19	12	12	15	3
Illini	22	23	18	21	10	11	10	21	24	15	14	23	7	15
S32-3	23	18	20	20	15	20	9	24	22	13	23	17	19	20
S32-8	21	24	17	23	23	23	23	19	19	22	24	15	23	8
McClave	24	19	24	21	24	24	24	17	20	24	20	24	--	24

Table 20. Summary of yields in bushels per acre for the strains in the Uniform Test, Group III, 1942.

Strain	Mean of 13 Tests[1]	Urbana Ill.	Columbus Ohio	Lafayette Ind.	Greenfield Ind.	Ames Iowa	Dwight Ill.	Stonington Ill.
L6-685	35.2	54.8	48.2	41.2	36.8	41.3	38.6	36.4
L6-12	31.9	47.4	44.6	39.2	40.6	31.6	34.7	32.6
L4-45	31.8	51.3	44.4	39.1	30.1	42.6	37.9	36.2
L4-12	31.7	47.0	46.6	38.2	34.6	33.4	37.0	31.6
L4-42	31.4	49.1	39.8	32.7	36.0	32.0	30.8	35.5
C56	31.3	49.7	42.4	38.6	33.9	33.8	33.1	35.6
L7-1280	31.0	49.5	35.3	38.2	33.7	27.9	30.9	31.8
L6-700	30.9	47.5	34.2	40.1	36.3	33.3	34.4	30.9
L6-690	30.7	44.1	43.3	38.0	37.9	31.9	30.5	35.0
L7-1087	30.1	45.7	42.1	34.5	36.6	30.5	28.8	30.6
L7-1111	30.1	48.2	42.5	39.0	35.2	37.1	38.3	32.3
Chief	29.6	46.5	36.2	36.7	34.0	27.0	28.1	31.5
Patoka	29.4	48.4	42.4	36.3	30.4	24.0	27.5	26.1
C2	29.2	53.1	37.8	40.4	30.0	28.8	27.9	26.4
C60	29.1	40.1	41.1	40.6	36.0	38.5	32.8	28.1
C66	28.5	43.5	38.0	36.1	29.4	40.4	32.4	30.1
Dunfield	27.9	48.3	28.0	32.1	26.4	38.0	35.5	32.9
C72	27.8	39.6	32.2	41.0	32.0	29.0	28.2	27.5
L7-1355	27.7	44.6	27.3	40.8	32.2	23.5	24.5	27.5
Scioto	26.2	42.5	27.2	31.2	29.7	28.7	26.3	26.1
Illini	26.0	37.8	26.1	35.1	28.1	33.8	30.9	32.1
S32-3	25.3	36.9	28.8	33.9	29.2	29.8	26.5	32.2
S32-8	23.0	38.9	26.0	35.6	26.6	19.7	20.5	23.1
McClave[2]	21.5	31.4	28.0	22.2	28.1	18.6	19.1	17.9
Mean	29.1	45.2	36.8	36.7	32.6	31.7	30.6	30.4
Coef. of Var.(%)	12.4	9.9	14.8	9.7	12.8	14.6	8.4	12.6
Bu. Nec. for Sig. (5% level)	2.7	6.3	7.7	5.0	5.9	6.5	3.6	5.4

[1] Yields at Ames not included in mean because of severe frost damage to some varieties.

[2] McClave not harvested at Lincoln because of excessive shattering.

Table 20. (continued)

Strain	North Vernon Ind.	Free-burg Ill.	Clay-ton Ill.	Hol-gate Ohio	Colum-bia Mo.	Lin-coln Neb.	Paris Mo.
L6-685	29.0	35.4	34.7	39.8	21.9	23.3	17.1
L6-12	28.9	28.1	31.9	35.1	22.4	19.1	11.9
L4-45	22.4	30.4	29.6	34.4	18.9	25.4	13.7
L4-12	31.2	26.0	29.3	34.5	21.2	21.6	14.0
L4-42	29.1	35.4	25.6	32.1	23.5	23.9	14.4
C56	24.6	31.2	27.0	32.2	19.6	22.9	15.7
L7-1280	30.8	36.3	30.8	24.4	25.5	20.8	14.9
L6-700	36.0	29.0	25.3	31.0	23.8	20.1	12.7
L6-690	28.6	30.8	28.3	26.5	21.3	21.2	13.3
L7-1087	30.8	30.2	26.6	30.3	22.3	21.1	13.6
L7-1111	29.1	34.0	24.3	28.8	15.3	20.1	14.1
Chief	34.0	32.7	29.1	22.4	22.0	18.9	13.0
Patoka	40.7	37.6	24.9	18.1	21.2	15.8	13.2
C2	31.6	32.7	29.0	22.6	21.8	14.7	12.3
C60	31.1	28.3	27.0	24.9	17.9	19.2	11.7
C65	29.4	26.0	21.2	29.5	20.4	23.1	11.4
Dunfield	24.4	26.6	30.7	23.9	17.7	23.0	13.1
C72	29.8	26.1	24.0	23.6	22.3	20.5	14.3
L7-1355	36.2	33.3	29.3	18.3	25.4	13.4	11.7
Scioto	26.0	25.3	24.6	26.0	21.2	19.3	15.4
Illini	24.4	22.5	26.1	24.8	14.4	22.6	13.0
S32-3	22.2	25.2	26.8	17.7	20.0	17.3	11.7
S32-8	24.8	25.6	23.3	9.3	21.0	10.4	14.0
McClave	26.6	25.5	17.9	19.0	12.3	--[a]	9.9
Mean	29.3	29.3	26.9	26.1	20.4	19.9	13.3
Coef. of Var. (%)	11.6	11.4	9.2	17.9	11.2	14.7	15.7
Bu. Nec. for Sig. (5% level)	4.8	4.7	3.5	6.8	3.4	4.1	2.9

[a] Not harvested because of excessive shattering

Table 21. Summary of lodging notes for the strains in the Uniform Test, Group III, 1942.

Strain	Mean of 14 Tests[1]	Urbana Ill.	Columbus Ohio	Lafayette Ind.	Greenfield Ind.	Ames Iowa	Dwight Ill.	Stonington Ill.
L6-685	2.4	2.0	3.8	2.1	1.4	3.0	3.0	2.0
L6-12	2.7	3.0	4.8	2.4	2.2	4.0	3.0	2.0
L6-45	2.7	3.0	3.3	2.7	2.0	4.0	2.5	3.0
L6-12	2.7	3.0	4.3	2.6	2.2	4.0	3.0	2.0
L6-42	2.6	3.0	5.0	3.0	1.9	3.0	3.0	2.0
356	2.9	3.0	4.0	2.9	1.9	4.0	4.0	3.0
L7-1280	2.9	3.0	3.5	2.7	2.5	3.0	4.0	2.5
L6-7[illegible]	3.0	3.0	5.0	3.0	2.2	5.0	4.0	3.0
L6-3[illegible]	2.7	3.0	4.0	2.9	2.5	3.0	3.5	2.0
L7-1087	3.1	3.5	4.5	3.0	2.2	4.0	4.0	3.0
L7-1111	2.6	2.0	3.5	2.2	2.[illegible]	3.0	3.0	3.0
Chief	3.0	3.0	4.0	3.0	2.6	4.0	4.0	3.0
Patoka	2.6	3.0	4.3	2.7	1.6	4.0	4.0	4.0
C2	3.1	3.0	4.8	2.5	2.4	4.0	4.0	4.0
C60	2.6	3.0	4.5	2.9	1.9	3.0	3.0	2.5
C66	2.1	3.0	3.3	2.9	1.4	3.0	3.0	1.0
Dunfield	2.9	2.5	4.8	3.1	1.4	4.0	4.0	2.5
C72	3.1	3.0	5.0	3.7	1.5	5.0	5.0	4.0
L7-1355	2.8	3.0	4.8	2.6	1.9	4.0	4.0	3.0
Scioto	3.8	5.0	5.0	3.7	3.1	4.0	4.0	4.0
Illini	3.3	3.0	4.8	2.9	1.7	5.0	4.0	3.0
S32-3	2.8	3.0	5.0	2.5	1.4	4.0	4.0	2.0
S32-8	2.8	3.0	4.8	2.9	1.9	3.0	4.5	3.0
McClave	2.7	3.0	4.8	2.6	2.1	3.0	2.5	2.5

[1] Carrollton not included in mean since no varieties lodged.

