Quality Factors of the 1967 Durum Crop

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The overall quality of the 1967 durum wheat crop is considered to be generally excellent. It is better than the 1966 crop in test weight (hectoliter weight), weight per 1000 kernels, vitreous kernel content, falling number, semolina ash, speck count and macaroni color score. Wheat and semolina protein contents and the other important quality factors are quite similar to the 1966 crop.

Wells continues to be the predominating variety in the state, occupying about 88 per cent of the acreage. Lakota, Stewart - 63 and Leeds make up the remainder of the acreage. It is, however, doubtful if any of the 1967 Leeds which represented about 3 per cent of the acreage will find its way into commercial channels this year, as in all probability it will be retained for extensive planting in 1968.

The latest official USDA estimates place the 1967 North Dakota durum crop at 56.9 million bushels. This compares with the 1966 crop of 55.1 million bushels and the 5 year average of 47.6 million bushels. An average yield of 24.0 bushels per acre is estimated which is somewhat lower than the 26.5 bushels per acre obtained last year. It is expected that about 73 per cent of the crop will grade No. 1 Hard Amber Durum or above, with 87 per cent which represents about 49.5 million bushels grading No. 2 Hard Amber Durum or better.

Samples and Methods

County extension agents collected durum wheat samples and dispatched them for quality evaluation to the Cereal Chemistry and Technology Department at the North Dakota State University. According to a statistical plan devised to reflect the areas of durum production, 429 samples were tested, 50 per cent were taken from farms and 50 per cent from elevator bins. Each of the individual samples was tested for dockage, test weight, moisture, and protein.

According to an approved statistical plan, more than 17 per cent of the samples were taken at random for grading by federally licensed grain inspectors. In addition, measured aliquots of the same samples were taken and composited for each of the durum producing crop reporting districts shown in Fig. 1 to provide material for milling, macaroni processing and other quality tests. An appendix included in this report lists the methods employed for the various quality factors reported. Crop reporting districts 7 and 8 were omitted, as very little durum is grown in these areas.

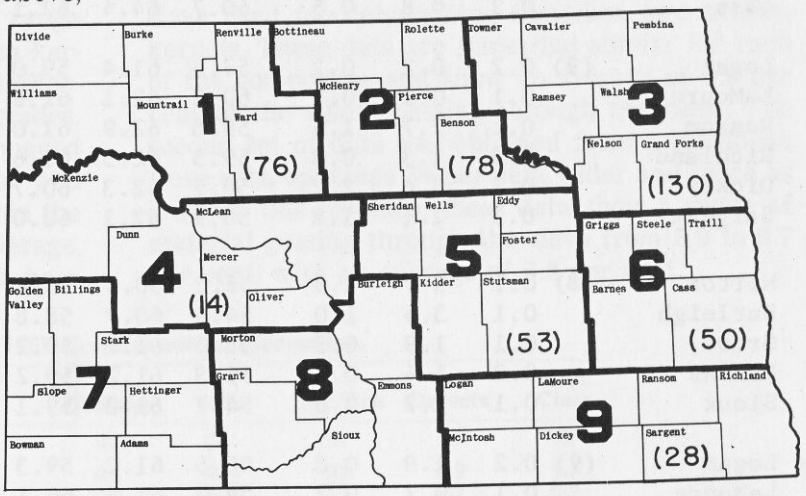

FIG. 1. Map of North Dakota showing the crop reporting districts and number of samples tested from each district.

The number of samples received from each crop reporting district (CRD) is shown in parenthesis in Fig. 1.

Table 1 lists by county the range of values,

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Table 1. Durum Wheat Survey - 1967 Crop: Range of Values by County.

