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Quality Factors of North Dakota Durum Shipments

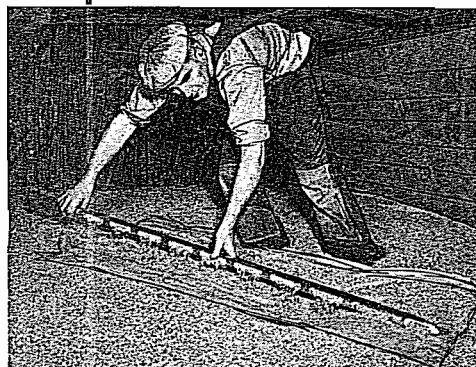
1960

1961

1962

RONALD A. ANDERSON
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FOREWORD

This publication is the fifth in a series of reports and articles made possible through a grant from the North Dakota State Wheat Commission. The grant was made to the Department of Agricultural Economics for a study of the "Factors Affecting the Marketing of North Dakota Wheat."

Previous publications in this series are:

1. Wheat Statistics for North Dakota, Fred R. Taylor, Ronald A. Anderson, Agricultural Economics Report No. 20, August 1961.
2. Protein Content of North Dakota Wheat, Ronald A. Anderson, North Dakota Farm Research, March-April 1962.
3. Market Factors of North Dakota Hard Red Spring Wheat, Ronald A. Anderson, Fred R. Taylor, Agricultural Economics Report No. 21, April 1962.
4. North Dakota Hard Red Spring Wheat Shipments, Ronald A. Anderson, Fred R. Taylor, North Dakota Farm Research, September-October 1962.

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ACKNOWLEDGEMENTS

The authors thank the following individuals and their office personnel for their generous help and cooperation. Without their assistance, the information contained in this publication could not have been obtained.

Mr. Thomas Brown, Grain Inspection Department, Grand Forks, North Dakota

Mr. W. G. Coulter, Tri-State Laboratories, Grand Forks, North Dakota

Mr. Fred Loomis, Loomis Laboratories, Grand Forks, North Dakota

Mr. Rudy Zintel, Great Northern Freight Office, Grand Forks, North Dakota

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QUALITY FACTORS OF NORTH DAKOTA DURUM SHIPMENTS

Ronald A. Anderson and Fred R. Taylor¹

Durum wheat is essentially a North Dakota crop. The state is endowed with the soil and climate necessary for the production of quality durum wheat and during the past ten years, produced nearly 80 per cent of all durum grown in the United States. This was six times as much as Montana, the second-ranked durum state, produced. The 1962 North Dakota durum crop totaled 59,582,000 bushels and was the second largest of record. The 1962 crop was harvested from 1,922,000 acres with an average yield of 31.0 bushels per acre.

Each year, thousands of bushels of North Dakota durum wheat are utilized by durum millers and macaroni manufacturers. This demand is based primarily on a history of supplying durum wheat that meets the high quality standards of the durum industry.

Industry preference for a particular kind of wheat differs because of a number of factors. Grade, largely determined on the basis of test weight, is an important measure to the durum producer and the elevator operator as this factor largely determines price. Protein and moisture content are also important factors, along with foreign material, shrunken and broken kernels, damage and wheat of other classes, to different industry segments. The latter factors are important in that they not only affect the efficiency of the durum milling operation but also, to some extent, affect the quality of the product produced.

Studies have been completed which indicate the desirable quality of durum wheat grown in the state. During the past two harvest seasons, the North Dakota Cooperative Extension Service and Agricultural Experiment Station conducted surveys to determine the market quality patterns for North Dakota durum wheat as delivered by the producer to the first buyer.² The surveys were conducted by the Extension Agricultural Economics Staff and the County Extension Agents in cooperation with the Department of Agricultural Economics and Department of Cereal Technology, under the auspices of the North Dakota Wheat Commission. There have been, however, no studies which have sought to report the various grades of durum being shipped by North Dakota elevators for use in domestic and foreign markets.

In developing consumer acceptance of durum products, all segments of the durum industry have an obligation to maintain high quality standards. The durum producer has the responsibility of growing suitable varieties, maintaining recommended production and harvesting procedures and supplying

¹Assistant in Agricultural Economics and Agricultural Economist, North Dakota Agricultural Experiment Station.

²H. W. Herbison, Fred R. Taylor, and Kenneth A. Gilles, Market Quality Patterns for North Dakota Durum Wheat, GM-61-1 (1961 Crop), GM-62-1 (1962 Crop), North Dakota State Extension Service, North Dakota State University.

the most suitable product possible. The elevator operator, or first buyer, has the responsibility of maintaining or improving the quality of durum delivered from the farm. The importance of the elevator operator's responsibility is magnified in that the commercial rating of durum shipped from his elevator is the indicator of North Dakota durum quality to both the foreign and domestic market.

Market development associations such as the North Dakota State Wheat Commission also have a responsibility to help provide as much information as possible regarding the quality and availability of wheat grown in the state. It is through the efforts and support of the North Dakota Wheat Commission that this study was completed and published. The main objective was to determine the grade distribution of durum shipped, by origin, and to tabulate the various factors accompanying each grade designation. The survey was conducted under a grant from the Commission for an overall study entitled, "Factors Affecting the Marketing of North Dakota Wheat."

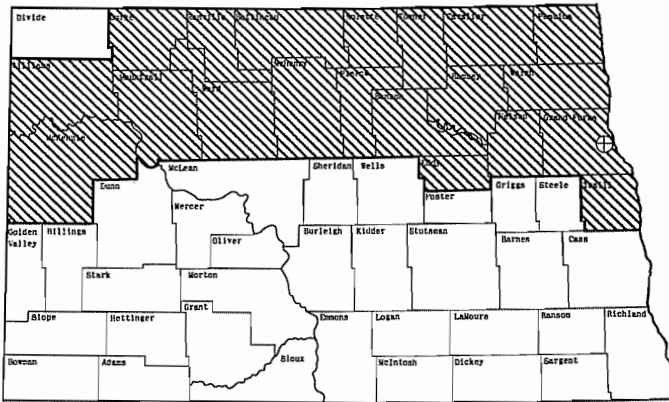
Procedure

The most prominent durum producing region in North Dakota is located in the north central and northeast. Over the past ten years, the top ten durum producing counties were in this area (Figure 1). For this reason, a sample was taken only of durum shipments tested at the Grand Forks inspection point. Location of railroads in northern North Dakota indicate that a large share of the durum moving from this area to the primary markets of Minneapolis and Duluth could be stopped for inspection at Grand Forks. Inspection points are located also at Minot, Jamestown and Fargo. However, the bulk of durum shipments, if held for inspection in North Dakota, are in Grand Forks.

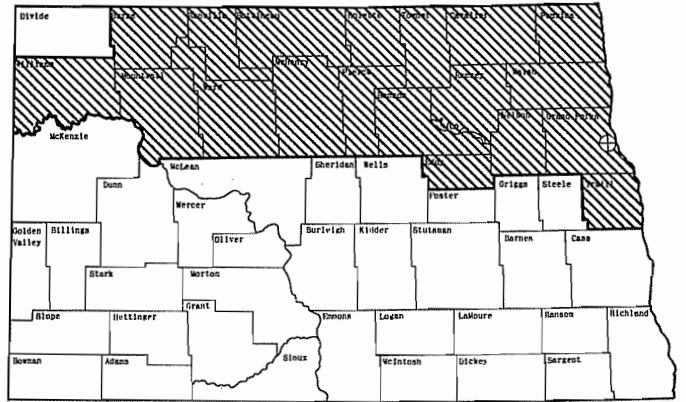
To obtain the needed information, a 10 per cent sample was taken of all carlots of durum wheat tested at the Grand Forks inspection point between August 1 and October 31, 1962. In the opinion of inspection center personnel, approximately one-third of all durum inspected during any one crop year is inspected during this period. Similar samples of durum inspection reports were also taken for the same three month period in 1961 and 1960 to facilitate market factor comparisons over a three year period. The 10 per cent sample of 1962 shipments yielded 269 samples, 217 samples in 1961 and 181 inspection report samples in 1960.