Table 21. (continued)

Strain	North Vernon Ind.	Free-burg Ill.	Clay-ton Ill.	Hol-gate Ohio	Colum-bia Mo.	Paris Mo.	St. Joseph Mo.	Car-rollton Mo.
L6-685	2.6	3.0	3.0	2.8	1.5	1.0	2.0	1.0
L6-12	2.1	3.5	3.0	2.5	2.0	1.0	2.0	1.0
L4-45	3.0	3.5	3.0	2.5	2.5	1.5	2.0	1.0
L4-12	2.7	3.0	2.5	2.5	2.5	1.0	2.0	1.0
L4-42	2.4	2.5	2.0	2.5	2.5	1.5	1.5	1.0
C56	3.1	3.0	3.0	2.8	2.5	1.5	2.0	1.0
L7-1280	2.7	3.0	3.0	2.2	3.0	2.5	2.5	1.0
L6-700	1.9	3.0	3.0	2.5	3.0	1.5	2.0	1.0
L6-690	2.5	2.5	3.0	2.2	3.5	1.5	1.5	1.0
L7-1087	2.9	3.0	3.0	2.0	3.5	1.5	3.0	1.0
L7-1111	2.2	3.0	3.0	2.2	3.5	1.5	3.0	1.0
Chief	4.0	3.5	3.0	2.2	2.5	1.5	2.0	1.0
Patoka	1.0	2.5	4.0	1.8	1.0	1.0	2.0	1.0
C2	2.7	3.0	3.0	2.0	3.5	2.0	2.0	1.0
C60	1.9	2.5	3.0	2.0	1.5	1.5	3.0	1.0
C66	1.5	2.0	2.0	2.8	1.5	1.0	1.5	1.0
Dunfield	2.0	3.5	2.0	2.5	4.0	1.5	3.0	1.0
C72	2.4	3.0	4.0	2.5	2.0	1.5	2.5	1.0
L7-1355	2.0	3.0	3.0	1.5	2.5	1.5	2.0	1.0
Scioto	4.0	4.0	4.0	2.8	4.0	2.5	3.5	1.0
Illini	2.9	3.0	3.0	2.8	4.0	2.5	3.0	1.0
S32-3	2.5	3.0	2.0	2.0	3.0	1.5	3.0	1.0
S32-8	2.2	3.0	2.0	2.2	2.5	2.0	2.5	1.0
McClave	1.0	2.0	3.5	2.5	4.0	2.0	3.0	1.0

Table 22. Summary of plant height for the strains in the Uniform Test, Group III, 1942

Strain	Mean of 13 Tests	Urbana Ill.	Columbus Ohio	Lafayette Ind.	Greenfield Ind.	Ames Iowa	Dwight Ill.	North Vernon Ind.	Holgate Ohio	Columbia Mo.	Lincoln Neb.	Paris Mo.	St. Joseph Mo.	Carrollton Mo.
L6-685	39	44	60	44	43	48	43	28	54	35	23	31	36	21
L6-12	39	44	52	46	41	49	46	32	59	36	21	24	38	23
L4-45	37	43	52	44	36	49	43	35	49	33	22	25	30	24
L4-12	37	43	52	42	41	49	41	30	55	35	22	26	30	20
L4-42	44	51	59	48	46	56	47	36	57	39	27	31	42	28
C56	40	48	54	46	42	54	45	37	53	34	23	30	30	21
L7-1280	49	58	68	55	51	59	55	38	67	42	28	37	48	28
L6-700	39	44	52	45	42	46	45	31	56	35	22	26	36	25
L6-690	43	43	65	51	46	56	51	33	53	38	26	31	40	29
L7-1087	44	55	60	49	50	54	49	34	55	37	24	30	42	27
L7-1111	41	47	53	47	45	53	47	29	55	32	22	28	44	28
Chief	47	55	69	54	51	59	53	40	63	40	26	31	42	30
Patoka	36	40	48	39	37	48	38	30	51	35	19	29	30	22
C2	43	49	60	49	48	54	48	34	56	40	24	28	42	28
C60	38	42	50	45	40	48	44	33	49	33	22	25	32	25
C66	34	41	46	41	36	36	40	22	47	30	19	24	30	24
Dunfield	37	45	50	45	38	46	44	28	50	32	22	27	36	22
C72	41	45	61	45	46	49	46	34	58	38	20	30	32	25
L7-1355	50	59	68	56	52	60	56	45	74	42	27	36	44	28
Scioto	40	47	62	45	45	49	44	33	54	34	22	30	34	22
Illini	42	50	66	48	44	54	47	32	62	31	24	30	40	23
S32-3	44	54	62	48	47	54	48	34	66	36	26	27	38	26
S32-8	47	52	72	53	51	55	53	38	66	40	29	36	42	29
McClave	34	36	51	45	33	42	34	22	52	27	20	26	30	21

Table 23. Summary of maturity notes for the strains in the Uniform Test, Group III, 1942*

Strain	Mean of 9 Tests	Urbana Ill.	Columbus Ohio	Lafayette Ind.	Greenfield Ind.	North Vernon Ind.	Columbia Mo.	Paris Mo.	St. Joseph Mo.	Carrollton Mo.
L6-685	-1.1	-3	-1	-3	-2	-1	+3	-1	-2	0
L6-12	-0.7	-2	+1	-3	-2	+1	+3	-2	-2	0
L4-45	-2.3	-2	-4	-3	-3	0	+1	-4	-4	-2
L4-12	-0.6	-1	-1	-3	-2	+1	+3	-2	-2	+2
L4-42	+0.8	+1	-1	+2	-1	+3	+2	+3	-2	0
C56	-0.4	0	-3	0	-1	+2	+1	-1	-2	-2
L7-1280	+3.9	+1	+3	+5	+5	+7	+6	+4	+2	+2
L6-700	-0.3	-1	-3	+3	-2	+2	+2	-2	-2	0
L6-690	+2.5	+10	0	+3	+1	+2	+5	+2	0	+2
L7-1087	+4.0	+1	0	+4	+2	+6	+7	+6	+4	+6
L7-1111	+1.1	+2	-1	-1	0	+2	+2	+4	0	+2
Chief	+6.1	+10	+5	+7	+5	+6	+10	+4	+4	+4
Patoka	+6.6	+10	+4	+9	+7	+7	+10	+8	+2	+2
C2	+6.0	+10	+4	+4	+4	+4	+11	+7	+6	+4
C60	-1.3	0	+1	-3	-2	+1	+1	-2	-4	-4
C66	-3.6	-2	-6	-6	-4	+1	-1	-6	-6	-2
Dunfield	-1.3	-3	-2	-5	-1	-1	+1	+1	-2	0
C72	+1.9	+1	+1	+1	+1	+2	+7	+2	0	+2
L7-1355	+6.7	+10	+7	+7	+6	+8	+6	+6	+4	+6
Scioto	+3.6	+10	+4	+2	+2	0	+7	+3	+2	+2
Illini	0.0	0	0	0	0	0	0	0	0	0
S32-3	+0.2	+1	0	+4	+1	+4	0	-2	-4	-2
S32-8	+5.4	+10	+6	+8	+3	+4	+7	+5	+4	+2
McClave	+9.2	+10	+4	+10	+9	+11	+15	+12	+6	+6
Date Illini matured		9/29	10/9	10/9	10/6	9/20	9/15	9/18	9/28	9/26
Date Planted		5/23	5/29	5/25	5/22	5/29	6/3	5/29	6/3	5/29

* Days earlier (-) or later (+) than Illini.

Table 24. Summary of seed quality notes for the strains in the Uniform Test, Group III, 1942.