County		Dockage, %[1]/			Test Wt., lbs/bu			Moisture, %			Protein, %		
		Low	High	Average	Low	High	Average	Low	High	Average	Low	High	Average
Divide	(1)	0.3	1.1	0.7	59.7	61.1	60.4	9.4	10.3	9.8	13.5	16.5	15.0
Burke		0.1	0.8	0.4	60.3	63.0	60.9	9.3	10.7	10.3	12.9	14.6	13.6
Renville		0.1	1.0	0.5	58.0	60.9	59.6	10.0	10.9	10.4	12.8	15.3	13.7
Williams		0.1	1.3	0.6	57.7	64.8	60.2	9.4	10.8	10.1	9.2	17.1	14.7
Mountrail		0.1	1.9	0.5	59.2	63.1	60.6	9.3	11.2	10.1	11.0	16.4	14.0
Ward		0.1	1.1	0.4	58.8	60.5	59.6	9.2	10.7	10.1	12.5	16.4	14.4
Bottineau	(2)	0.1	1.2	0.5	60.0	62.7	61.3	9.9	10.8	10.3	12.6	15.5	13.8
Rolette		0.3	1.5	0.6	59.4	63.4	61.5	9.8	11.7	10.8	10.3	15.3	13.0
McHenry		0.1	3.2	0.9	57.9	63.7	60.8	9.9	12.1	10.5	11.0	16.6	13.5
Pierce		0.1	1.6	0.7	57.4	62.0	60.7	9.5	10.9	10.1	11.5	18.1	14.0
Benson		0.1	1.6	0.5	59.2	63.0	61.0	9.6	11.2	10.4	11.5	14.9	13.4
Towner	(3)	0.1	1.8	0.9	60.0	63.4	62.2	10.6	11.8	11.1	10.1	15.4	12.5
Cavalier		0.1	5.9	1.1	59.0	63.5	62.1	10.1	12.2	10.8	10.2	13.2	12.2
Pembina		0.1	0.2	0.2	61.2	63.6	62.8	10.6	11.3	10.9	10.7	14.4	11.8
Ramsey		0.1	3.0	0.5	59.0	62.9	61.3	10.2	11.1	10.7	11.1	15.8	13.2
Walsh		0.1	1.9	0.9	61.0	63.3	62.2	10.5	12.5	11.2	9.7	13.5	12.1
Nelson		0.1	1.0	0.4	59.0	62.7	61.4	9.9	11.1	10.7	10.7	14.3	12.2
Grand Forks		0.3	0.7	0.5	62.1	64.0	62.8	10.3	11.0	10.7	10.7	13.1	12.2
McLean	(4)	0.5	1.4	0.8	56.7	61.7	59.8	9.5	10.7	10.3	11.1	17.2	14.0
Sheridan	(5)	0.2	0.3	0.2	60.2	61.2	60.7	10.6	11.1	10.9	14.1	16.4	14.8
Wells		0.2	0.7	0.4	56.7	62.0	59.5	10.3	11.3	10.9	10.9	17.2	13.9
Eddy		0.3	1.8	1.0	59.0	62.7	60.2	9.9	10.8	10.5	13.2	16.8	14.5
Foster		0.1	0.6	0.3	59.6	62.0	61.2	11.3	12.0	11.6	11.1	13.2	12.6
Stutsman		0.5	2.1	1.1	58.0	63.2	60.6	10.4	11.2	10.8	11.9	15.8	14.0
Griggs	(6)	0.1	0.9	0.4	59.6	62.3	61.1	10.3	11.0	10.7	9.9	15.0	12.5
Steele		0.1	0.3	0.1	62.6	63.4	62.9	10.6	11.0	10.8	9.5	12.0	11.3
Traill		0.1	0.6	0.2	61.8	64.4	63.0	10.3	11.0	10.6	10.4	12.6	11.4
Barnes		0.2	1.9	0.6	59.0	62.8	61.1	10.4	11.3	10.8	9.9	15.7	12.8
Cass		0.2	0.8	0.5	60.7	64.4	62.1	10.6	11.3	11.0	9.9	13.1	11.7
Logan	(9)	0.2	0.2	0.2	57.3	61.4	59.0	10.4	10.9	10.6	11.2	17.7	14.0
LaMoure		0.1	0.1	0.1	60.2	62.1	61.6	10.4	11.5	11.0	13.4	15.1	14.0
Ransom		0.1	2.7	1.4	59.8	62.9	61.0	10.6	10.9	10.8	12.6	14.3	13.2
Richland		0.3	1.3	0.8	59.5	62.5	60.6	10.8	11.7	11.4	10.3	10.4	10.4
Dickey		0.7	3.6	2.2	59.7	62.3	60.7	10.0	11.0	10.6	10.9	14.9	13.4
Sargent		0.3	2.1	1.2	58.9	62.1	60.0	10.6	11.3	10.8	10.7	14.2	12.1
Morton	(8)	0.1	3.7	1.0	56.2	60.4	58.6	9.0	11.7	10.0	12.3	16.9	14.9
Burleigh		0.1	3.6	1.0	54.5	60.7	58.8	8.8	11.5	10.4	12.5	19.7	15.4
Grant		0.1	1.9	0.8	58.0	61.7	59.2	9.3	13.1	10.0	11.3	16.2	14.0
Emmons		0.2	1.4	0.4	51.8	61.2	59.2	8.6	10.3	9.4	11.9	17.2	13.8
Sioux		0.1	1.2	0.6	54.7	61.3	59.1	9.2	10.3	10.0	11.3	15.9	13.5
Logan	(9)	0.2	1.9	0.8	56.5	61.2	59.3	10.4	12.0	11.3	12.5	19.4	14.4
LaMoure		0.1	0.2	0.2	59.3	61.5	60.1	10.2	11.5	11.0	11.1	15.8	13.8
Ransom		0.1	1.3	0.7	59.4	61.4	60.4	10.1	12.1	11.4	12.3	16.4	14.8
Richland		0.1	0.9	0.2	59.8	62.3	61.0	9.8	11.6	10.7	11.2	17.0	13.6
McIntosh		0.3	3.1	1.4	55.6	62.2	59.7	9.6	10.9	10.3	12.6	16.8	14.2
Dickey		0.2	1.1	0.4	59.7	61.8	60.6	10.1	11.0	10.5	12.1	16.2	13.9
Sargent		0.1	4.1	1.2	57.9	61.2	59.6	10.2	12.3	11.0	13.1	17.7	14.7