Figure 1 shows the source of carlot shipments, by counties, from samples taken at Grand Forks for the three sample periods. The figure indicates that sample carlots originated in most of the counties in the northern one-third of the state. The bulk of the sample shipments originated in the top six durum producing counties of Cavalier, Towner, Ramsey, Benson, Nelson and Rolette.

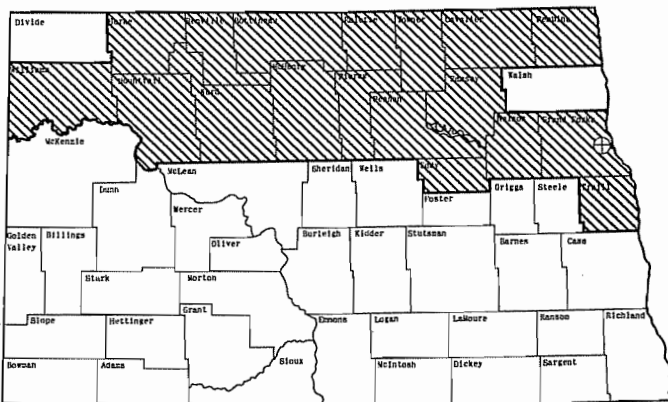
Official information on factors associated with the various grades was obtained from the federally supervised inspection department at Grand Forks. These factors included: test weight, moisture content, foreign material, dockage, shrunken and broken kernels, damaged kernels, other grains



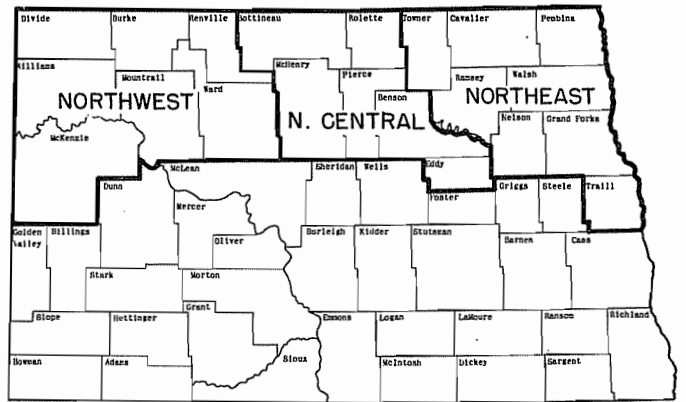
1962 SAMPLE AREA



1961 SAMPLE AREA



1960 SAMPLE AREA



TABULATION AREAS

DURUM PRODUCTION AND COUNTY RANK, 10 YEAR (1951-60) AVERAGE

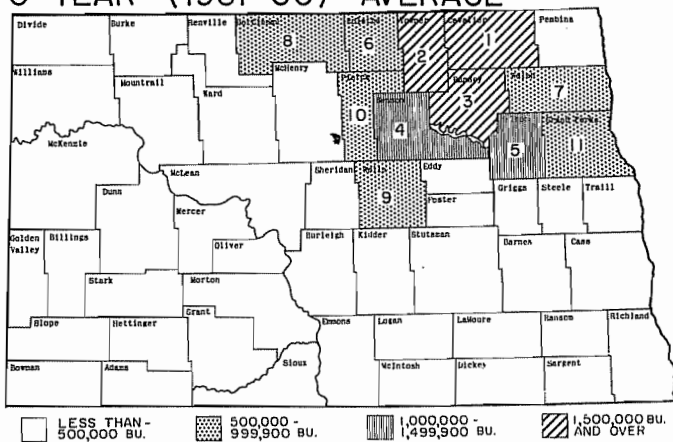


Figure 1. Counties included in 10 per cent samples of carlot inspections at Grand Forks hold point, tabulation areas and North Dakota durum production and county rank.

and wheat of other classes. Data concerning protein content were obtained from the two protein laboratories in Grand Forks and the origin of carlot shipments was secured from inspection center data and rail manifest records.

Findings

Data from the Grand Forks inspection point were tabulated on the basis of grade and county of origin. County information was then combined into the three tabulation areas shown in Figure 1. The three tabulation areas closely follow the counties included in the three northern North Dakota Crop Reporting Districts except for the addition of McKenzie County to the northwest, Eddy County to the north central and Traill County to the northeast tabulation area.

Fifteen separate grades of durum wheat were present in the inspection report samples for the entire three year period (Table 1). Carlots were found in all 18 durum subclass grade classifications except Sample Grade amber durum and No. 4 and No. 5 durum. However, few of the carlots failed to meet the requirements of the top three grades of hard amber durum. In 1962, 87 per cent (234 out of 269) of the total carlots graded No. 1, 2 or 3 hard amber durum. In 1961, 96 per cent (208 out of 217) fell in this category and in 1960, 89 per cent (161 out of 181) graded No. 3 hard amber durum or better. Official grade standards for durum wheat are shown in Appendix A. Maximum limits allowed of the various factors are indicated for each grade designation.

TABLE 1. PERCENTAGE DISTRIBUTION AND NUMBER OF CARLOTS INCLUDED IN 10 PER CENT SAMPLE SURVEY, BY GRADE, AUGUST THROUGH OCTOBER, 1962, 1961 AND 1960

| Grade | 1962 | | 1961 | | 1960 | |
|------------------|---------|----------|---------|----------|---------|----------|
| | Carlots | Per Cent | Carlots | Per Cent | Carlots | Per Cent |
| No. 1 HAD | 100 | 37.2 | 107 | 49.3 | 84 | 46.3 |
| No. 2 HAD | 73 | 27.1 | 45 | 20.7 | 14 | 7.7 |
| No. 3 HAD | 61 | 22.7 | 56 | 25.7 | 63 | 34.8 |
| No. 4 HAD | 7 | 2.6 | 3 | 1.4 | 2 | 1.1 |
| No. 5 HAD | 4 | 1.5 | -- | ---- | -- | ---- |
| Sample Grade HAD | 1 | 0.4 | -- | ---- | 1 | 0.6 |
| No. 1 AD | 5 | 1.8 | -- | ---- | 2 | 1.1 |
| No. 2 AD | 4 | 1.5 | 1 | 0.5 | 4 | 2.2 |
| No. 3 AD | 9 | 3.3 | 2 | 0.9 | 8 | 4.4 |
| No. 4 AD | 1 | 0.4 | -- | ---- | 1 | 0.6 |
| No. 5 AD | -- | ---- | 1 | 0.5 | 1 | 0.6 |
| Sample Grade AD | -- | ---- | -- | ---- | -- | ---- |
| No. 1 Du. | 1 | 0.4 | -- | ---- | -- | ---- |
| No. 2 Du. | 2 | 0.7 | 1 | 0.5 | -- | ---- |
| No. 3 Du. | 1 | 0.4 | 1 | 0.5 | -- | ---- |
| No. 4 Du. | -- | ---- | -- | ---- | -- | ---- |
| No. 5 Du. | -- | ---- | -- | ---- | -- | ---- |
| Sample Grade Du. | -- | ---- | -- | ---- | 1 | 0.6 |
| Total | 269 | 100.0 | 217 | 100.0 | 181 | 100.0 |

Test Weight

Test weight per bushel is a dominant factor in grade determination under the official grain standards of the United States. A lower yield of flour is commonly obtained from wheat of lower test weight. Therefore, the lower the test weight, the lower the grade.