Strain	Mean of 14 Tests	Urbana Ill.	Columbus Ohio	Lafayette Ind.	Greenfield Ind.	Dwight Ill.	Stonington Ill.	North Vernon Ind.
L6-685	1.7	1.0	3.0	1.5	1.5	2.0	1.0	3.0
L6-12	1.8	1.0	2.0	1.5	2.0	2.0	1.0	3.0
L4-45	1.9	2.0	3.0	1.5	2.0	1.0	2.0	3.0
L4-12	1.7	1.0	2.0	1.5	1.5	2.0	1.0	3.0
L4-42	1.7	1.0	2.0	1.5	1.5	2.0	2.0	1.5
C56	2.2	2.0	2.5	1.5	1.5	3.0	2.0	3.0
L7-1280	1.9	1.0	1.5	1.5	1.5	3.0	2.0	2.0
L6-700	1.7	1.0	2.5	1.0	1.0	2.0	2.0	1.5
L6-690	2.0	1.0	2.0	1.5	1.5	3.0	3.0	2.5
L7-1087	1.9	1.0	2.0	1.0	1.0	3.0	2.0	1.5
L7-1111	2.0	1.0	3.0	1.0	1.0	2.0	3.0	3.0
Chief	2.1	1.0	2.0	1.0	1.5	3.	3.0	2.0
Patoka	2.1	1.0	2.0	1.0	1.5	3.0	4.0	1.5
C2	2.3	2.0	1.5	1.0	1.0	3.0	5.0	1.5
C60	1.7	1.0	2.0	1.5	1.0	3.0	2.0	2.5
C66	2.0	1.0	2.0	2.0	1.5	3.0	1.0	3.0
Dunfield	1.8	1.0	2.0	1.5	1.5	1.0	1.0	3.5
C72	2.1	1.0	1.5	1.0	1.0	3.0	4.0	2.0
L7-1355	2.6	2.0	2.0	1.5	1.5	3.0	5.0	2.0
Scioto	2.2	2.0	2.0	1.5	1.5	3.0	4.0	1.5
Illini	1.9	1.0	2.0	1.5	2.0	2.0	2.0	2.5
S32-3	1.6	1.0	1.5	1.0	1.5	2.0	1.0	2.0
S32-8	2.4	2.0	2.0	1.5	1.0	3.0	3.0	1.5
McClave	3.1	2.0	4.0	1.5	1.5	3.0	5.0	1.5

Table 24 (continued)

Strain	Free-burg Ill.	Clay-ton Ill.	Hol-gate Ohio	Colum-bia Mo.	Paris Mo.	St. Joseph Mo.	Car-rollton Mo.
L6-685	1.0	1.0	1.0	1.0	1.0	2.0	3.5
L6-12	1.0	1.0	1.5	1.0	1.0	3.0	4.0
L4-45	1.0	1.0	1.5	2.0	1.0	2.0	4.0
L4-12	1.0	2.0	1.5	1.0	1.0	2.5	2.5
L4-42	1.0	2.0	1.0	1.0	1.0	3.0	3.0
C56	1.0	2.0	3.0	1.5	1.0	3.5	3.0
L7-1280	1.0	2.0	2.5	1.0	1.0	3.5	2.5
L6-700	1.0	2.0	2.0	1.0	1.0	2.5	3.0
L6-690	1.0	1.0	2.0	1.0	1.5	3.5	4.0
L7-1087	1.0	1.0	2.0	2.0	2.0	3.5	4.0
L7-1111	1.0	2.0	2.5	1.5	1.0	3.5	3.0
Chief	1.0	2.0	1.5	1.0	1.5	4.5	4.0
Patoka	1.0	2.0	2.0	1.0	2.0	4.0	3.0
C2	2.0	2.0	2.5	2.0	2.0	4.5	2.5
C60	1.0	2.0	2.0	1.0	1.0	2.0	2.0
C66	2.0	1.0	2.5	2.0	2.5	1.5	3.5
Dunfield	1.0	1.0	2.0	1.5	2.0	3.0	3.0
C72	1.0	2.0	2.0	2.0	1.0	4.0	3.0
L7-1355	2.0	2.0	3.0	1.0	2.0	5.0	4.0
Scioto	1.0	4.0	2.0	1.0	1.0	3.5	3.0
Illini	1.0	1.0	2.0	2.0	1.5	3.0	2.5
S32-3	1.0	1.0	3.5	1.0	1.0	2.5	2.5
S32-8	2.0	2.0	4.0	1.0	1.0	5.0	2.0
McClave	2.0	4.0	3.0	3.0	3.0	5.0	5.0

Table 25. Two-year summary of mean agronomic and chemical data for the strains in the Uniform Test, Group III, 1941-1942.

Strain	Mean Yield Bu/A	Lodging	Height Inches	Maturity[1]	Seed Quality	Seed Size	Percentage Protein	Percentage Oil	Iodine No. of Oil
No. of Tests	25	20	17	18	25	27[2]	27[2]		27[2]
C2	28.4	3.0	40	+6.5	2.3	13.5	41.2	21.0	131
L6-690	28.3	2.4	40	+2.2	1.8	12.1	42.9	20.7	136
L7-1355	27.7	2.6	41	+3.8	1.8	12.6	42.9	20.3	133
Patoka	27.3	2.0	33	+6.3	2.3	17.2	42.7	21.6	132
Chief	26.8	2.6	44	+5.2	2.2	12.5	40.1	21.2	132
L7-1355	26.8	2.5	46	+6.4	2.4	14.2	40.4	21.6	128
Scioto	25.5	3.5	36	+3.0	2.3	14.2	40.8	22.0	135
Dunfield	24.4	2.4	34	-1.2	2.0	15.0	39.2	21.9	126
Illini	23.8	2.6	38	0	2.2	13.2	41.0	20.8	132
McClave	21.5	2.3	30	+11.1	2.8	10.4	43.2	18.4	135

Table 26. Three-year summary of mean agronomic and chemical data for the strains in the Uniform Test, Group III, 1940-1942.

Strain	Mean Yield Bu/A	Lodging	Height Inches	Maturity[1]	Seed Quality	Seed Size	Percentage Protein	Percentage Oil	Iodine No. oil
No. of Tests	35	27	21	27	35	37[2]	37[2]	37[2]	37[2]
L6-690	27.7	2.3	36	+2.8	1.7	12.2	42.9	20.5	135
C2	27.0	2.7	36	+6.5	2.0	13.8	41.7	20.6	130
L7-1355	26.7	2.2	42	+5.7	2.1	14.6	40.7	21.2	127
Patoka	26.4	1.7	31	+6.6	2.0	17.3	43.1	21.1	130
Chief	26.1	2.5	39	+4.4	1.8	12.7	40.5	21.0	132
Scioto	25.1	3.3	33	+2.7	2.1	14.4	41.5	21.5	134
Dunfield	23.4	2.1	32	-1.4	1.8	15.5	39.9	21.5	127
Illini	23.3	2.2	33	0	2.0	13.3	41.4	20.6	131

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

[2] Mean of composite samples by years, composition on dry basis, 15 tests in 1942, 12 tests in 1941, and 10 tests in 1940.

Table 27. Two-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group III. 1941-1942.

Strain	Mean Yield 25 Tests	Columbus Ohio	Fortville or Greenville Ind.	North Vernon Ind.	Urbana Ill.	Dwight Ill.	Clayton Ill.	Stonington Ill.	Freeburg Ill.	Columbia Mo.
					Yield Bu/A					
C2	28.4	28.6	27.9	24.2	50.8	37.6	35.1	27.2	30.1	21.7
L6-690	28.3	31.8	30.2	20.4	44.4	38.5	30.7	32.6	27.4	21.4
L7-1087	27.7	30.6	30.6	21.8	45.4	35.2	30.8	30.1	27.2	21.9
Patoka	27.6	32.2	26.0	29.4	47.7	33.8	29.5	26.6	32.4	20.2
Chief	26.8	27.4	29.1	23.1	45.2	36.0	20.9	29.2	26.2	20.2
L7-1355	26.8	24.6	27.6	23.7	45.0	35.2	31.0	28.0	29.9	22.2
Scioto	25.5	23.6	28.4	21.4	39.2	33.6	30.2	27.0	24.6	19.8
Dunfield	24.4	22.9	22.2	18.5	41.2	35.3	30.8	2913	23.4	16.4
Illini	23.8	22.7	26.0	18.3	36.2	37.1	26.8	29.6	18.4	14.8
McClave	21.5	23.2	23.2	20.6	32.0	27.4	25.6	20.0	25.6	11.9
					Yield Rank					
C2		4	5	2	1	2	1	7	2	3
L6-690		2	2	8	6	1	6	1	4	4
L7-1087		3	1	5	3	6	4	2	5	2
Patoka		1	7	1	2	8	8	9	1	5
Chief		5	3	4	4	4	3	5	6	5
L7-1355		6	6	3	5	6	2	6	3	1
Scioto		7	4	6	8	9	7	8	8	7
Dunfield		9	10	9	7	5	4	4	9	8
Illini		10	7	10	9	3	9	3	10	9
McClave		8	9	7	10	10	10	10	9	10

Table 28. Three-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group III, 1940-1942.

