

NEBRASKA--WHEAT VARIETIES
ESTIMATED PERCENTAGES PLANTED TO EACH VARIETY FOR SELECTED YEARS

Variety	1939	1944	1949	1954	1959	1961	1962	1963
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Pawnee	---	.3	33.4	35.7	31.0	26.9	24.9	20.1
Cheyenne	14.8	22.7	25.2	27.5	28.9	27.3	21.9	15.3
Bison	---	---	---	---	7.1	20.1	24.9	14.3
Warrior	---	---	---	---	---	.2	4.0	13.9
Omaha	---	---	---	---	---	.2	1.7	10.2
Nebred	.2	15.3	26.1	26.6	25.1	17.0	11.9	9.4
Ottawa	---	---	---	---	---	---	.3	6.3
Wichita	---	---	.2	1.5	1.4	2.0	3.8	3.7
Triumph	---	---	.1	.3	.6	1.6	2.7	2.6
Ponca	---	---	---	.2	2.4	2.2	2.1	1.6
Rodco	---	---	---	---	---	.1	.3	1.1
Turkey Red	58.0	43.4	7.8	2.7	1.0	.4	.4	.4
Kiowa	---	---	---	---	.2	.3	.3	.1
Comanche	---	---	.2	.7	.4	.3	.2	---
Nebr. 60	10.1	4.8	.7	.5	.2	.1	.1	---
Tenmarq	.2	2.8	1.4	.5	.2	.1	.1	---
Other and Unknown	16.7	10.7	4.9	3.8	1.5	1.2	.4	1.0

1963 WHEAT CROP UP 18 PERCENT FROM 1962 PRODUCTION

The 1963 wheat crop of 63,490,000 bushels was 18 percent above the poor 1962 crop of 53,820,000 bushels, but 25 percent below the 1957-61 average of 84,814,000 bushels. The crop was reduced by winterkill, hail, freezing temperatures during the flowering stage, mosaic and other disease conditions. The 1963 crop was recorded as one of the earliest of record and harvest was much faster than usual. The late freeze in May caught early maturing varieties in the flowering stage and seriously reduced the yields.

The yield of the varieties showed great variation within localities. Yields per harvested acre developed from the survey represent an overall average by districts and for the State. They do not offer a valid comparison of yields by varieties such as is obtained by growing the varieties under similar or control conditions of experimental plots. They do, however, reflect the harvested yields obtained under the varied conditions that were experienced throughout the State.

Of the predominant varieties, Ottawa had the highest yield, followed by Omaha and Warrior. Cheyenne, generally yielding average or better, had the lowest yield. Wichita, with the highest yield in 1962 was near the bottom for the 1963 crop. Pawnee with 22.1 bushels per acre was above the State average but suffered some loss from freeze damage in the central areas.

NEBRASKA--WHEAT YIELDS PER HARVESTED ACRE BY VARIETIES, 1963
BY CROP REPORTING DISTRICTS

Variety	North- West	North- Central	North- East	Central	East	South- West	South- Central	South- East	State
	Bushels Per Harvested Acre								
Pawnee	23.1	18.0	21.0	19.0	25.0	17.3	19.0	22.0	22.1
Cheyenne	13.9	21.0	---	25.0	---	20.3	16.5	---	16.1
Bison	18.5	15.0	17.5	17.0	20.0	21.3	20.0	20.0	20.1
Warrior	22.8	---	---	24.0	---	23.5	24.5	---	23.1
Omaha	---	10.1	19.5	19.8	28.0	---	25.0	27.0	25.8
Nebred	20.0	16.5	19.0	19.5	20.5	19.0	18.0	16.0	19.3
Ottawa	---	---	17.2	23.0	30.0	---	15.0	28.5	29.2
Wichita	14.0	---	---	---	9.6	19.5	18.0	21.3	18.1
Triumph	---	---	---	---	21.5	---	---	22.5	22.0
Other/1	21.5	8.0	---	24.0	20.5	19.0	24.0	23.0	22.3
All	18.5	13.5	19.8	19.4	25.5	20.9	20.3	24.3	21.5