Durum wheat shipped by North Dakota elevators was high in test weight for the three years studied (Table 2). In no single year was the average test weight of all shipments included in the sample below 60.0 pounds per bushel. Durum shipments in 1961 had the highest average test weight of 61.4 pounds per bushel.

TABLE 2. AVERAGE VALUE AND RANGE OF BUSHEL WEIGHTS OF CARLOT SAMPLES OF DURUM WHEAT SHIPMENTS, BY AREA, AUGUST THROUGH OCTOBER, 1962, 1961 AND 1960

| Year and Area | Total Number of Shipments | Bushel Weight, Pounds | |
|---------------|---------------------------|-----------------------|-------------|
| | | Average | Range |
| <u>1962</u> | | | |
| Northwest | 20 | 61.5 | 60.0 - 63.0 |
| North Central | 78 | 60.6 | 57.0 - 63.2 |
| Northeast | <u>171</u> | 59.6 | 49.6 - 62.7 |
| Total | 269 | 60.0 | 49.6 - 63.2 |
| <u>1961</u> | | | |
| Northwest | 10 | 61.1 | 60.0 - 62.3 |
| North Central | 37 | 61.3 | 58.5 - 63.0 |
| Northeast | <u>170</u> | 61.5 | 57.0 - 63.0 |
| Total | 217 | 61.4 | 57.0 - 63.3 |
| <u>1960</u> | | | |
| Northwest | 21 | 60.0 | 58.5 - 62.0 |
| North Central | 52 | 60.9 | 58.0 - 62.5 |
| Northeast | <u>108</u> | 60.8 | 58.5 - 63.3 |
| Total | 181 | 60.6 | 58.0 - 63.3 |

Bushel weights were tabulated also on the basis of the number of carlots falling within 1 pound test weight ranges. Appendix Table B-5 indicates that in 1962, 72.9 per cent of all shipments had a test weight of 60 pounds per bushel or more. In 1961 and 1960, over 90 per cent of the shipments were in this category. Sixty pounds per bushel is the minimum test weight for durum wheat in the No. 1 Grade classification.

Moisture Content

Although not a specific grade factor, moisture content is important. The ease or difficulty with which durum can be stored is directly related to moisture content. It also can affect the level of damaged or broken kernels, which are factors of grade determination.

The average moisture content of all carlots in 1962 was from 1.0 to 1.5 per cent higher than shipments during the previous two years (Table 3). Shipments during the three month period in 1962 had an average moisture content of 12.4 per cent as compared with 11.0 per cent in 1961 and 11.5 per cent in 1960. The lowest moisture content recorded during the three years was 8.6 per cent while the highest was 15.5 per cent moisture.

TABLE 3. AVERAGE VALUE AND RANGE OF MOISTURE CONTENT OF CARLOT SAMPLES OF DURUM WHEAT SHIPMENTS, BY AREA, AUGUST THROUGH OCTOBER, 1962, 1961 AND 1960

| Year and Area | Total Number of Shipments | Moisture Content, Per Cent | |
|---------------|---------------------------|----------------------------|-------------|
| | | Average | Range |
| <u>1962</u> | | | |
| Northwest | 20 | 11.6 | 10.0 - 12.7 |
| North Central | 78 | 11.8 | 10.0 - 14.3 |
| Northeast | <u>171</u> | 12.7 | 10.7 - 15.0 |
| Total | 269 | 12.4 | 10.0 - 15.0 |
| <u>1961</u> | | | |
| Northwest | 10 | 9.8 | 8.9 - 11.4 |
| North Central | 37 | 10.5 | 8.6 - 12.0 |
| Northeast | <u>170</u> | 11.2 | 8.8 - 15.5 |
| Total | 217 | 11.0 | 8.6 - 15.5 |
| <u>1960</u> | | | |
| Northwest | 21 | 10.8 | 9.0 - 12.2 |
| North Central | 52 | 11.2 | 9.4 - 13.0 |
| Northeast | <u>108</u> | 11.8 | 10.6 - 13.7 |
| Total | 181 | 11.5 | 9.0 - 13.7 |

During all three of the sample periods, shipments from the northeast had the highest average moisture content, followed by the north central and northwest. Larger differences were noted between the northeast and north central than between the north central and northeast areas. Appendix Table B-9 indicates a breakdown, by area, of all shipments into 0.5 per cent moisture content ranges.

Protein Content

Although protein content is not as important a factor in durum wheat as it is in hard red spring, it is an important consideration. Protein content that is too high or too low can create abnormal processing difficulties and also helps create a product that is not acceptable to macaroni manufacturers.

The average protein content of all shipments from August through October in 1962 was approximately 2.0 per cent lower than the two previous years (Table 4). In 1960 and 1961, the average protein content was approximately 15.0 per cent as compared with 13.1 per cent in 1962. The highest individual protein content (17.2 per cent) was reported in both 1961 and 1960 while the lowest (10.2 per cent) was reported in 1961.

TABLE 4. AVERAGE VALUES AND RANGES FOR PROTEIN CONTENT OF CARLOT SAMPLES OF DURUM WHEAT SHIPMENTS, BY AREA, AUGUST THROUGH OCTOBER, 1962, 1961 AND 1960

| Year and Area | Total Number of Shipments | Protein Content, Per Cent | |
|---------------|---------------------------|---------------------------|-------------|
| | | Average | Range |
| <u>1962</u> | | | |
| Northwest | 20 | 13.6 | 12.2 - 15.5 |
| North Central | 78 | 13.3 | 11.3 - 16.0 |
| Northeast | <u>170</u> | 12.9 | 11.4 - 15.0 |
| Total | 269 | 13.1 | 11.3 - 16.0 |
| <u>1961</u> | | | |
| Northwest | 10 | 16.2 | 15.2 - 17.2 |
| North Central | 37 | 15.0 | 13.6 - 16.7 |
| Northeast | <u>170</u> | 14.9 | 10.2 - 16.3 |
| Total | 217 | 15.0 | 10.2 - 17.2 |
| <u>1960</u> | | | |
| Northwest | 21 | 15.8 | 13.4 - 17.2 |
| North Central | 52 | 15.0 | 13.0 - 16.9 |
| Northeast | <u>108</u> | 14.3 | 11.5 - 16.6 |
| Total | 181 | 14.7 | 11.5 - 17.2 |

An indirect relationship was noted between moisture and protein content over the three years. The area shipments having the lowest average moisture content had the highest average protein content. In all three years, shipments from the northwest tabulation area had the highest average protein content followed by the north central and northeast shipments (Appendix Table B-13). The difference between eastern and western shipments ranged from 0.7 per cent protein in 1962 to 1.5 per cent protein in 1960. The difference in 1961 was 1.3 per cent.