Strain	Mean Yield 35 Tests	Columbus Ohio	North Vernon Ind.	Urbana Ill.	Dwight or Mazon Ill.	Clayton Ill.	Stonington Ill.	Columbia Mo.
				Yield in Bu/A				
L6-690	27.7	27.5	21.6	43.1	33.1	31.4	31.5	21.6
C2	27.0	25.5	24.2	44.5	33.0	33.7	25.9	21.6
L7-1355	26.7	23.4	25.0	42.4	31.5	31.1	27.4	22.9
Patoka	26.4	27.9	28.0	42.5	29.6	28.4	26.1	20.9
Chief	26.1	25.3	23.5	40.8	31.7	30.2	28.1	21.3
Scioto	25.1	21.9	25.7	37.6	29.8	29.3	26.2	21.2
Dunfield	23.4	20.2	18.8	36.3	29.9	29.6	27.2	19.1
Illini	23.3	21.9	20.5	33.3	32.0	27.0	27.9	14.7
				Yield Rank				
L6-690		2	6	2	1	2	1	2
C2		3	3	1	2	1	8	2
L7-1355		5	2	4	5	3	4	1
Patoka		1	1	3	8	7	7	6
Chief		4	5	5	4	4	2	4
Scioto		6	4	6	7	6	6	5
Dunfield		8	8	7	6	5	5	7
Illini		6	7	8	3	8	3	8

Table 29. Analysis of variance for yield of seed for the Uniform Test, Group III, 1942.

Source of Variation	Degrees of Freedom	Mean Squares
Replications	39	1,344.68**
Locations	12	6,563.72**
Varieties	23	503.29**
Varieties x Locations	276	50.95**
Error	897	13.05

** Highly significant

Uniform Test, Group IV

The Group IV Test in 1942 was composed of six named varieties, seventeen selections from hybrids, and one selection obtained as a rogue. The origin of these varieties and strains is as follows:

Variety or Strain	Source or Originating Agency	Origin
C2	Purdue Agr. Exp. Sta.	Selection from X231 (Dunfield x Midwest)
C6	Purdue Agr. Exp. Sta.	Selection from X331 (Illini x Mandell)
C146	Purdue Agr. Exp. Sta.	Selection from X231 (Dunfield x Midwest)
C148	Purdue Agr. Exp. Sta.	Selection from X231 (Dunfield x Midwest)
C149	Purdue Agr. Exp. Sta.	Selection from X231 (Dunfield x Midwest)
C153	Purdue Agr. Exp. Sta.	Selection from X231 (Dunfield x Midwest)
C154	Purdue Agr. Exp. Sta.	Selection from X231 (Dunfield x Midwest)
C155	Purdue Agr. Exp. Sta.	Selection from X231 (Dunfield x Midwest)
C160	Purdue Agr. Exp. Sta.	Selection from X331 (Illini x Mandell)
C175	Purdue Agr. Exp. Sta.	Selection from X731 (Dunfield x Man.Sel.31)
C178	Purdue Agr. Exp. Sta.	Selection from X831 (Dunfield x Man.Sel.21)
Gibson	Purdue Agr. Exp. Sta.	Selection from X531 (Midwest x Dunfield)
Patoka	Purdue Agr. Exp. Sta.	Selection from P.I. 70218-2
L7-923	Illinois Agr. Exp. Sta.	Selection from mixed hybrid population
L7-1160	Illinois Agr. Exp. Sta.	Selection from LX157 (Illini x T148)
Chief	Illinois Agr. Exp. Sta.	Selection from (Illini x Manchu)
Macoupin	Elmor Hulcher	Selection from commercial lot
Morse	U.S.Dept.of Agriculture	P.I. 19186
S32-11	Missouri Agr. Exp. Sta.	Selection from (P.I.37062 x Illini)
S49-5	Missouri Agr. Exp. Sta.	Selection from (Virginia x P.I.54610-3)
S49-12	Missouri Agr. Exp. Sta.	Selection from (Virginia x P.I.54610-3)
S49-18	Missouri Agr. Exp. Sta.	Selection from (Virginia x P.I.54610-3)
S100	Missouri Agr. Exp. Sta.	Rogue from a plot of Illini.
Boone	Missouri Agr. Exp. Sta.	Selection from P.I.54563-3

All of the higher yielding strains or varieties in this group in 1942 were of hybrid origin. Likewise, the earlier strains, as a rule, were among the highest in yield. This is probably due to the fact that yields of the later maturing strains were lowered by the extremely early frost at most locations in relation to the amount of frost damage sustained, and would support the contention that too much weight should not be placed on one year's results alone.

A remarkable amount of local adaptation is also evident in the 1942 results. Varieties or strains best at one location, or even one state, were often poorest at another. This, too, may be due in part to the frost damage to some varieties. On the other hand, it would seem to show that there is considerable differential varietal response in soybeans to soil and climatic conditions encountered at the various locations.

Many of the strains in this test show practically no improvement in yield or chemical composition when compared to the more recently released varieties in the two- and three-year summaries and will therefore be eliminated from the test.

Table 30. Summary of agronomic and chemical data for the strains in the Uniform Test, Group IV, 1942.

Variety or Strain	Mean Yield Bu./A.	Lodging	Height in Inches	Maturity[1]	Seed Quality	Seed Size	Percentage of Protein	Percentage of Oil	Iodine Number of Oil
Number of Tests	10	10	9	7	11	11[2]	11[2]	11[2]	11[2]
Patoka	29.1	2.2	35	-5.5	2.1	16.4	41.8	21.9	132
C2	28.9	3.2	43	-3.4	2.2	12.8	40.8	21.6	131
C155	28.3	2.8	45	-0.6	1.8	14.5	40.4	22.1	130
Chief	28.2	2.8	47	-4.3	2.0	12.1	39.5	21.8	131
C175	27.1	3.2	45	-1.6	2.3	13.9	39.8	21.7	130
C146	27.0	2.6	43	-0.1	2.1	13.2	38.5	22.4	127
C149	26.9	2.7	43	-1.3	1.9	12.7	39.7	22.4	132
C6	26.6	2.7	43	-4.6	2.0	12.7	42.1	21.0	132
Gibson	26.1	3.4	39	0.0	1.8	12.9	39.2	21.7	133
C160	25.6	2.7	41	-4.0	1.9	13.5	40.9	21.6	132
L7-923	25.5	2.7	46	-1.4	2.2	11.6	38.3	21.9	131
L7-1160	25.3	2.7	45	-1.1	2.2	13.3	40.4	21.8	131
C178	25.0	2.7	43	+1.9	2.5	14.3	40.5	20.9	132
C154	24.8	3.1	40	-3.6	2.3	13.7	39.2	22.4	131
C153	24.6	3.2	43	-0.9	2.4	13.5	40.1	22.0	130
Macoupin	24.2	3.1	43	-3.6	2.3	14.3	39.4	22.4	131
S49-18	23.9	3.0	42	-1.4	2.0	11.7	39.6	21.4	134
Morse	23.8	3.6	42	-1.4	2.5	15.7	40.6	21.2	134
Boone	23.2	2.7	42	-0.1	2.0	12.6	40.0	22.1	131
S49-5	23.0	3.2	46	+0.3	2.1	12.1	37.9	21.8	133
C148	22.7	3.4	44	-2.6	2.2	13.8	39.5	21.9	128
S32-11	22.3	2.9	43	-1.0	1.4	10.4	39.5	21.7	135
S100	22.2	3.0	45	+5.6	2.5	10.9	40.3	20.1	132
S49-12	22.0	2.6	41	-5.9	1.6	11.5	41.5	20.9	135
Bu.Nec. for Sig. (5% level)	3.0								

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

[2] Composite sample of eleven tests, composition on dry basis.