/1 Includes All Other and Unknown Varieties

NEBRASKA--TEST WEIGHTS BY VARIETIES 1963 WHEAT CROP
BY CROP REPORTING DISTRICTS

Variety	North- West	North- Central	North- East	Central	East	South- West	South- Central	South- East	State
	Pounds Per Bushel								
Pawnee	60.5	57.3	59.8	59.7	59.6	59.9	59.5	59.3	59.5
Cheyenne	58.4	59.0	59.0	60.2	58.2	60.1	59.1	62.0	59.1
Bison	60.1	55.3	59.0	59.4	59.6	60.7	60.0	59.3	60.1
Warrior	60.0	56.5	---	60.1	50.0	60.5	60.0	---	60.1
Omaha	---	57.1	59.9	60.0	60.1	59.5	60.2	59.9	60.0
Nebred	59.5	58.6	58.0	59.5	59.5	60.5	59.3	58.4	59.7
Ottawa	---	---	59.3	61.6	60.4	61.0	60.5	60.0	60.2
Wichita	60.7	---	---	---	59.3	61.2	59.3	60.4	60.5
Triumph	---	---	62.0	---	59.7	59.1	61.0	59.6	59.6
Other/1	59.5	57.0	62.0	59.0	59.4	60.4	59.8	59.4	59.6
All	59.5	57.1	59.7	59.7	59.9	60.5	59.8	59.6	59.8

/1 Includes All Other and Unknown Varieties

WHEAT QUALITY OF THE 1963 CROP HIGHER THAN IN 1962

Comparable statistics on the quality of the Nebraska wheat crop is limited to two years of data. Test weight, protein and sedimentation tests on the 1963 crop was on a much higher level than the tests made on the 1962 crop.

The average test weight of 59.8 pounds for the 1963 crop was close to the standard weight of 60 pounds per bushel and was almost 4 pounds above the light weight of 55.9 pounds shown for the previous year's crop. Test weight showed slight variations over the State. By varieties, Cheyenne had the lowest weight, but this variety is produced in an area that had a rather serious drought condition during the filling period. Wichita, with 60.5 pounds had the highest weight of the varieties. Pawnee, with a weight of 59.5 pounds, was reduced slightly by frost damage and in some areas kernel development was forced by dry, warm weather.

Protein content, as reported by wheat growers at 12.3 percent, is up from the 11.1 percent reported for the 1962 crop. All varieties had a higher protein content than in the previous year with Triumph showing 13.2 percent for the highest and Warrior with 12.0 for the lowest. Tests made by the ASC Service show a higher protein content than that reported on the grower's survey, but this can be attributed to the better quality grain that was placed under loan.

Sedimentation value of 49 was on a much higher level than the 37 reported a year earlier. The sedimentation value was higher for all varieties and followed to a certain extent the protein content of the grain. Wichita, with 42, had the lowest sedimentation value, while Bison with 53 was the highest.

Comparable data for Colorado and Kansas have been included in this report to furnish State comparisons for wheat produced in the Central Plains. In Kansas the protein content and sedimentation value for the 1963 crop ranked above that for the 1962 production. In Colorado the sedimentation value of 47.5 was slightly more than 4 points higher than the value for a year earlier. Protein content was also on a higher level than in the previous year.

NEBRASKA: WHEAT QUALITY 1962 AND 1963 CROPS

Variety	Reported Test Weight		Reported Protein Content		Sedimentation Value	
	per bu. 2/		2/		3/	
	1962	1963	1962	1963	1962	1963
	Pounds		Percent			
Pawnee	56.8	59.5	10.6	12.7	30	45
Cheyenne	54.9	59.1	10.5	12.4	32	47
Bison	55.8	60.1	11.8	12.6	47	53
Warrior	56.1	60.1	10.9	12.0	34	44
Omaha	1/	60.0	1/	12.7	1/	52
Nebred	53.3	59.7	11.1	12.2	32	51
Ottawa	1/	60.2	1/	12.8	1/	48
Wichita	59.2	60.5	11.9	12.4	38	42
Triumph	1/	59.5	1/	13.2	1/	46
Other	1/	59.6	1/	12.4	1/	49
All	55.9	59.8	11.1	12.3	37	49

1/ Not available.

2/ As reported by wheat growers on annual survey.