1/ Merchandised wheat

low, high and average for each of the quality factors examined on the individual samples. A quick reference as to the average test weight (W) and wheat protein content (P) for each county in North Dakota that was sampled is shown in Fig. 2.

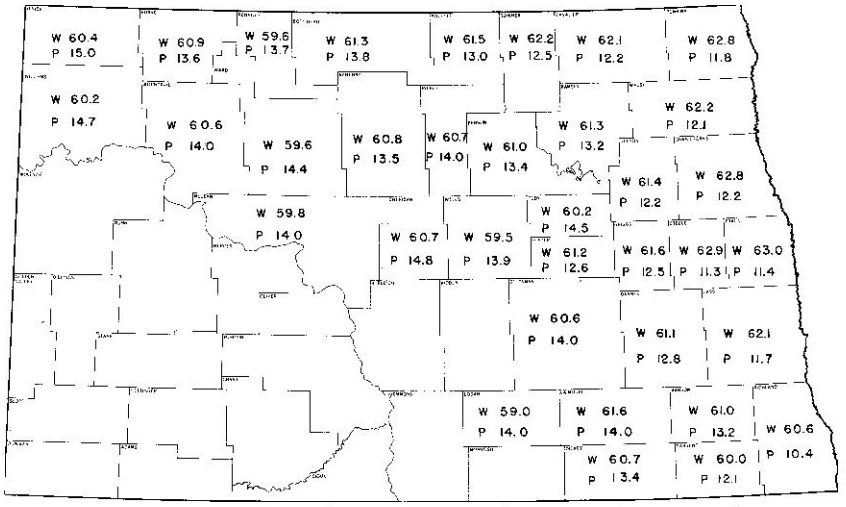

FIG. 2. The average test weight (W) and wheat protein (P) for each county in North Dakota.