Table 31. Summary of yields in bushels per acre for the strains in the Uniform Test, Group IV, 1942.

Strain	Mean of 10 Tests	Evansville Ind.	Urbana Ill.	North Vernon Ind.	Freeburg Ill.	Clayton Ill.	Wheatland Ind.	Elsberry Mo.	Stonington Ill.	Sikeston Mo.	Columbia Mo.
Patoka	29.1	41.2	45.4	34.1	36.8	25.8	26.0	20.2	25.4	16.9	20.3
C2	28.9	47.4	49.2	31.6	32.0	25.4	22.2	21.7	22.0	17.3	24.0
C155	28.3	45.4	46.7	28.4	32.7	25.8	21.4	24.5	20.4	21.4	19.4
Chief	28.2	41.5	36.6	31.1	31.5	27.9	28.8	26.0	26.8	19.0	15.4
C175	27.1	43.4	43.0	30.0	29.2	22.8	24.8	22.6	20.3	18.5	22.3
C146	27.0	44.6	49.8	28.0	27.8	23.4	19.1	20.7	16.5	23.4	20.6
C149	26.9	40.6	40.4	29.7	29.8	23.9	20.8	26.5	19.8	18.2	21.0
C6	26.6	39.8	44.5	29.2	25.8	22.3	26.7	23.7	22.7	18.2	18.0
Gibson	26.1	44.0	42.9	27.0	24.4	24.3	25.4	18.7	19.1	21.2	18.1
C160	25.6	36.7	39.9	29.4	27.8	24.0	22.2	21.5	22.6	18.7	16.4
L7-923	25.5	43.0	37.8	29.6	27.5	20.3	19.4	22.6	16.1	21.9	18.6
L7-1160	25.3	37.2	38.1	24.0	24.7	21.4	22.4	24.2	19.6	20.1	23.5
C178	25.0	40.6	38.9	29.8	27.6	20.0	20.6	19.0	17.8	23.9	14.7
C154	24.8	40.6	31.0	29.6	22.7	22.5	24.6	17.7	22.2	18.1	20.3
C153	24.6	41.6	31.0	32.2	26.9	20.0	23.2	18.2	16.5	21.7	16.0
Macoupin	24.2	38.2	28.1	25.5	26.0	24.5	22.8	18.5	22.4	17.8	18.5
S49-18	23.9	33.0	31.2	26.0	26.3	23.5	20.6	24.9	16.2	19.4	19.4
Morse	23.8	31.1	30.6	25.9	26.6	20.2	22.6	24.3	21.1	17.7	18.9
Boone	23.2	32.2	36.2	22.1	22.0	21.6	20.2	20.0	17.9	19.9	22.8
S49-5	23.0	31.4	29.5	23.0	22.4	22.7	21.6	23.8	18.8	18.3	18.1
C148	22.7	39.5	28.1	24.7	20.6	22.3	19.8	19.6	17.6	16.5	18.6
332-11	22.3	33.1	31.4	19.2	21.5	20.3	20.8	20.2	20.6	20.0	18.8
S100	22.2	41.5	31.3	23.8	22.4	18.2	19.1	17.1	10.0	24.9	15.5
S49-12	22.0	29.9	30.3	18.3	21.8	23.4	23.9	13.2	27.1	16.4	18.6
Mean	25.3	39.1	37.2	27.2	26.5	22.8	22.5	21.3	20.0	19.5	19.1
Coef.of Var.	13.7	9.9	16.3	12.9	15.3	8.4	11.2	18.4	14.7	8.2	16.0
Du.Nec.for Sig.	3.0	5.3	10.0	5.0	5.7	2.7	4.1	5.5	4.2	2.2	4.3

Table 32. Yield rank for the strains in the Uniform Test, Group IV, 1942.

Strain	Evansville Ind.	Urbana Ill.	North Vernon Ind.	Freeburg Ill.	Clayton Ill.	Wheatland Ind.	Elsberry Mo.	Stonington Ill.	Sikeston Mo.	Columbia Mo.
Patoka	10	4	1	1	2	3	14	3	22	7
C2	1	2	3	3	4	12	11	8	21	1
C155	2	3	12	2	2	15	5	11	6	9
Chief	8	13	4	4	1	1	2	2	12	23
C175	5	6	5	6	12	5	10	12	14	4
C146	3	1	13	7	10	23	13	20	5	6
C149	11	8	7	5	8	16	1	13	16	5
C6	14	5	11	15	15	2	8	4	17	19
Gibson	4	7	14	17	6	4	19	15	7	18
C160	18	9	10	7	7	12	12	5	13	20
L7-923	6	12	8	10	19	22	9	23	4	15
L7-1160	17	11	19	16	18	11	7	14	8	2
C178	11	10	6	9	23	18	18	18	2	24
C154	11	18	8	18	14	6	22	7	18	8
C153	7	18	2	11	23	8	21	20	5	21
Macoupin	16	23	17	14	5	9	20	6	19	16
S49-18	20	17	15	13	9	18	4	22	11	9
Morse	23	20	16	12	22	10	6	9	20	11
Boone	21	14	22	21	17	20	16	17	10	3
S49-5	22	22	21	19	13	14	3	16	15	17
C148	15	24	18	24	15	21	17	19	23	14
S32-11	19	15	23	23	19	16	15	10	9	12
S100	8	16	20	19	24	23	23	24	1	22
S49-12	24	21	24	22	10	7	24	1	24	13

Table 33. Summary of lodging notes for the strains in the Uniform Test, Group IV, 1942.

Strain	Mean of 10 Tests[1]	Evans-ville Ind.	Ur-bana Ill.	North Vernon Ind.	Free-burg Ill.	Clay-ton Ill.	Wheat-land Mo.	Els-berry Mo.	Ston-ington Ill.	Sikes-ton Mo.	Colum-bia Mo.	Carroll-ton Mo.
Patoka	2.2	2.2	3.0	1.0	2.0	3.0	1.0	1.0	3.5	3.5	1.5	1.0
C2	3.2	3.0	3.0	3.1	3.0	4.0	1.5	1.5	4.0	5.0	4.0	1.0
C155	2.8	2.6	3.0	3.2	3.0	3.5	1.0	1.5	3.0	4.0	3.5	1.0
Chief	2.8	2.4	3.0	3.1	3.0	3.5	1.3	1.5	3.0	4.0	3.0	1.0
C175	3.2	3.0	3.0	3.0	3.5	3.5	2.0	2.0	3.5	5.0	3.0	1.0
C146	2.6	2.6	3.0	1.7	3.0	3.0	1.2	2.0	3.0	4.0	3.0	1.0
C149	2.7	2.9	3.0	2.9	4.0	3.0	1.2	1.0	3.0	3.5	2.5	1.0
C6	2.7	3.2	3.0	2.7	3.5	3.0	1.0	1.0	3.0	4.0	2.5	1.0
Gibson	3.4	2.9	4.0	2.6	3.0	4.0	1.7	3.5	4.0	4.5	4.0	1.0
C160	2.7	2.9	3.0	2.2	3.0	3.0	1.0	1.5	3.0	5.0	2.0	1.0
L7-923	2.7	2.6	3.0	2.6	3.0	3.0	1.7	1.0	3.0	4.0	3.5	1.0
L7-1160	2.7	2.7	3.0	3.1	3.0	3.0	1.6	1.0	3.0	4.0	3.0	1.0
C178	2.7	3.0	3.0	2.5	3.0	3.0	2.0	1.0	3.0	3.5	3.0	1.0
C154	3.1	3.2	4.0	2.1	4.0	4.0	1.2	1.0	4.0	5.0	2.5	1.0
C153	3.2	2.9	4.0	2.5	4.0	2.5	1.7	2.0	4.0	4.0	4.0	1.0
Macoupin	3.1	3.1	3.0	2.9	3.0	4.0	1.0	2.0	3.0	5.0	4.0	1.0
S49-18	3.0	3.2	3.0	3.2	3.0	3.5	2.0	2.0	3.0	4.0	3.0	1.0
Morse	3.6	3.1	4.0	3.5	3.0	4.0	2.0	3.0	4.0	5.0	4.0	1.0
Boone	2.7	3.4	3.0	2.2	3.0	3.0	1.2	1.0	3.0	4.0	3.5	1.0
S49-5	3.2	3.1	4.0	3.5	3.5	3.0	2.0	1.5	3.0	4.0	4.0	1.0
C148	3.4	3.5	4.0	3.0	4.0	4.0	1.2	2.0	4.0	4.0	4.0	1.0
S32-11	2.9	3.1	3.0	3.0	3.0	3.0	2.0	2.0	3.0	4.0	3.0	1.0
S49-12	2.6	3.5	3.0	2.9	3.0	2.0	1.0	1.5	2.0	5.0	2.0	1.0
S100	3.0	3.0	4.0	3.4	4.0	3.0	2.0	1.5	4.0	3.0	2.0	1.0

[1]Carrollton not included in the mean since no varieties lodged.