TABLE 5. PERCENTAGE DISTRIBUTION OF CARLOTS FALLING WITHIN 1 PER CENT RANGES OF DAMAGED KERNELS, DOCKAGE AND SHRUNKEN AND BROKEN KERNELS, AUGUST THROUGH OCTOBER, 1962, 1961 AND 1960

| Range, Per Cent | Grade Factors | | | | | | | | | | | |
|--------------------|-----------------|-------|---------|-------|-------|-------|---------------------|-------|-------|-------|-------|-------|
| | Damaged KERNELS | | DOCKAGE | | | | SHRUNKEN AND BROKEN | | | | | |
| | 1962 | 1961 | 1960 | 1962 | 1961 | 1960 | 1962 | 1961 | 1960 | 1962 | 1961 | 1960 |
| None | 86.7 | 82.9 | 94.4 | 36.0 | 47.0 | 50.8 | 74.7 | 77.4 | 51.9 | | | |
| 0.1-0.9 | ----- | 0.5 | ----- | ----- | ----- | ----- | ----- | 0.9 | ----- | | | |
| 1.0-1.9 | 0.4 | ----- | ----- | 49.9 | 31.4 | 42.5 | ----- | ----- | ----- | | | |
| 2.0-2.9 | 3.7 | 4.2 | 1.6 | 11.9 | 12.4 | 5.5 | ----- | ----- | ----- | | | |
| 3.0-3.9 | 1.8 | 6.9 | 1.1 | 1.8 | 2.3 | 0.6 | ----- | ----- | ----- | | | |
| 4.0-4.9 | 1.8 | 1.8 | 0.6 | 0.4 | 3.2 | 0.6 | ----- | ----- | ----- | | | |
| 5.0-5.9 | 0.4 | 1.8 | 1.1 | ----- | 0.5 | ----- | 0.7 | ----- | ----- | | | |
| 6.0-6.9 | 0.4 | 0.5 | ----- | ----- | 1.8 | ----- | ----- | ----- | 0.6 | | | |
| 7.0-7.9 | 1.5 | 0.9 | ----- | ----- | 0.9 | ----- | 1.1 | 0.5 | 0.6 | | | |
| 8.0-8.9 | 0.7 | ----- | ----- | ----- | ----- | ----- | 8.6 | 6.0 | 7.7 | | | |
| 9.0-9.9 | ----- | ----- | ----- | ----- | ----- | ----- | 5.3 | 8.3 | 12.6 | | | |
| 10.0-10.9 | 0.7 | ----- | ----- | ----- | ----- | ----- | 5.9 | 1.8 | 14.4 | | | |
| 11.0-11.9 | 0.7 | ----- | 0.6 | ----- | ----- | ----- | 0.7 | 2.8 | 5.5 | | | |
| 12.0-12.9 | 0.4 | ----- | ----- | ----- | 0.5 | ----- | 2.3 | 1.8 | 5.0 | | | |
| 13.0-13.9 | 0.4 | 0.5 | ----- | ----- | ----- | ----- | 0.7 | 0.5 | 0.6 | | | |
| 14.0-14.9 | 0.4 | ----- | 0.6 | ----- | ----- | ----- | ----- | ----- | 1.1 | | | |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Wheat of Other Classes: The number of sample carlots containing wheat of other classes was insignificant in 1962 and 1960 (Table 6). In 1962, only 2 of the total 269 carlots contained other wheat, while in 1960, only 5 of 181 carlots contained other wheat. In 1961, varying amounts of other wheat ranging from 3.0 to 10.9 per cent were present in 25 out of the total 217 carlots in the sample. Insufficient numbers of carlots containing wheat of other classes made it impossible to correlate amounts present and area of origin. The wheat of other classes in all carlots containing other wheat was hard red spring.

Other Grains: One carlot containing flax and one carlot containing barley were the only shipments containing other grains during the three sample periods (Table 6). Both shipments containing other grains occurred in 1961.

Appendix Tables B-5 through B-38 indicate the percentage distribution and numbers of carlots falling within specified percentage ranges of moisture, protein and specific grading factors. This information is tabulated on the basis of grade and area of origin for the three sample periods.

APPENDIX A

OFFICIAL GRAIN STANDARDS FOR DURUM WHEAT

Durum Wheat: This class shall include all varieties of white (amber) durum wheat and may not include more than 10.0 per cent of wheat of other classes. This class shall be divided into the following three subclasses:

1. Hard Amber Durum Wheat: This subclass shall be Durum Wheat with 75 per cent or more of hard and vitreous kernels of amber color.
2. Amber Durum Wheat: This subclass shall be Durum Wheat with 60 per cent or more but less than 75 per cent of hard and vitreous kernels of amber color.
3. Durum Wheat: This subclass shall be Durum Wheat with less than 60 per cent of hard and vitreous kernels of amber color.

A-1. MAXIMUM FACTOR ALLOWANCES FOR DURUM WHEAT

| Grade | Mini- mum test weight per bushel <u>Pounds</u> | Maximum Limits of- | | | | | Wheats of other Classes | |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----------------------------------------------|-----------------------------------------------|----------------------------------------|--------------------------|------------------------------------------------------------------------------|--------------------------|
| | | <u>Damaged Kernels</u> | | | Foreign material <u>Per Cent</u> | Total <u>Per Cent</u> | Soft Red Winter, White and/or Red Durum <u>Per Cent</u> | Total <u>Per Cent</u> |
| | | Total <u>Per Cent</u> | Heat damaged kernels <u>Per Cent</u> | Heat damaged kernels <u>Per Cent</u> | | | | |
| 1 ¹ - - - - - | 60 | 2.0 | 0.1 | 0.5 | 5.0 | 1.0 | | |
| 2 ¹ - - - - - | 58 | 4.0 | 0.2 | 1.0 | 5.0 | 2.0 | | |
| 3 ¹ - - - - - | 56 | 7.0 | 0.5 | 2.0 | 10.0 | 5.0 | | |
| 4 - - - - - | 54 | 10.0 | 1.0 | 3.0 | 10.0 | 10.0 | | |
| 5 - - - - - | 51 | 15.0 | 3.0 | 5.0 | 10.0 | 10.0 | | |
| Sample Grade - - | Sample grade shall be wheat which does not meet requirements for any of the grades from No. 1 to No. 5 inclusive; or which contains more than 16.0 per cent of moisture; or which contains stones; or which is musty, or sour, or heating, or which has any commercially objectionable foreign odor except of smut or garlic; or which contains a quantity of smut so great that any one or more of the grade requirements cannot be applied accurately; or which is otherwise of distinctly low quality. | | | | | | | |

¹The wheat in grades No. 1 and No. 2 of each of these classes may contain not more than either (a) 5.0 per cent of shrunken and broken kernels or (b) 8.0 per cent of shrunken and broken kernels together with broken kernels of wheat of any size which remain in the sieved sample; and wheat in grade No. 3 of each of these classes may contain not more than either (a) 8.0 per cent of shrunken and broken kernels or (b) 12.0 per cent of shrunken and broken kernels together with broken kernels of wheat of any size which remain in the sieved sample.

SOURCE: Official Grain Standards of the United States, Revised 1960 Edition, SRA-AMS-177, Grain Division, AMS, USDA.