QUALITY DATA ON COMPOSITES

Wheat Tests

The analytical tests were performed on the composited samples within four weeks after harvest. Table 2 summarizes the grading data obtained on these composited samples for the seven crop reporting districts. The test weight of this year's crop ranged from 60.5 to 62.4 with an average of 61.3. Damaged kernels were quite low with an average of 0.2 per cent and a range of zero to 0.6 per cent. Foreign material (F.M.) was also very low, showing an average of 0.07 per cent with a range of zero to 0.2 per cent. Shrunken and broken kernels averaged out at 0.7 per cent which is considerably below the allowable limit for the top grades. Total defects, which is the sum of heat damaged kernels, damaged kernels, foreign material and shrunken and broken kernels were well within the limits listed for the higher grades. On the average, contrasting classes were less than 1.0 per cent, however, the composited samples for districts 1 and 9 were degraded 1 numerical grade due to an excess of 0.5 and 0.6 per cent respectively over the permissible limit. The grades ranged from 2 Hard Amber Durum to 1 Heavy Hard Amber Durum and would show a theoretical average grade for the samples of 1 Hard Amber Durum.

Table 3 shows the wheat quality factors determined. The hectoliter weight of this year's crop ranged from 80.4 to 82.9 with an average of 81.4 kilograms per hectoliter. Weight per 1000 kernels ranged from 28.3 to 33.7 with an average of 31.1 grams.

Kernel size was determined by two methods (procedures explained in methods appendix). The first set of data shows results obtained by a U.S. sieve used for determining shrunken and broken kernels. These data are somewhat similar for each of the composites and show an average of 0.4 per cent of the wheat passing through the sieve. The second set of data was obtained from a European sieve with openings 30 per cent wider and twice as long. In this instance, these data show a range of material passing through the sieve from 3.9 to 9.7 per cent, with an average of 6.6 per cent.

Table 2. Durum Wheat Survey - 1967 Crop: Grading Information.

CRD No.	Test Weight	Grade	Damage	F.M.	Shk/Brk	Tot. Defects	Con. Class
	lbs/bu		%	%	%	%	%
1	60.5	2 HAD	0.1	0.0	0.8	0.9	1.5
2	61.1	1 HAD	0.0	0.0	0.7	0.7	0.2
3	62.4	1 HVY HAD	0.3	0.0	0.5	0.8	0.0
4	60.6	1 HAD	0.0	0.0	0.7	0.7	0.0
5	61.3	1 HAD	0.1	0.1	0.7	0.9	0.2
6	62.3	1 HVY HAD	0.2	0.2	0.6	1.0	0.3
9	60.6	2 HAD	0.6	0.2	0.7	1.5	1.6
Ave.	61.3	1 HAD*	0.2	0.07	0.7	0.9	0.5

*Theoretical grade

Kernel distribution, which is another determination for kernel size, was used again in this year's crop report. The determination separates the wheat into three kernel sizes, large, medium and small, according to their cross sectional area. Desirable durum wheat should have a preponderance of uniform sized kernels with a relatively small amount of the small size. The average as shown in Table 3 for the large, medium and small sized kernels is 11, 81, and 8 per cent, respectively.

The vitreous kernel content ranged from 75 per cent in CRD 4 to 93 per cent in CRD 1 with an average of 85 per cent. The average protein content for this year's crop is 13.5 per cent with a high of 14.8 per cent, and a low of 12.7 per cent.

Table 3. Durum Wheat Survey - 1967 Crop: Wheat Data.