Table 34. Summary of plant height for the strains in the Uniform Test, Group IV, 1942

Strain	Mean of 9 Tests	Evans-ville Ind.	Ur-bana Ill.	North Vernon Ind.	Free-burg Ill.	Clay-ton Ill.	Wheat-land Ind.	Els-berry Mo.	Colum-bia Mo.	Car-rollton Mo.
Patoka	35	41	45	30	40	43	33	29	33	23
C2	43	49	54	38	50	53	42	34	38	31
C155	45	56	54	38	47	54	46	42	41	29
Chief	47	58	58	37	54	57	48	38	39	32
C175	45	57	55	36	50	54	43	35	41	33
C146	43	52	51	37	48	51	42	39	38	30
C149	43	52	52	36	50	52	42	35	40	31
C6	43	47	53	35	50	53	43	35	42	32
Gibson	39	49	45	33	42	45	40	35	33	25
C150	41	50	50	33	51	50	41	36	36	26
L7-923	46	58	57	39	48	56	47	40	41	32
L7-1160	45	53	51	38	54	50	44	37	42	37
C178	43	51	51	39	51	50	43	36	39	31
C154	40	50	48	33	51	48	40	33	36	25
C153	43	50	50	41	47	50	44	37	38	29
Macoupin	43	53	52	30	48	51	41	35	39	36
S49-18	42	54	50	34	50	50	40	37	36	25
Morse	42	51	50	32	46	49	41	37	40	29
Boone	42	51	50	31	47	50	40	36	40	30
S49-5	46	58	53	37	51	53	45	38	43	32
C148	44	53	54	39	50	53	43	36	36	33
S32-11	43	55	54	37	48	53	40	34	38	26
S100	45	56	56	38	48	55	44	36	40	34
S49-12	41	51	48	32	45	49	41	38	36	29

Table 35. Summary of maturity notes for the strains in the Uniform Test, Group IV, 1942.*

Strain	Mean of 7 Tests	Evans-ville Ind.	North Vernon Ind.	Wheat-land Ill.	Els-berry Mo.	Sikes-ton Mo.	Colum-bia Mo.	Car-rollton Mo.
Patoka	-3.3	-5	-4	-4	-3	-8	0	+1
C2	-3.4	-8	-7	-6	-3	-8	+5	+3
C155	-0.6	-1	-2	-5	-2	-2	+6	+2
Chief	-4.3	-5	-4	-6	-6	-10	0	+1
C175	-1.6	-1	-3	-1	-2	-10	+1	+5
C146	-0.1	-1	-2	-1	0	-2	+5	0
C149	-1.3	-1	-3	-1	-3	-2	0	+1
C6	-4.6	-9	-7	-8	-3	-6	0	+1
Gibson	0.0	0	0	0	0	0	0	0
C160	-4.0	-4	-5	-7	-5	-6	-1	0
L7-923	-1.4	-4	-5	0	-1	-8	+4	+4
L7-1160	-1.1	-1	-3	-3	-2	-4	+3	+2
C178	+1.9	0	-2	+2	0	0	+6	+7
C154	-3.6	-4	-2	-6	-5	-6	-2	0
C153	-0.9	-4	-2	-3	-2	-4	+6	+3
Macoupin	-3.6	-7	-6	-5	-4	-8	+3	+2
S49-18	-1.4	+1	-6	-1	-6	0	0	+2
Norse	-1.4	-2	-5	-3	-5	0	+3	+2
Boone	-0.1	+3	-3	-2	-2	0	+2	+1
S49-5	+0.3	+4	-1	+1	-7	-2	+5	+2
C148	-2.6	-4	-3	-4	-5	-6	+4	0
S32-11	-1.0	+5	-4	0	-7	0	-1	0
S100	+5.6	+8	+6	+6	+2	+2	+6	+9
S49-12	-5.9	-2	-6	-5	-10	-10	-8	0
Date Gibson Matured		10/4	9/30	10/6	9/26	9/28	9/26	9/28
Date Planted		5/14	5/29	5/28	5/13	5/11	6/3	5/29

*Days earlier (-) or later (+) than Gibson.

Table 36. Summary of seed quality notes for the strains in Uniform Test, Group IV, 1942.

Strain	Mean of 11 Tests	Evansville Ind.	Urbana Ill.	North Vernon Ind.	Freeburg Ill.	Clayton Ill.	Wheatland Ind.	Elsberry Mo.	Stonington Ill.	Sikeston Mo.	Columbia Mo.	Carrollton Mo.
Patoka	2.1	3.0	1.0	1.5	1.0	2.0	2.5	1.0	4.0	3.0	1.0	3.5
C2	2.2	2.0	1.0	1.5	1.0	3.0	1.5	1.0	5.0	3.0	2.0	3.0
C155	1.8	2.0	1.0	2.0	1.0	1.0	2.0	1.0	3.0	2.0	1.0	4.0
Chief	2.0	2.5	1.0	1.5	1.0	2.0	2.0	1.0	4.0	2.0	1.0	4.0
C175	2.3	2.0	1.0	2.0	1.0	2.0	3.0	1.5	4.0	3.0	1.0	5.0
C146	2.1	1.5	1.0	2.0	1.0	2.0	3.0	1.0	5.0	3.0	1.0	2.5
C149	1.9	2.0	1.0	1.5	1.0	2.0	1.5	1.0	5.0	2.0	1.0	3.0
C6	2.0	1.5	1.0	1.0	1.0	3.0	1.5	1.0	5.0	3.0	1.5	3.0
Gibson	1.8	2.5	1.0	2.0	1.0	2.0	1.5	1.0	3.0	2.5	1.0	2.5
C160	1.9	1.5	1.0	1.5	2.0	1.0	2.0	1.0	4.0	2.0	1.0	3.5
L7-923	2.2	1.5	1.0	1.5	1.0	3.0	2.0	2.0	4.0	2.0	2.0	4.5
L7-1160	2.2	2.0	2.0	2.0	2.0	2.0	2.0	1.0	5.0	2.0	1.0	3.5
C178	2.5	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	2.0	2.0	4.0
C154	2.3	1.5	1.0	1.5	1.0	2.0	3.0	1.0	3.0	3.0	1.0	2.5
C153	2.4	1.5	1.0	2.0	1.0	3.0	3.0	1.0	5.0	2.5	2.5	4.0
Macoupin	2.3	2.0	1.0	2.0	1.0	2.0	2.5	2.0	4.0	3.0	1.0	4.5
S49-18	2.0	2.5	1.0	1.5	1.0	2.0	2.5	1.0	4.0	3.0	1.0	3.0
Morse	2.5	3.5	1.0	2.5	1.0	2.0	3.0	1.0	3.0	3.0	2.0	5.0
Boone	2.0	2.0	1.0	2.0	1.0	2.0	1.5	1.0	4.0	3.0	1.0	3.0
S49-5	2.1	3.0	1.0	2.0	1.0	2.0	2.0	1.0	4.0	2.5	1.5	3.5
C148	2.2	2.0	1.0	2.5	1.0	2.0	2.5	1.0	4.0	3.5	1.5	3.0
S32-11	1.4	1.5	1.0	1.0	1.0	1.0	1.0	1.0	3.0	1.5	1.0	2.5
S100	2.5	2.0	2.0	2.0	2.0	3.0	1.5	3.0	5.0	1.5	1.5	4.0
S49-12	1.6	1.5	1.0	1.5	1.0	1.0	2.0	1.0	2.0	3.0	1.0	2.5

Table 37. Two-year summary of mean agronomic and chemical data for the strains in the Uniform Test, Group IV, 1941-1942.