APPENDIX B

Additional Data on Durum Shipments

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Additional Data on Durum Shipments

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Additional Data on Durum Shipments

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B-1. PERCENTAGE DISTRIBUTION AND NUMBER OF CARLOTS INCLUDED IN 10 PER CENT SAMPLE SURVEY, BY GRADES AND TABULATION AREAS, AUGUST THROUGH OCTOBER, 1962, 1961 AND 1960

| Grade | 1962 | | | | | 1961 | | | | | 1960 | | | | |
|------------|---------------------|----|-------|----------|----------|---------------------|----|-------|----------|----------|---------------------|----|-------|----------|-------|
| | Area | | Total | Per Cent | Per Cent | Area | | Total | Per Cent | Per Cent | Area | | Total | Per Cent | |
| | NW | NE | | | | NW | NE | | | | NW | NE | | | NW |
| | ----- carlots ----- | | | | | ----- carlots ----- | | | | | ----- carlots ----- | | | | |
| 1 HAD | 7 | 31 | 62 | 100 | 37.2 | 7 | 22 | 78 | 107 | 49.3 | 4 | 23 | 57 | 84 | 46.3 |
| 2 HAD | -- | 10 | 63 | 73 | 27.1 | -- | 4 | 41 | 45 | 20.7 | 4 | 3 | 7 | 14 | 7.7 |
| 3 HAD | 9 | 21 | 31 | 61 | 22.7 | 1 | 10 | 45 | 56 | 25.7 | 11 | 16 | 36 | 63 | 34.8 |
| 4 HAD | 1 | -- | 6 | 7 | 2.6 | 2 | 1 | -- | 3 | 1.4 | -- | 1 | 1 | 2 | 1.1 |
| 5 HAD | -- | -- | 4 | 4 | 1.5 | -- | -- | -- | -- | ----- | -- | -- | -- | -- | ----- |
| S.G. HAD | -- | -- | 1 | 1 | 0.4 | -- | -- | -- | -- | ----- | -- | 1 | -- | 1 | 0.6 |
| 1 AD | -- | 3 | 2 | 5 | 1.8 | -- | -- | -- | -- | ----- | -- | -- | 2 | 2 | 1.1 |
| 2 AD | -- | 4 | -- | 4 | 1.5 | -- | -- | 1 | 1 | 0.5 | 1 | 2 | 1 | 4 | 2.2 |
| 3 AD | 1 | 7 | 1 | 9 | 3.3 | -- | -- | 2 | 2 | 0.9 | 1 | 5 | 2 | 8 | 4.4 |
| 4 AD | -- | 1 | -- | 1 | 0.4 | -- | -- | -- | -- | ----- | -- | 1 | -- | 1 | 0.6 |
| 5 AD | -- | -- | -- | -- | ----- | -- | -- | 1 | 1 | 0.5 | -- | -- | 1 | 1 | 0.6 |
| S.G. AD | -- | -- | -- | -- | ----- | -- | -- | -- | -- | ----- | -- | -- | -- | -- | ----- |
| 1 Du. | 1 | -- | -- | 1 | 0.4 | -- | -- | -- | -- | ----- | -- | -- | -- | -- | ----- |
| 2 Du. | -- | 1 | 1 | 2 | 0.7 | -- | -- | 1 | 1 | 0.5 | -- | -- | -- | -- | ----- |
| 3 Du. | 1 | -- | -- | 1 | 0.4 | -- | -- | 1 | 1 | 0.5 | -- | -- | -- | -- | ----- |
| 4 Du. | -- | -- | -- | -- | ----- | -- | -- | -- | -- | ----- | -- | -- | -- | -- | ----- |
| 5 Du. | -- | -- | -- | -- | ----- | -- | -- | -- | -- | ----- | -- | -- | -- | -- | ----- |
| S.G. Du. | -- | -- | -- | -- | ----- | -- | -- | -- | -- | ----- | -- | -- | 1 | 1 | 0.6 |
| AREA TOTAL | 20 | 78 | 171 | 269 | 100.0 | 10 | 37 | 170 | 217 | 100.0 | 21 | 52 | 108 | 181 | 100.0 |

B-2. AVERAGE VALUES AND RANGES FOR PROTEIN CONTENT, BUSHEL WEIGHT AND MOISTURE OF CARLOT SAMPLES OF DURUM WHEAT, BY GRADE AND TABULATION AREA, AUGUST THROUGH OCTOBER, 1962

| Grade | Protein Content, % | | Bushel Weight, lb. | | Moisture Content, % | | No. of Carlots |
|--------------------|--------------------|-----------|--------------------|-----------|---------------------|-----------|----------------|
| | Average | Range | Average | Range | Average | Range | |
| NORTHWEST AREA | | | | | | | |
| No. 1 HAD | 13.3 | 12.2-14.4 | 61.8 | 60.0-63.0 | 11.7 | 10.4-12.7 | 7 |
| No. 3 HAD | 14.0 | 13.1-15.5 | 61.5 | 60.6-62.0 | 11.4 | 10.0-12.4 | 9 |
| No. 4 HAD | 13.5 | ----- | 62.0 | ----- | 10.6 | ----- | 1 |
| No. 3 AD | 13.2 | ----- | 60.2 | ----- | 12.6 | ----- | 1 |
| No. 1 Du. | 12.8 | ----- | 62.0 | ----- | 11.7 | ----- | 1 |
| No. 3 Du. | 13.8 | ----- | 60.3 | ----- | 12.7 | ----- | 1 |
| ALL GRADES | 13.6 | 12.2-15.5 | 61.5 | 60.0-63.0 | 11.6 | 10.0-12.7 | 20 |
| NORTH CENTRAL AREA | | | | | | | |
| No. 1 HAD | 13.4 | 12.2-16.0 | 61.2 | 60.0-63.2 | 11.8 | 10.0-13.9 | 31 |
| No. 2 HAD | 13.2 | 11.7-15.3 | 60.1 | 58.0-62.3 | 12.4 | 11.3-14.3 | 10 |
| No. 3 HAD | 13.4 | 11.3-16.0 | 60.4 | 57.0-62.0 | 11.6 | 10.7-13.4 | 21 |
| No. 1 AD | 13.0 | 12.8-13.5 | 60.5 | 60.0-61.3 | 11.9 | 11.3-12.3 | 3 |
| No. 2 AD | 13.0 | 11.8-13.8 | 59.5 | 59.2-59.7 | 12.1 | 11.0-12.8 | 4 |
| No. 3 AD | 13.1 | 12.0-14.5 | 60.2 | 59.2-62.0 | 11.7 | 10.2-12.9 | 7 |
| No. 4 AD | 13.0 | ----- | 59.5 | ----- | 12.0 | ----- | 1 |
| No. 2 Du. | 13.4 | ----- | 59.2 | ----- | 12.4 | ----- | 1 |
| ALL GRADES | 13.3 | 11.3-16.0 | 60.6 | 57.0-63.2 | 11.8 | 10.0-14.3 | 78 |
| NORTHEAST AREA | | | | | | | |
| No. 1 HAD | 13.1 | 11.4-15.0 | 60.8 | 60.0-62.7 | 12.4 | 10.7-14.0 | 62 |
| No. 2 HAD | 12.8 | 11.5-15.0 | 59.3 | 58.0-62.0 | 13.2 | 10.7-15.0 | 63 |
| No. 3 HAD | 12.8 | 11.7-14.9 | 59.0 | 56.2-62.2 | 12.7 | 10.8-14.5 | 31 |
| No. 4 HAD | 12.4 | 11.7-13.2 | 56.2 | 54.7-58.0 | 13.2 | 12.2-14.2 | 6 |
| No. 5 HAD | 13.8 | 12.7-14.8 | 56.8 | 50.0-60.6 | 13.4 | 12.0-14.2 | 4 |
| S.G. HAD | 12.5 | ----- | 49.6 | ----- | 13.0 | ----- | 1 |
| No. 1 AD | 12.2 | 12.0-12.3 | 60.8 | 60.5-61.0 | 12.0 | 11.3-12.7 | 2 |
| No. 3 AD | 13.7 | ----- | 61.5 | ----- | 11.5 | ----- | 1 |
| No. 2 Du. | 13.1 | ----- | 58.6 | ----- | 12.2 | ----- | 1 |
| ALL GRADES | 12.9 | 11.4-15.0 | 59.6 | 49.6-62.7 | 12.7 | 10.7-15.0 | 171 |