3/ As determined by samples of farm stored wheat in 1962 and samples of farm and commercial stored in 1963, tested by the Agricultural Stabilization and Conservation Service. Sedimentation classified by varieties where identified. Minor mixed or unknown varieties included in State total.

WHEAT QUALITY 1/

State	Test Weight		Protein Content		Sedimentation Value	
	per bu.		2/		3/	
	1962	1963	1962	1963	1962	1963
	Pounds		Percent			
Colorado	61.1	60.4	12.2	12.9	43.3	47.5
Kansas	61.1	61.9	11.7	12.1	49.0	50.0

1/ Colorado data obtained from samples of wheat collected at county elevators.

Kansas data were obtained from carlot shipments to terminal markets.

NEBRASKA--SEDIMENTATION TESTS BY VARIETIES 1963 WHEAT CROP
BY CROP REPORTING DISTRICTS

Variety	:North- : West	: North : Central	: North- : East	: East : Central	: South- : West	: South : Central	: South- : East	: State	
	SEDIMENTATION VALUE								
Pawnee	--	44	53	49	46	44	44	42	45
Cheyenne	51	--	--	54	--	41	47	--	47
Bison	45	61	--	54	58	50	56	51	53
Warrior	48	49	--	46	48	38	47	--	44
Omaha	--	55	53	55	53	--	55	48	52
Nebred	56	59	58	51	52	40	50	42	51
Ottawa	--	--	54	58	49	--	57	47	48
Wichita	33	--	--	--	42	41	47	39	42
Triumph	--	--	--	--	47	47	--	43	46
Other /1	50	48	52	50	49	43	51	49	49
All	52	53	53	52	49	44	52	46	49

/1 Includes All Other and Unknown Varieties

SEDIMENTATION VALUE

The sedimentation test is designed to indicate the quantity and quality of wheat protein for bread-baking purposes. Sedimentation values are related to loaf volume and thus to baking strength. The test is based on two known facts: (1) that gluten protein absorbs water and swells when treated with lactic acid under certain conditions, and (2) that the amount of water absorbed, and consequently, the extent of the swelling depends upon the "quality" of the gluten. Wheat with sedimentation values of 60 and over usually contains a high protein content and has superior baking quality and strength. Values of 40 to 59 usually indicate good protein content and good quality gluten, whereas values of 39 or below indicate low protein quality or quantity.

Sedimentation value was used as a basis for determining loan value premiums to farmers in connection with the government's wheat price support program for the first time in 1962. Premiums and discounts on both protein and sedimentation were applied to the 1963 wheat crop. The change made joint use of sedimentation and protein tests in computing premiums and discounts. The combination of the two tests more nearly reflects the wheat's commercial bread baking quality. Sedimentation discounts ranged from one to nine cents per bushel and premiums from one to twelve cents per bushel. Protein was discounted up to four cents and premiums from one to twelve cents per bushel were established.

Gluten protein as reflected in the sedimentation value of wheat is basically determined by (1) variety and (2) the conditions under which the crop is grown. Environmental conditions during the growing period are believed to have a greater influence than variety on sedimentation values of wheat. Cultural practices, soil fertility, heat, drought, disease, the amount and timeliness of moisture, and other factors can affect protein quantity or quality and thereby influence the sedimentation value.

In view of this information, it is evident that sedimentation values of a particular wheat variety in relation to others will vary from year to year, from field to field, and from one area of the state to another, depending upon how it responds to the prevailing conditions which modify protein quantity and quality. Differences in relative maturity of the wheat varieties, for example, may determine the effect of an adverse environmental factor on protein quality and thus the sedimentation value.

Growers are cautioned against the use of sedimentation value obtained during any one year as a reliable criteria in the selection of a variety for planting. Higher yield of an adapted variety usually will more than offset any expected premium that might be gained from an unadapted variety. Any of the Nebraska recommended varieties can produce good sedimentation values if growing conditions are such that an adequate amount of protein is produced.