Strain	Mean Yield Bu./A.	Lodging	Height in Inches	Maturity[1]	Seed Quality	Seed Size	Percentage of Protein	Percentage of Oil	Iodine Number of Oil
Number of Tests	21	17	15	15	22	22[2]	22[2]	22[2]	22[2]
C155	26.3	2.6	43	-0.3	2.3	15.3	41.9	21.3	128
C146	26.1	2.4	40	+0.5	2.4	14.0	40.1	21.7	126
Patoka	26.0	1.8	32	-3.2	2.7	16.8	43.1	21.4	131
C149	25.2	2.6	40	-1.2	2.1	13.4	41.7	21.8	130
L7-923	25.1	2.8	44	-0.7	2.2	12.1	39.7	21.5	131
C175	24.8	2.9	42	-2.3	2.6	14.4	41.2	21.2	129
C6	24.6	2.6	41	-3.3	2.4	13.3	43.6	20.3	131
C178	24.6	2.4	39	+1.5	2.7	14.6	42.2	20.3	132
Gibson	24.5	3.1	36	0	2.1	13.3	40.4	21.2	132
C153	24.3	3.0	40	-0.5	2.3	14.4	42.0	21.5	128
Chief	24.1	2.5	44	-3.2	2.6	12.6	40.5	21.4	131
C160	23.6	2.4	38	-2.5	2.1	13.6	42.1	21.1	131
L7-1160	23.1	2.6	43	-0.6	2.6	13.9	41.6	21.2	130
C154	23.0	2.6	37	-3.3	2.5	13.9	40.1	21.8	130
Macoupin	22.2	2.8	40	-2.3	2.6	14.8	41.1	22.0	129
Morse	22.1	3.4	40	-1.7	2.8	16.8	41.4	21.0	132
Boone	22.0	2.8	39	+0.5	2.3	13.4	41.5	21.5	130
C148	21.8	2.8	40	-2.3	2.5	13.9	40.8	21.4	126

[1] Days earlier (-) or later (+) than Gibson. Gibson required 127 days to mature.
[2] Mean of composite samples, composition on dry basis. Eleven tests in 1942 and eleven tests in 1941.

Table 38. Three-year summary of mean agronomic and chemical data for the strains in the Uniform Test, Group IV, 1940-1942.

Variety or Strain	Mean Yield Bu./A.	Lodging	Height in Inches	Maturity[1]	Seed Quality	Seed Size	Percentage of Protein	Percentage of Oil	Iodine Number of Oil
Number of Tests	30	25	24	24	27	31[2]	31[2]	31[2]	31[2]
C149	25.2	2.6	39	-0.8	1.9	13.6	41.6	21.5	129
Patoka	25.1	1.8	31	-3.0	2.4	15.9	43.2	21.2	130
Gibson	24.8	2.9	36	0.0	2.1	13.4	40.1	21.1	132
Chief	24.3	2.6	43	-3.0	2.3	12.7	40.6	21.3	130
C178	23.7	2.5	38	+1.3	2.6	14.6	42.1	20.2	132
Boone	22.0	2.7	39	+1.1	2.2	13.6	40.9	21.5	130
Macoupin	22.0	2.7	40	-1.1	2.4	14.9	40.4	21.8	129

[1] Days earlier (-) or later (+) than Gibson. Gibson required 126 days to mature.
[2] Mean of composite samples, composition on dry basis. Eleven tests in 1942, eleven tests in 1941, and nine tests in 1940.

Table 39. Two-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group IV, 1941-1942

Strain	Mean Yield 21 Tests	Evansville Ind.	Wheatland Ind.	Urbana Ill.	Stonington Ill.	Clayton Ill.	Freeburg Ill.	Columbia Mo.	Sikeston Mo.
				Yield in bushels per acre					
C155	26.3	41.6	17.6	44.3	23.7	29.5	28.7	22.4	18.2
C146	26.1	40.2	17.1	48.0	21.7	29.5	28.9	23.0	20.8
Patoka	26.0	42.3	20.4	43.7	27.0	28.3	32.7	19.0	14.6
C149	25.2	38.8	16.9	39.7	23.0	29.1	28.8	21.9	16.0
L7-923	25.1	42.0	17.2	41.8	22.1	26.8	26.9	20.3	18.6
C175	24.8	37.8	18.7	42.7	23.4	28.9	26.5	22.4	15.3
C6	24.6	38.6	19.9	43.4	24.6	28.0	24.7	19.6	16.0
C178	24.6	39.9	17.7	40.3	21.5	25.5	26.8	19.4	21.0
Gibson	24.5	41.3	18.7	41.5	22.8	26.5	23.1	19.6	18.4
C153	24.3	40.7	19.3	35.4	21.4	27.9	25.7	19.3	19.2
Chief	24.1	38.3	20.3	36.7	25.5	27.9	24.5	17.5	13.1
C160	23.6	35.9	17.1	41.1	23.2	26.7	26.5	17.0	15.6
L7-1160	23.1	33.8	16.4	39.2	22.3	27.2	21.5	20.9	17.7
C154	23.0	36.4	17.6	36.3	24.1	25.9	24.5	19.2	13.2
Macoupin	22.2	32.2	17.4	32.5	23.9	27.3	24.1	18.8	14.4
Morse	22.1	29.7	17.7	32.6	22.0	25.1	24.4	19.0	14.0
Boone	22.0	32.7	17.3	34.4	20.0	25.9	20.8	22.0	16.8
C148	21.8	37.5	15.5	34.1	20.9	25.3	22.5	20.1	12.2
				Yield Rank					
C155		3	9	2	6	1	4	2	6
C146		6	14	1	14	1	2	1	2
Patoka		1	1	3	1	5	1	14	13
C149		8	16	9	9	3	3	5	9
L7-923		2	13	6	12	11	5	7	4
C175		11	5	5	7	4	7	2	12
C6		9	3	4	3	6	10	9	9
C178		7	7	10	15	16	6	11	1
Gibson		4	5	7	10	13	15	9	5
C153		5	4	14	16	7	9	12	3
Chief		10	2	12	2	7	11	17	17
C160		14	14	8	8	12	7	18	11
L7-1160		15	17	11	11	10	17	6	7
C154		13	9	13	4	14	11	13	16
Macoupin		17	11	18	5	9	14	16	14
Morse		18	7	17	13	18	13	14	15
Boone		16	12	15	18	14	18	4	8
C148		12	18	16	17	17	16	8	18

Table 40. Three-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group IV, 1940-1942.

Strain	Mean Yield 31 Tests	Evans-ville Ind.	Ur-bana Ill.	Ston-ington Ill.	Clay-ton Ill.	Els-berry Mo.[1]	Col-umbia Mo.	Sikes-ton Mo.
				Yield in bushels per acre.				
C149	25.2	36.2	38.5	23.5	28.9	22.1	23.2	16.7
Patoka	25.1	34.3	40.1	25.9	28.5	19.0	20.0	16.0
Gibson	24.8	37.4	39.9	22.7	26.0	18.4	20.3	18.5
Chief	24.3	33.1	36.7	26.0	28.0	24.3	18.7	15.3
C178	23.7	36.2	35.2	20.4	24.0	19.7	20.6	19.6
Boone	22.0	30.7	33.1	19.6	25.2	18.1	22.5	16.9
Macoupin	22.0	28.3	32.1	23.8	26.7	17.9	19.8	14.4
				Yield Rank				
C149		2	3	4	1	2	1	4
Patoka		4	1	2	2	4	5	5
Gibson		1	2	5	5	5	4	2
Chief		5	4	1	3	1	7	6
C178		2	5	6	7	3	3	1
Boone		6	6	7	6	6	2	3
Macoupin		7	7	3	4	7	6	7

[1]Two years data only, 1940 and 1942.

Table 41. Analysis of variance for yield of seed for the Uniform Test, Group IV, 1942.

Source of Variation	Degrees of Freedom	Mean Squares
Replications	28	8,212.09**
Locations	9	4,578.05**
Varieties	23	178.31**
Varieties x Locations	207	42.54**
Error	642	12.03

**Highly significant

Acknowledgement of Seed Sources

Aside from the cooperating agencies, the following have very generously supplied seed for use in these tests. Their assistance is greatly appreciated.