B-3. AVERAGE VALUES AND RANGES FOR PROTEIN CONTENT, BUSHEL WEIGHT AND MOISTURE OF CARLOT SAMPLES OF DURUM WHEAT, BY GRADE AND TABULATION AREA, AUGUST THROUGH OCTOBER, 1961

| Grade | Protein Content, % | | Bushel Weight, lb. | | Moisture Content, % | | No. of Carlots |
|--------------------|--------------------|-----------|--------------------|-----------|---------------------|-----------|----------------|
| | Average | Range | Average | Range | Average | Range | |
| NORTHWEST AREA | | | | | | | |
| No. 1 HAD | 16.2 | 15.2-17.2 | 61.3 | 60.0-62.3 | 9.8 | 8.9-11.4 | 7 |
| No. 3 HAD | 16.4 | ----- | 60.0 | ----- | 9.7 | ----- | 1 |
| No. 4 HAD | 16.3 | 16.2-16.4 | 60.8 | 60.3-61.3 | 9.6 | 9.4- 9.8 | 2 |
| ALL GRADES | 16.2 | 15.2-17.2 | 61.1 | 60.0-62.3 | 10.5 | 8.9-11.4 | 10 |
| NORTH CENTRAL AREA | | | | | | | |
| No. 1 HAD | 14.8 | 14.0-15.5 | 61.7 | 61.0-63.0 | 10.6 | 8.6-12.0 | 22 |
| No. 2 HAD | 15.2 | 14.8-15.9 | 60.9 | 58.5-62.0 | 10.4 | 9.6-11.7 | 4 |
| No. 3 HAD | 15.1 | 13.6-16.7 | 60.7 | 59.0-62.0 | 10.7 | 9.9-11.7 | 10 |
| No. 4 HAD | 16.7 | ----- | 59.5 | ----- | 10.2 | ----- | 1 |
| ALL GRADES | 15.0 | 13.6-16.7 | 61.3 | 58.5-63.0 | 10.5 | 8.6-12.0 | 37 |
| NORTHEAST AREA | | | | | | | |
| No. 1 HAD | 15.0 | 13.0-16.0 | 61.7 | 60.5-63.0 | 11.2 | 9.7-13.0 | 78 |
| No. 2 HAD | 15.0 | 13.4-16.0 | 61.3 | 58.0-62.7 | 11.4 | 9.6-14.0 | 41 |
| No. 3 HAD | 15.0 | 13.6-16.3 | 61.4 | 59.2-62.5 | 11.1 | 9.4-15.5 | 45 |
| No. 2 AD | 16.0 | ----- | 60.2 | ----- | 11.0 | ----- | 1 |
| No. 3 AD | 13.5 | 13.0-14.7 | 60.4 | 59.7-61.0 | 12.0 | 11.7-12.4 | 2 |
| No. 5 AD | 14.0 | ----- | 57.0 | ----- | 13.2 | ----- | 1 |
| No. 2 Du. | 12.0 | ----- | 61.5 | ----- | 12.5 | ----- | 1 |
| No. 3 Du. | 10.2 | ----- | 62.5 | ----- | 12.0 | ----- | 1 |
| ALL GRADES | 14.9 | 10.2-16.3 | 61.5 | 57.0-63.0 | 11.2 | 9.4-15.5 | 170 |

B-4. AVERAGE VALUES AND RANGES FOR PROTEIN CONTENT, BUSHEL WEIGHT AND MOISTURE OF CARLOT SAMPLES OF DURUM WHEAT, BY GRADE AND TABULATION AREA, AUGUST THROUGH OCTOBER, 1960

| Grade | Protein Content, % | | Bushel Weight, lb. | | Moisture Content, % | | No. of Carlots |
|--------------------|--------------------|-----------|--------------------|-----------|---------------------|-----------|----------------|
| | Average | Range | Average | Range | Average | Range | |
| NORTHWEST AREA | | | | | | | |
| No. 1 HAD | 15.4 | 13.4-16.7 | 61.5 | 61.0-62.0 | 11.0 | 10.0-12.2 | 4 |
| No. 2 HAD | 16.2 | 15.1-16.9 | 59.4 | 59.2-59.5 | 11.0 | 10.4-12.0 | 4 |
| No. 3 HAD | 16.1 | 14.6-17.2 | 59.6 | 58.5-61.0 | 10.6 | 9.0-12.0 | 11 |
| No. 2 AD | 14.8 | ----- | 59.6 | ----- | 11.0 | ----- | 1 |
| No. 3 AD | 14.5 | ----- | 60.2 | ----- | 11.2 | ----- | 1 |
| ALL GRADES | 15.8 | 13.4-17.2 | 60.0 | 58.5-62.0 | 10.8 | 9.0-12.2 | 21 |
| NORTH CENTRAL AREA | | | | | | | |
| No. 1 HAD | 15.2 | 13.0-16.9 | 61.2 | 60.0-62.5 | 11.0 | 9.7-12.6 | 23 |
| No. 2 HAD | 15.7 | 15.1-16.7 | 60.5 | 59.5-61.3 | 11.3 | 10.0-12.0 | 3 |
| No. 3 HAD | 14.8 | 13.4-16.5 | 60.2 | 58.0-62.5 | 11.1 | 9.4-13.0 | 16 |
| No. 4 HAD | 15.3 | ----- | 60.0 | ----- | 10.3 | ----- | 1 |
| S.G. HAD | 15.1 | ----- | 58.6 | ----- | 11.4 | ----- | 1 |
| No. 2 AD | 14.2 | 13.4-15.0 | 60.0 | 59.6-60.5 | 12.4 | 12.3-12.4 | 2 |
| No. 3 AD | 14.6 | 13.5-15.5 | 60.0 | 59.5-60.7 | 11.5 | 11.0-12.2 | 5 |
| No. 4 AD | 14.6 | ----- | 60.2 | ----- | 11.2 | ----- | 1 |
| ALL GRADES | 15.0 | 13.0-16.9 | 60.9 | 58.0-62.5 | 11.2 | 9.4-13.0 | 52 |
| NORTHEAST AREA | | | | | | | |
| No. 1 HAD | 14.6 | 12.3-16.6 | 61.0 | 60.0-62.7 | 11.8 | 10.6-13.4 | 57 |
| No. 2 HAD | 13.8 | 12.8-15.0 | 60.4 | 58.7-62.2 | 11.9 | 11.0-12.4 | 7 |
| No. 3 HAD | 14.2 | 13.0-15.7 | 60.5 | 59.2-62.2 | 11.8 | 11.0-13.2 | 36 |
| No. 4 HAD | 15.3 | ----- | 58.5 | ----- | 11.6 | ----- | 1 |
| No. 1 AD | 12.0 | 11.5-12.6 | 62.2 | 61.2-63.3 | 11.2 | 11.0-11.5 | 2 |
| No. 2 AD | 12.0 | ----- | 60.6 | ----- | 11.7 | ----- | 1 |
| No. 3 AD | 12.4 | 11.6-13.2 | 61.1 | 60.2-62.0 | 12.0 | 12.0-12.0 | 2 |
| No. 5 AD | 13.7 | ----- | 60.2 | ----- | 13.2 | ----- | 1 |
| S.G. Du. | 14.2 | ----- | 58.7 | ----- | 13.7 | ----- | 1 |
| ALL GRADES | 14.3 | 11.5-16.6 | 60.8 | 58.5-62.0 | 11.8 | 10.6-13.7 | 108 |