NEBRASKA: PROTEIN CONTENT OF WHEAT,
By Counties, 1963 Crop /1

COUNTY AND DISTRICT	Number of Samples Tested	Average Protein Content	COUNTY AND DISTRICT	Number of Samples Tested	Average Protein Content
Banner.....	23	12.32	Butler.....	618	13.27
Box Butte....	231	12.52	Cass.....	81	12.67
Cheyenne.....	97	12.47	Colfax.....	453	13.34
Dawes.....	62	12.99	Dodge.....	170	12.85
Deuel.....	62	11.67	Douglas.....	---	---
Garden.....	---	---	Hamilton....	223	13.24
Kimball.....	9	14.47	Lancaster....	340	13.00
Morrill.....	75	12.61	Merrick.....	42	13.38
Scotts Bluff.	1	14.84	Nance.....	68	12.43
Sheridan.....	328	12.84	Platte.....	264	13.68
Sioux.....	4	10.50	Polk.....	64	13.30
NORTHWEST....	892	12.62	Sarpy.....	6	11.30
Arthur.....	---	---	Saunders.....	85	12.76
Blaine.....	---	---	Seward.....	412	13.35
Boyd.....	---	---	Washington..	3	13.38
Brown.....	15	13.07	York.....	355	13.07
Cherry.....	5	14.06	EAST.....	3,184	13.22
Garfield.....	---	---	Chase.....	191	13.20
Grant.....	---	---	Dundy.....	66	12.22
Holt.....	6	14.35	Frontier....	164	11.86
Hooker.....	---	---	Hayes.....	103	11.71
Keya Paha....	---	---	Hitchcock...	176	12.38
Logan.....	2	11.70	Keith.....	84	11.20
Loup.....	---	---	Lincoln.....	141	11.50
McPherson...	---	---	Perkins.....	260	12.05
Rock.....	---	---	Red Willow...	180	11.99
Thomas.....	---	---	SOUTHWEST....	1,365	12.09
Wheeler.....	---	---	Adams.....	631	12.72
NORTH.....	28	13.42	Franklin....	129	12.23
Antelope.....	1	13.50	Furnas.....	63	12.42
Boone.....	8	14.11	Gosper.....	128	12.36
Burt.....	12	12.64	Harlan.....	248	12.43
Cedar.....	---	---	Kearney.....	342	12.78
Cuming.....	2	12.05	Phelps.....	84	12.65
Dakota.....	---	---	Webster.....	84	12.34
Dixon.....	---	---	SOUTH.....	1,709	12.59
Knox.....	---	---	Clay.....	226	12.81
Madison.....	3	13.67	Fillmore....	250	12.76
Pierce.....	2	15.28	Gage.....	266	12.74
Stanton.....	6	14.55	Jefferson....	348	12.95
Thurston....	---	---	Johnson.....	37	12.25
Wayne.....	---	---	Nemaha.....	61	12.76
NORTHEAST....	34	13.56	Nuckolls....	246	12.57
Buffalo.....	165	12.95	Otoe.....	48	12.72
Custer.....	89	12.31	Pawnee.....	14	12.37
Dawson.....	77	12.16	Richardson...	6	12.27
Greeley.....	42	13.36	Saline.....	426	12.80
Hall.....	89	12.67	Thayer.....	373	12.26
Howard.....	242	12.51	SOUTHEAST....	2,301	12.68
Sherman.....	48	12.96			
Valley.....	18	13.00			
CENTRAL.....	770	12.65	NEBRASKA.....	10,283	12.75

/1 As determined from wheat tested by the Agricultural Stabilization and Conservation Service.