CRD No.	Test Weight	Hectoliter Weight	1000 Kernel Weight	Kernel Distribution .064 x 3/8	Kernel Distribution 2-10 x 20	Kernel Distribution Large	Kernel Distribution Medium	Kernel Distribution Small	Vit. Kernels	Protein
	lbs/bu	kg.	g.	%	%	%	%	%	%	%
1	60.5	80.4	28.8	0.7	9.7	5	85	10	93	14.8
2	61.1	81.2	31.5	0.3	6.8	5	89	6	90	14.0
3	62.4	82.9	33.7	0.2	3.9	23	73	4	85	12.7
4	60.6	80.5	28.3	0.5	7.7	6	84	10	75	13.2
5	61.3	81.4	30.8	0.4	7.3	11	80	9	87	13.9
6	62.3	82.8	33.1	0.3	5.0	18	76	6	80	12.7
9	60.6	80.5	31.3	0.3	6.1	11	80	9	83	13.3
Ave.	61.3	81.4	31.1	0.4	6.6	11	81	8	85	13.5

Semolina Tests

Table 4 shows the data for the various quality determinations made on the semolina.

Semolina yield, ash content, protein content, wet gluten and speck count are all at acceptable levels for good quality (experimentally milled) semolina. The falling number and diastatic activity methods, which are determinations for enzyme activity, gave results well within the acceptable range for sound (unsprouted) wheat.

Table 4. Durum Wheat Survey - 1967 Crop: Semolina Data.

CRD No.	Yield	Ash	Protein	Wet Gluten	Diastatic Activity	Specks	Falling No.
	%	%	%	%	mg.		Units
1	54.8	0.59	13.5	43.5	95	10	470
2	55.1	0.61	13.3	40.8	101	10	462
3	55.0	0.61	11.8	35.7	103	13	425
4	56.0	0.62	12.7	42.1	101	20	396
5	55.0	0.61	12.7	43.2	105	13	441
6	54.4	0.62	12.0	39.2	104	20	429
9	53.0	0.62	12.3	40.0	105	13	394
Ave.	54.8	0.61	12.6	40.6	102	14	431

Physical Dough Properties

Table 5 shows the data obtained from the farinograms.

The farinograph absorption ranged from 52.2 to 53.8 with an average of 52.9 per cent. The mixing times are quite similar and about average for good quality durum wheat. The overall farinogram classification is the same for all of the crop reporting districts. Fig. 3 shows an average Farinogram for the 1967 crop.

Table 5. Durum Wheat Survey - 1967 Crop: Physical Dough and Macaroni Data.

CRD No.	Farinogram Absorption	Farinogram Mix Time	Farinogram Classif.	Macaroni Proc. Abs.	Macaroni Color
	%	min.		%	
1	53.4	2.5	3	33.0	10.0
2	53.8	2.5	3	36.0	10.0
3	52.2	2.5	3	36.0	10.0
4	53.2	2.0	3	36.3	10.0
5	53.0	2.5	3	36.0	9.5
6	52.2	2.5	3	36.3	10.0
9	52.6	2.0	3	36.3	9.0
Ave.	52.9	2.4	3	35.7	9.8

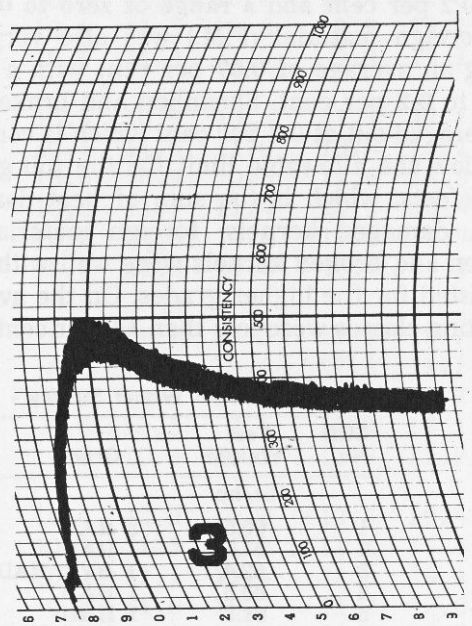

FIG. 3. Farinogram showing average mixing strength of the 1967 crop.