B-5. PERCENTAGE DISTRIBUTION AND NUMBER OF CARLOT SAMPLES OF DURUM WHEAT FALLING WITHIN 1 POUND BUSHEL WEIGHT RANGES, BY TABULATION AREA, AUGUST THROUGH OCTOBER, 1962, 1961 AND 1960

| Tabulation Area | 1962 | | | | | | | | | | TOTAL | | | | |
|-------------------------|------|----|----|----|----|-----|-----|-----|-----|------|-------|------|------|-----|-------|
| | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | | 60 | 61 | 62 | 63 |
| Northwest | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 3 | 4 | 11 | 2 | 20 |
| North Central | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | 8 | 29 | 20 | 18 | 1 | 78 |
| Northeast | 2 | -- | -- | -- | -- | 1 | 6 | 6 | 16 | 32 | 60 | 30 | 17 | 1 | 171 |
| TOTAL | 2 | -- | -- | -- | -- | 1 | 6 | 7 | 17 | 40 | 92 | 54 | 46 | 4 | 269 |
| Percentage Distribution | 0.7 | -- | -- | -- | -- | 0.4 | 2.2 | 2.6 | 6.3 | 14.9 | 34.2 | 20.1 | 17.1 | 1.5 | 100.0 |

| Tabulation Area | 1961 | | | | | | | | | | TOTAL | | | | |
|-------------------------|------|----|----|----|----|----|----|-----|-----|-----|-------|------|------|-----|-------|
| | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | | 60 | 61 | 62 | 63 |
| Northwest | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 3 | 3 | 4 | -- | 10 |
| North Central | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | 5 | 11 | 17 | 2 | 37 |
| Northeast | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | 2 | 12 | 56 | 83 | 15 | 170 |
| TOTAL | -- | -- | -- | -- | -- | -- | -- | 1 | 2 | 3 | 20 | 70 | 104 | 17 | 217 |
| Percentage Distribution | -- | -- | -- | -- | -- | -- | -- | 0.5 | 0.9 | 1.4 | 9.3 | 32.2 | 47.9 | 7.8 | 100.0 |

| Tabulation Area | 1960 | | | | | | | | | | TOTAL | | | | |
|-------------------------|------|----|----|----|----|----|----|----|-----|-----|-------|------|------|-----|-------|
| | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | | 60 | 61 | 62 | 63 |
| Northwest | -- | -- | -- | -- | -- | -- | -- | -- | 2 | 2 | 12 | 3 | 2 | -- | 21 |
| North Central | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 5 | 20 | 15 | 11 | -- | 52 |
| Northeast | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 6 | 30 | 51 | 18 | 2 | 108 |
| TOTAL | -- | -- | -- | -- | -- | -- | -- | -- | 4 | 13 | 62 | 69 | 31 | 2 | 181 |
| Percentage Distribution | -- | -- | -- | -- | -- | -- | -- | -- | 2.2 | 7.2 | 34.3 | 38.1 | 17.1 | 1.1 | 100.0 |

B-6. NUMBER OF CARLOT SAMPLES OF DURUM WHEAT GRADES FALLING WITHIN 1 POUND BUSHEL WEIGHT RANGES, BY TABULATION AREA AND GRADE, AUGUST THROUGH OCTOBER, 1962

| NORTHWEST AREA | | | | | | | | | | | | | | | |
|----------------|--------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|-------|
| Grade | Bushel Weight, Lb. | | | | | | | | | | | | | | |
| | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | TOTAL |
| No. 1 HAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | 3 | 2 | 7 |
| No. 3 HAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 3 | 6 | -- | 9 |
| No. 4 HAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | 1 |
| No. 3 AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | 1 |
| No. 1 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | 1 |
| No. 3 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | 1 |
| TOTAL | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 3 | 4 | 11 | 2 | 20 |

| NORTH CENTRAL AREA | | | | | | | | | | | | | | | |
|--------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| No. 1 HAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 8 | 11 | 11 | 1 | 31 |
| No. 2 HAD | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | 2 | 4 | 1 | 2 | -- | 10 |
| No. 3 HAD | -- | -- | -- | -- | -- | -- | 1 | -- | 2 | 2 | 8 | 6 | 4 | -- | 21 |
| No. 1 AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2 | 1 | -- | -- | 3 |
| No. 2 AD | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | 3 | -- | -- | -- | 4 |
| No. 3 AD | -- | -- | -- | -- | -- | -- | -- | -- | 2 | 2 | 3 | 1 | 1 | -- | 7 |
| No. 4 AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | 1 |
| No. 2 Du. | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | -- | -- | -- | -- | 1 |
| TOTAL | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | 8 | 29 | 20 | 18 | 1 | 78 |

| NORTHEAST AREA | | | | | | | | | | | | | | | |
|----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| No. 1 HAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 30 | 20 | 11 | 1 | 62 |
| No. 2 HAD | -- | -- | -- | -- | -- | -- | -- | -- | 8 | 28 | 22 | 3 | 2 | -- | 63 |
| No. 3 HAD | -- | -- | -- | -- | -- | -- | 3 | 5 | 5 | 3 | 8 | 5 | 2 | -- | 31 |
| No. 4 HAD | -- | -- | -- | -- | -- | 1 | 3 | 1 | 1 | -- | -- | -- | -- | -- | 6 |
| No. 5 HAD | 1 | -- | -- | -- | -- | -- | -- | -- | 2 | -- | 1 | -- | -- | -- | 4 |
| S.G. HAD | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 |
| No. 1 AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | -- | -- | 2 |
| No. 3 AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | 1 |
| No. 2 Du. | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | -- | -- | -- | -- | 1 |
| TOTAL | 2 | -- | -- | -- | -- | 1 | 6 | 6 | 16 | 32 | 62 | 30 | 15 | 1 | 171 |

B-8. NUMBER OF CARLOT SAMPLES OF DURUM WHEAT GRADES FALLING WITHIN 1 POUND BUSHEL WEIGHT RANGES, BY TABULATION AREA AND GRADE, AUGUST THROUGH OCTOBER, 1960

| NORTHWEST AREA | | | | | | | | | | | | | | | |
|--------------------|--------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|-------|
| Grade | Bushel Weight, Lb. | | | | | | | | | | | | | | |
| | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | TOTAL |
| No. 1 HAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2 | 2 | -- | 4 |
| No. 2 HAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 3 | -- | -- | -- | 4 |
| No. 3 HAD | -- | -- | -- | -- | -- | -- | -- | 2 | 1 | 7 | 1 | -- | -- | -- | 11 |
| No. 2 AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | 1 |
| No. 3 AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | 1 |
| TOTAL | -- | -- | -- | -- | -- | -- | -- | 2 | 2 | 12 | 3 | 2 | 2 | -- | 21 |
| NORTH CENTRAL AREA | | | | | | | | | | | | | | | |
| No. 1 HAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 5 | 9 | 9 | -- | 23 |
| No. 2 HAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 2 | 2 | -- | -- | 3 |
| No. 3 HAD | -- | -- | -- | -- | -- | -- | -- | 1 | 4 | 6 | 3 | 2 | 2 | -- | 16 |
| No. 4 HAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | 1 |
| S.G. HAD | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | 1 |
| No. 2 AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2 | -- | -- | -- | -- | 2 |
| No. 3 AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | 4 | 1 | -- | -- | -- | 5 |
| No. 4 AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | 1 |
| TOTAL | -- | -- | -- | -- | -- | -- | -- | 1 | 5 | 20 | 15 | 11 | 11 | -- | 52 |
| NORTHEAST AREA | | | | | | | | | | | | | | | |
| No. 1 HAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 9 | 35 | 12 | 1 | 57 |
| No. 2 HAD | -- | -- | -- | -- | -- | -- | -- | -- | 2 | 1 | 3 | 3 | 1 | -- | 7 |
| No. 3 HAD | -- | -- | -- | -- | -- | -- | -- | -- | 3 | 18 | 11 | 4 | 4 | -- | 36 |
| No. 4 HAD | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | 1 |
| No. 1 AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | 1 | -- | 2 |
| No. 2 AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | -- | -- | -- | 1 |
| No. 3 AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | 1 | 1 | -- | 2 |
| No. 5 AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | 1 |
| S. G. Du. | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | 1 |
| TOTAL | -- | -- | -- | -- | -- | -- | -- | 1 | 6 | 30 | 51 | 18 | 18 | 2 | 108 |