NEBRASKA: SEDIMENTATION VALUE OF WHEAT,
By Counties, /1

COUNTY AND DISTRICT	Number of Samples Tested		Average Sedimentation Value		COUNTY AND DISTRICT	Number of Samples Tested		Average Sedimentation Value	
	1962	1963	1962	1963		1962	1963	1962	1963
Banner.....	29	23	30	48	Butler.....	37	618	39	48
Box Butte....	151	231	28	53	Cass.....	14	81	26	46
Cheyenne.....	117	97	34	43	Colfax.....	4	453	29	50
Dawes.....	31	62	32	53	Dodge.....	30	170	22	47
Deuel.....	104	62	38	37	Douglas.....	1	---	18	---
Garden.....	56	---	34	---	Hamilton.....	30	223	37	56
Kimball.....	16	9	34	60	Lancaster.....	59	340	31	47
Morrill.....	73	75	30	46	Merrick.....	6	42	47	55
Scotts Bluff..	4	1	26	69	Nance.....	14	68	34	52
Sheridan.....	118	328	33	57	Platte.....	14	264	30	51
Sioux.....	---	4	---	40	Polk.....	26	64	31	44
NORTHWEST....	699	892	32	52	Sarpy.....	---	6	---	37
Arthur.....	---	---	---	---	Saunders.....	20	85	24	48
Blaine.....	---	---	---	---	Seward.....	95	412	33	49
Boyd.....	---	---	---	---	Washington....	1	3	40	46
Brown.....	---	15	---	48	York.....	32	355	36	50
Cherry.....	3	5	26	61	EAST.....	383	3,184	32	49
Garfield.....	---	---	---	---	Chase.....	223	191	44	49
Grant.....	---	---	---	---	Dundy.....	83	66	46	48
Holt.....	2	6	38	64	Frontier.....	77	164	40	42
Hooker.....	---	---	---	---	Hayes.....	197	103	44	42
Keya Paha....	3	---	26	---	Hitchcock.....	223	176	43	48
Logan.....	5	2	50	39	Keith.....	175	84	32	36
Loup.....	---	---	---	---	Lincoln.....	161	141	38	38
McPherson....	---	---	---	---	Perkins.....	370	260	33	41
Rock.....	---	---	---	---	Red Willow....	163	180	37	46
Thomas.....	---	---	---	---	SOUTHWEST....	1,672	1,365	39	44
Wheeler.....	---	---	---	---	Adams.....	38	631	38	54
NORTH.....	13	28	37	53	Franklin.....	27	129	41	50
Antelope.....	---	1	---	62	Furnas.....	107	63	35	51
Boone.....	---	8	---	58	Gosper.....	61	128	43	51
Burt.....	---	12	---	44	Harlan.....	130	248	37	54
Cedar.....	---	---	---	---	Kearney.....	38	342	33	51
Cuming.....	---	2	---	47	Phelps.....	87	84	33	43
Dakota.....	---	---	---	---	Webster.....	32	84	47	46
Dixon.....	---	---	---	---	SOUTH.....	520	1,709	37	52
Knox.....	---	---	---	---	Clay.....	42	226	36	51
Madison.....	1	3	18	56	Fillmore.....	122	250	39	48
Pierce.....	---	2	---	69	Gage.....	134	266	36	45
Stanton.....	---	6	---	60	Jefferson.....	206	348	39	51
Thurston.....	---	---	---	---	Johnson.....	27	37	40	42
Wayne.....	---	---	---	---	Nemaha.....	23	61	47	39
NORTHEAST....	1	34	18	53	Nickolls.....	48	246	46	49
Buffalo.....	6	165	32	52	Otoe.....	23	48	37	39
Custer.....	28	89	28	45	Pawnee.....	17	14	44	41
Dawson.....	19	77	44	50	Richardson,..	10	6	46	40
Greeley.....	---	42	---	56	Saline.....	322	426	37	44
Hall.....	1	89	54	54	Thayer.....	56	373	47	44
Howard.....	4	242	31	54	SOUTHEAST....	1,030	2,301	39	46
Sherman.....	1	48	22	53	NEBRASKA....	4,381	10,283	37	49
Valley.....	4	18	26	53					
CENTRAL.....	63	770	34	52					

As determined from wheat tested by the Agricultural Stabilization and Conservation Service.

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* A C K N O W L E D G M E N T S *
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The State-Federal Division of Agricultural Statistics expresses appreciation to J. C. Swinbank, Extension Agronomist, College of Agriculture, University of Nebraska and W. Duane Foote, Secretary, Nebraska Grain Improvement Association, for their review, advice, and contributions to various phases of the project and to the Nebraska Agricultural Stabilization and Conservation Service, U. S. Department of Agriculture, for making certain data available for study, analysis and publication through the Program Specialist of Price Supports. In addition, the cooperation of several thousand Nebraska Wheat Growers who voluntarily sent in reports on the 1963 wheat crop is gratefully appreciated.