Table 6. Durum Wheat Survey - 1967 Crop: A Comparison of Marketing Quality Factors within Wheat Grades.

Quality Factors	No. 1 Hvy. HAD	No. 1 HAD	No. 2 HAD	No. 1 Hvy. AD	No. 1 Hvy. D	No. 2 D	No. 4 D	No. 2 Mixed
Protein, %								
Low	10.4	11.5	13.0	10.5	9.7	10.7		
High	14.4	16.4	15.0	11.0	10.9	12.6		
Average	12.4	13.6	13.8	10.7	10.3	11.7	10.3	15.4
Moisture, %								
Low	9.8	9.3	9.3	10.8	10.8	10.9		
High	12.0	11.4	11.2	11.0	10.9	11.3		
Average	10.8	10.5	10.4	10.9	10.8	11.1	11.7	9.8
Test weight, lbs/bu.								
Low	62.0	60.0	58.3	62.8	62.2	58.9		
High	64.0	61.9	59.8	64.0	63.3	59.7		
Average	62.6	60.7	59.3	63.1	62.8	59.3	60.2	59.1
Damage, %								
Low	0.0	0.0	0.0	0.0	0.1	0.5		
High	1.2	1.2	1.2	0.6	0.2	0.8		
Average	0.3	0.1	0.4	0.3	0.1	0.7	7.6	0.8
Foreign material, %								
Low	0.1	0.0	0.1	0.1	0.1	0.3		
High	0.5	0.5	0.4	0.2	0.5	0.5		
Average	0.2	0.2	0.2	0.2	0.3	0.4	0.5	0.2
Shrunken & broken, %								
Low	0.3	0.1	0.9	0.5	0.7	1.3		
High	1.4	1.4	2.3	1.0	1.0	1.6		
Average	0.7	0.8	1.3	0.8	0.8	1.5	0.6	0.8
Total defects, %								
Low	0.6	0.3	1.1	1.0	0.9	2.3		
High	2.4	2.3	2.9	1.7	1.7	2.7		
Average	1.2	1.2	1.9	1.3	1.3	2.5	8.7	1.8
Contrasting classes, %								
Low	0.0	0.0	0.1	0.0	0.0	0.2		
High	1.0	1.0	1.2	0.0	0.0	1.0		
Average	0.1	0.3	0.3	0.0	0.0	0.6	0.8	13.5
Total class admixture, %								
Low	0.0	0.0	0.0	0.0	0.0	0.0		
High	0.0	0.0	0.0	0.0	0.0	0.0		
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dockage, %[1]/								
Low	0.1	0.1	0.2	0.1	0.6	0.1		
High	1.6	3.6	5.9	0.8	1.9	0.3		
Average	0.5	0.7	1.5	0.4	1.2	0.2	0.3	0.3
1000 kernel weight, g.								
Low	27.7	27.2	24.3	31.3	33.7	28.7		
High	37.6	38.6	33.8	37.2	33.8	30.2		
Average	33.6	31.3	29.0	35.0	33.7	29.5	33.1	30.1
Kernel size, (.064 x 3/8) %								
Low	0.1	0.0	0.7	0.2	0.6	0.8		
High	1.1	1.4	2.2	0.9	0.6	1.1		
Average	0.4	0.6	0.9	0.7	0.6	1.0	0.3	0.4
Kernel size, (2-10 x 20) %								
Low	1.2	0.3	7.2	2.8	4.1	5.7		
High	7.6	13.1	15.0	5.9	4.1	9.6		
Average	4.7	7.1	10.3	4.5	4.1	7.7	2.7	10.3
Hectoliter weight, Kg.								
Low	82.4	79.7	77.5	83.4	82.6	78.3		
High	85.0	82.2	79.5	85.0	84.1	79.3		
Average	83.2	80.6	78.8	83.8	83.4	78.8	80.0	78.5

[1]/ Merchandised wheat

Macaroni Processing

Data for macaroni processing also is included in Table 5. The processing absorption averaged 35.7 per cent and showed a range of 3.3 per cent. The color of the macaroni is excellent for all the samples from the seven crop reporting districts. All of the products are a deep clear yellow color relatively free from visible specks.