Source	Varieties
McFayden Seed Co. Winnepeg, Man.	Pagoda Sioux Kabbot
Dr. G. P. McRostie Central Exp. Sta. Ottawa, Ontario	Goldsoy McRostie Mandarin
Professor R. G. Wiggans N. Y. Agr. Exp. Sta.	Ontario Cayuga
Professor B. D. Leith Wisconsin Agr. Exp. Sta.	Wis. Manchu Sel.
Mr. H. R. Bellin Wapeton, N. D.	Minsoy Habaro

Effect of Location on Composition

Average chemical composition of a strain of soybeans in the area of its adaptation is of importance to the plant breeder. The chemical composition to be expected in each locality is of importance also. The most desirable way to obtain this information would be by analyzing separately, seed of each strain at each location, thus also obtaining information on the interaction or failure of the strains to maintain their same rank or order among the locations where the nurseries were grown. Since this would entail the analysis of many samples, the compositing of strains appeared more feasible. By making up a field composite at each location composed of equal weights of seed of each variety or strain in a given Group, information on the average chemical composition of soybean seed at that location in that season may be obtained. This gives no information on the interaction between varieties and locations, however, from previous work (U. S. D. A. Bulletin 787) it may be assumed that for protein percent, oil percent and iodine number of oil, the varieties x locations interaction is non-significant. The average composition of soybean seed at each location will be found in Table 42.

Table 42. Chemical composition of soybean seed grown at each of the Uniform Test locations, and the location means for 1940-42. (composite of all strains grown in each respective Group Test, composition on dry basis)

Location	1940			1941			1942			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	Percentage of Protein	Percentage of Oil	Iodine Number of Oil
						Group I (composite of 20 strains)						
Wooster, Ohio	--	--	--	--	--	--	45.0	18.8	131	--	--	--
Strongsville, Ohio	--	--	--	--	--	--	43.1	19.3	134	--	--	--
LaGrange, Ind.	--	--	--	--	--	--	46.0	18.4	130	--	--	--
Fargo, N. Dak.	--	--	--	--	--	--	41.4	19.2	137	--	--	--
Torrington, Wyo.	--	--	--	--	--	--	34.9	20.5	136	--	--	--
						Group II (composite of 25 strains in 1940 and 1941 and 20 strains in 1942)						
Wooster, Ohio	--	--	--	--	--	--	43.1	20.5	131	--	--	--
Holgate, Ohio	43.1	19.6	133	41.9	20.5	129	39.6	21.4	135	41.5	20.5	132
LaGrange, Ind.	--	--	--	--	--	--	42.9	19.3	132	--	--	--
Bluffton, Ind.	45.9	18.2	129	43.0	19.5	125	42.0	20.6	133	43.6	19.4	129
Lafayette, Ind.	45.9	18.9	131	43.9	19.9	128	40.9	20.9	133	43.6	19.9	131
Wanatah, Ind.	47.3	17.3	134	46.8	18.1	126	43.2	20.0	133	45.8	18.5	131
Urbana, Ill.	43.1	20.5	128	41.0	21.2	129	38.2	22.1	132	40.8	21.3	130
Dwight, Ill.	47.6	17.3	131	41.6	20.4	131	41.7	21.1	133	43.6	19.6	132
Stonington, Ill.	42.8	21.0	130	43.6	20.2	129	--	--	--	--	--	--
London Mills, Ill.	--	--	--	41.4	20.5	129	--	--	--	--	--	--
Clayton, Ill.	44.3	20.2	128	41.5	21.2	128	--	--	--	--	--	--
Mt. Morris, Ill.	--	--	--	--	--	--	34.9	22.5	135	--	--	--
Hudson, Iowa	--	--	--	--	--	--	41.4	21.1	136	--	--	--
Kanawha, Iowa	43.4	19.3	130	44.1	19.2	132	42.1	21.2	134	43.2	19.9	132
Ames, Iowa	--	--	--	--	--	--	42.3	20.2	132	--	--	--
Cherokee, Iowa	--	--	--	--	--	--	39.5	21.5	136	--	--	--
Waseca, Minn.[1]	--	--	--	--	--	--	42.1	20.2	136	--	--	--
Dearborn, Mich.	--	--	--	--	--	--	43.8	19.7	132	--	--	--
Paris, Mo.	--	--	--	--	--	--	40.7	21.6	131	--	--	--
St.Joseph, Mo.	--	--	--	--	--	--	38.6	22.6	132	--	--	--

Group III (composite of 16 strains in 1940 and 1941, and 24 strains in 1942)												
Columbus, Ohio	44.3	18.2	133	45.3	19.0	131	42.3	20.0	136	44.0	19.1	133
Holgate, Ohio	--	--	--	--	--	--	41.0	19.7	137	--	--	--
N.Vernon, Ind.	41.9	20.4	132	46.4	19.1	128	45.0	21.8	133	44.4	20.4	131
Greenfield, Ind.[2]	--	--	--	42.2	20.3	129	40.6	21.2	135	--	--	--
Lafayette, Ind.	--	--	--	--	--	--	42.1	20.4	136	--	--	--
Urbana, Ill.	43.5	19.8	130	41.6	21.0	131	39.4	21.7	135	41.5	20.8	132
Dwight, Ill.	45.1	18.2	132	43.1	21.0	132	42.1	21.5	134	43.4	20.2	133
Edgewood, Ill.	43.6	20.2	128	41.4	21.6	127	--	--	--	--	--	--
Stonington, Ill.	40.9	20.8	131	43.7	20.4	129	42.4	21.4	133	42.3	20.9	131
London Mills, Ill.	40.4	21.2	132	43.2	20.1	130	--	--	--	--	--	--
Freeburg, Ill.	--	--	--	47.7	19.0	127	41.8	21.4	133	--	--	--
Clayton, Ill.	43.1	20.2	130	42.3	20.8	130	43.6	20.8	135	43.0	20.6	132
Paris, Mo.	43.8	20.0	127	--	--	--	40.1	22.2	134	--	--	--
Columbia, Mo.	42.3	20.1	131	41.8	20.5	128	43.0	20.8	131	42.4	20.5	130
Carrollton, Mo.	--	--	--	33.6	23.2	129	32.2	24.7	134	--	--	--
St. Joseph, Mo.	--	--	--	--	--	--	36.4	23.0	133	--	--	--
Ames, Iowa	--	--	--	--	--	--	43.4	21.0	135	--	--	--
Lincoln, Nebr.[1]	--	--	--	--	--	--	42.4	21.3	132	--	--	--
Group IV (composite of 22 strains in 1940 and 24 strains in 1941 and 1942)												
Wheatland, Ind.	--	--	--	45.9	19.4	123	38.0	22.2	130	--	--	--
Evansville, Ind.	40.4	21.4	128	41.6	21.7	128	40.7	21.6	131	40.9	21.6	129
Mt.Vernon, Ind.	43.5	19.1	128	46.4	17.9	126	--	--	--	--	--	--
N. Vernon, Ind.	--	--	--	--	--	--	44.3	19.9	131	--	--	--
Urbana, Ill.	41.5	20.1	129	40.8	21.1	131	39.4	21.5	135	40.6	20.9	132
Edgewood, Ill.	41.8	20.4	127	40.9	22.1	126	--	--	--	--	--	--
Stonington, Ill.	39.6	21.6	131	41.8	21.7	129	40.9	22.2	131	40.8	21.8	130
Freeburg, Ill.	--	--	--	46.6	19.4	128	40.8	21.4	131	--	--	--
Clayton, Ill.	40.2	20.9	128	40.6	21.6	128	42.3	20.8	135	41.0	21.1	130
Sikeston, Mo.	41.1	20.3	127	46.6	18.7	123	40.1	21.8	127	42.6	20.3	126
Elsberry, Mo.	39.1	21.8	130	--	--	--	39.2	22.4	129	--	--	--
Columbia, Mo.	41.3	20.6	130	40.0	21.2	129	41.3	21.4	131	40.9	21.1	130
Carrollton, Mo.	--	--	--	33.4	23.5	130	33.3	24.0	132	--	--	--

[1] Composite of 19 strains at Waseca, and composite of 23 strains at Lincoln.
[2] Test located at Fortville near Greenfield in 1941.