GRADE AND MARKET QUALITY FACTORS

The percentage of the crop falling into the various grades using the official revised grain standards of the United States (May 1964) is depicted in the diagram shown in Fig. 4. The small figures shown on the outside of the circle are an accumulative percentage of the grades. For example, the number 87 on this figure indicates that 87 per cent of the crop in this series graded 2 Hard Amber Durum or better.

Table 6 summarizes the data concerning the relationship between the wheat grades and the various marketing quality factors. The low, high and average results obtained within each grade for 14 marketing quality factors are listed.

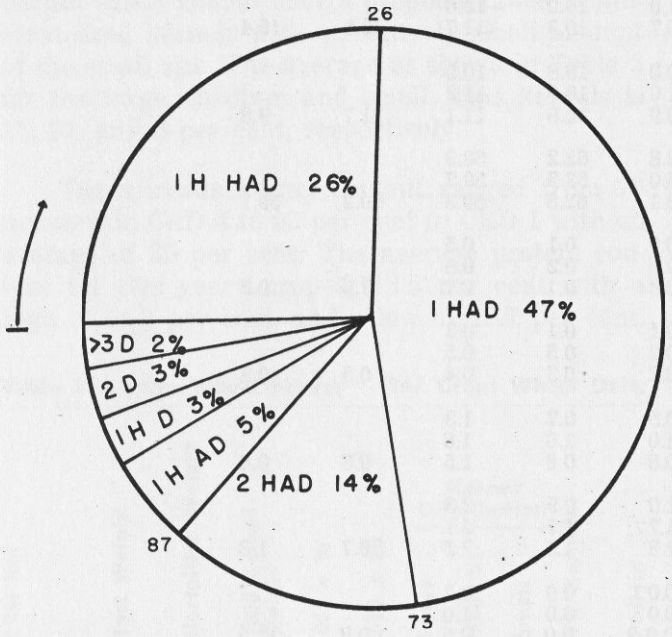

FIG. 4. Diagram showing grade distribution of the 1967 crop.

A comparison of some of the pertinent average quality factors for the 1963, 1964, 1965, 1966 and 1967 North Dakota durum wheat crops are shown in Table 7. Also, the 5 year average is given. Test weight (hectoliter weight), weight per 1000 kernels, percentage of vitreous kernels, falling number value, diastatic activity, semolina ash content, number of specks in the semolina and macaroni color score, all are higher to various degrees over the 1966 crop. All of the other factors listed are satisfactory. In general, the overall quality of the 1967 durum crop is considerably better than that produced in 1966.

When comparing the 1967 crop with the 5 year average, it is apparent that test weight (hectoliter weight), weight per 1000 kernels, vitreous kernel content, semolina ash, semolina specks and macaroni color are all better in this year's crop. The other quality factors are somewhat similar to the 5 year average and are within acceptable limits.

WEATHER AND HARVEST

To acquaint the reader with the seeding, growing and harvesting conditions encountered this past year in North Dakota a brief resumé is presented.

In general, the seeding of the 1967 durum crop was the latest since 1950. Due to a cool, wet spring only 19 per cent of the durum crop was

Table 7. Durum Wheat Survey; Comparison of Average Quality Factors for North Dakota 1963, 1964, 1965, 1966 and 1967 Crops.

(Milling and Analytical Data)

Crop Year	Test Weigh	Hecto-liter Weight	1000 Kernel Weight	Vit. Kernels	Wheat Protein	Falling Number	Sprout Damage	Diastatic Activity
	lbs/bu	kg.	g.	%	%	units	%	
1963	58.3	77.5	26.4	94	13.9	—	0.0	—
1964	59.5	79.1	28.4	88	13.8	—	0.0	160
1965*	58.8	78.1	30.0	71	13.2	280	4.5	277
1966	59.6	79.1	28.2	74	13.6	272	4.0	126
1967	61.3	81.4	31.1	85	13.5	431	0.0	102
5 year average	59.5	79.0	28.8	82	13.6	—	1.7	—

(Semolina, Macaroni and Physical Dough Data)

Crop Year	Semolina Yield	Semolina Protein	Semolina Ash	Semolina Specks	Macaroni Processing Absorption	Macaroni Color	Farinogram Classification
	%	%	%		%		
1963	53.6	13.4	0.70	20	28.6	8.8	3.7
1964	59.8	13.2	0.78	32	28.6	9.1	4.0
1965*	54.0	12.4	0.63	21	33.4	9.5	3.0
1966	56.3	12.5	0.68	16	33.6	9.6	3.7
1967	54.8	12.6	0.61	14	35.7	9.8	3.0
5 year average	55.7	12.8	0.68	21	32.0	9.4	3.5

*Calculated weighted average for the "pre" and "post" rain crops of 1965.

seeded by May 16. This compares with 51 per cent at this date a year ago, and 80 per cent for the average, according to the "North Dakota Weekly Weather and Crop Report." The seeding of durum was considered almost complete by June 6. The growing conditions during June and July were cool and very dry. By about mid-July the durum crop looked very poor in the field and many producers considered the possibility of abandoning most of it. However, when harvesting began, it soon became apparent that the durum crop was of excellent physical quality. In addition, it was relatively free from diseased kernels, quite low in moisture, and a fairly high yield of bushels per acre was being obtained. By September 5, about 91 per cent was in the bin. This compares with 81 per cent for last year on this date, and 77 per cent for the average. By September 12, the combining of durum wheat was considered 99 per cent completed.

Subsequently, the latest official USDA estimates place the 1967 North Dakota crop at 56.9 million bushels which represents about 83 per cent of the entire United States durum crop. This is about 1.8 million bushels higher than last year and 9.3 million bushels over the 5 year average.

Summary

In 1967, North Dakota experienced the worst drought in a decade, but in spite of this, the farmers produced the third largest crop of durum wheat on record. In addition, the crop is relatively free from damaged kernels, low in moisture and is higher than any of the past 5 crops in test weight, vitreous kernel content, weight per 100 kernels and macaroni color. In addition, it possesses a lower wheat and semolina ash than any of the preceeding five durum harvests. It is expected, according to data presented in this report that 87 per cent of the crop should grade No. 2 Hard Amber Durum or better. The merchandised wheat (samples obtained from the elevators) showed an average dockage of 0.6 per cent. Only six samples of the entire series of merchandised wheat showed dockage figures greater than 2.5 per cent. For all samples tested the average moisture and protein contents were 10.6 and 13.2 respectively.

The wheat milled in a normal manner producing an acceptable yield of good colored semolina which was low in ash, with relatively few specks. The semolina - water mixing time was the same as last year. No processing problems were encountered and the resultant macaroni possessed excellent color.

In general, the 1967 crop is considerably better than the 5 year average in almost all of the quality characteristics reported.

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1967 DURUM WHEAT CROP

ABSTRACT

The 1967 durum wheat crop of 56.9 million bushels (1.6 million metric tons) is of excellent quality according to data presented in this report. The wheat is low in moisture, relatively free from damaged kernels and is of good physical appearance. The test weight (hectoliter weight), weight per 1000 kernels, falling number value, diastatic activity, semolina ash and color of the macaroni are all better than for the 1966 crop. All of the other qaulity factors listed are satisfactory.

In general, the overall quality of the 1967 durum crop is considerably better than that produced in 1966. In addition, technical details given in this report also indicate that this crop is better than the average for the past five years.