B-10. NUMBER OF CARLOT SAMPLES OF DURUM WHEAT GRADES FALLING WITHIN 0.5 PER CENT MOISTURE CONTENT RANGES, BY TABULATION AREA, AUGUST THROUGH OCTOBER, 1962

| NORTHWEST AREA | | | | | | | | | | | | | | | | |
|--------------------|----------------------------|------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------|
| Grade | Moisture Content, Per Cent | | | | | | | | | | | | | | | |
| | 8.5 to 8.9 | 9.0 to 9.4 | 9.5 to 9.9 | 10.0 to 10.4 | 10.5 to 10.9 | 11.0 to 11.4 | 11.5 to 11.9 | 12.0 to 12.4 | 12.5 to 12.9 | 13.0 to 13.4 | 13.5 to 13.9 | 14.0 to 14.4 | 14.5 to 14.9 | 15.0 to 15.4 | 15.5 to 15.9 | TOTAL |
| No. 1 HAD | --- | --- | --- | 1 | --- | 2 | 1 | 2 | 1 | --- | --- | --- | --- | --- | --- | 7 |
| No. 3 HAD | --- | --- | --- | 1 | --- | 4 | 3 | 1 | --- | --- | --- | --- | --- | --- | --- | 9 |
| No. 4 HAD | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 |
| No. 3 AD | --- | --- | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | 1 |
| No. 1 Du. | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | --- | 1 |
| No. 3 Du. | --- | --- | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | 1 |
| TOTAL | --- | --- | --- | 2 | 1 | 6 | 5 | 3 | 3 | --- | --- | --- | --- | --- | --- | 20 |
| NORTH CENTRAL AREA | | | | | | | | | | | | | | | | |
| No. 1 HAD | --- | --- | --- | 3 | 2 | 10 | 3 | 6 | 2 | 1 | 4 | --- | --- | --- | --- | 31 |
| No. 2 HAD | --- | --- | --- | --- | --- | 2 | 2 | 2 | 1 | 2 | --- | 1 | --- | --- | --- | 10 |
| No. 3 HAD | --- | --- | --- | --- | 2 | 6 | 7 | 3 | 2 | 1 | --- | --- | --- | --- | --- | 21 |
| No. 1 AD | --- | --- | --- | --- | --- | 1 | --- | 2 | --- | --- | --- | --- | --- | --- | --- | 3 |
| No. 2 AD | --- | --- | --- | --- | --- | 1 | 1 | --- | 2 | --- | --- | --- | --- | --- | --- | 4 |
| No. 3 AD | --- | --- | --- | 1 | 1 | --- | 2 | 1 | 2 | --- | --- | --- | --- | --- | --- | 7 |
| No. 4 AD | --- | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | 1 |
| No. 2 Du. | --- | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | 1 |
| TOTAL | --- | --- | --- | 4 | 5 | 20 | 15 | 16 | 9 | 4 | 4 | 1 | --- | --- | --- | 78 |
| NORTHEAST AREA | | | | | | | | | | | | | | | | |
| No. 1 HAD | --- | --- | --- | --- | 1 | 6 | 6 | 20 | 17 | 8 | 3 | 1 | --- | --- | --- | 62 |
| No. 2 HAD | --- | --- | --- | --- | 1 | 1 | 1 | 8 | 11 | 14 | 17 | 9 | --- | 1 | --- | 63 |
| No. 3 HAD | --- | --- | --- | --- | 2 | 2 | --- | 7 | 4 | 9 | 6 | --- | 1 | --- | --- | 31 |
| No. 4 HAD | --- | --- | --- | --- | --- | --- | --- | 2 | 1 | 1 | --- | 2 | --- | --- | --- | 6 |
| No. 5 HAD | --- | --- | --- | --- | --- | --- | --- | 1 | --- | 1 | 1 | 1 | --- | --- | --- | 4 |
| S.G. HAD | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | 1 |
| No. 1 AD | --- | --- | --- | --- | --- | 1 | --- | --- | 1 | --- | --- | --- | --- | --- | --- | 2 |
| No. 3 AD | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | --- | 1 |
| No. 2 Du. | --- | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | 1 |
| TOTAL | --- | --- | --- | --- | 4 | 10 | 8 | 39 | 34 | 34 | 27 | 13 | 1 | --- | --- | 171 |

B-12. NUMBER OF CARLOT SAMPLES OF DURUM WHEAT GRADES FALLING WITHIN 0.5 PER CENT MOISTURE CONTENT RANGES, BY TABULATION AREA, AUGUST THROUGH OCTOBER, 1960

| | | NORTHWEST AREA | | | | | | | | | | | | | | | |
|-----------|-----|----------------------------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-------|
| | | Moisture Content, Per Cent | | | | | | | | | | | | | | | |
| Grade | | 8.5 to | 9.0 to | 9.5 to | 10.0 to | 10.5 to | 11.0 to | 11.5 to | 12.0 to | 12.5 to | 13.0 to | 13.5 to | 14.0 to | 14.5 to | 15.0 to | 15.5 to | TOTAL |
| No. 1 HAD | --- | --- | --- | --- | 2 | --- | --- | 1 | 1 | --- | --- | --- | --- | --- | --- | 4 | |
| No. 2 HAD | --- | --- | --- | 1 | 1 | --- | 1 | --- | --- | --- | --- | --- | --- | --- | --- | 4 | |
| No. 3 HAD | --- | 1 | 1 | 2 | 2 | --- | 2 | --- | --- | --- | --- | --- | --- | --- | --- | 11 | |
| No. 2 AD | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | --- | 1 | |
| No. 3 AD | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | --- | 1 | |
| TOTAL | --- | 1 | 1 | 3 | 6 | 3 | 5 | 1 | 4 | --- | --- | --- | --- | --- | --- | 21 | |
| | | NORTH CENTRAL AREA | | | | | | | | | | | | | | | |
| No. 1 HAD | --- | --- | 3 | 1 | 6 | 6 | 6 | 5 | 1 | 1 | --- | --- | --- | --- | --- | 23 | |
| No. 2 HAD | --- | --- | --- | 1 | --- | --- | --- | 1 | 1 | --- | --- | --- | --- | --- | --- | 3 | |
| No. 3 HAD | --- | 1 | --- | 1 | 4 | 4 | 4 | 5 | --- | 1 | --- | --- | --- | --- | --- | 16 | |
| No. 4 HAD | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 | |
| S.G. HAD | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 | |
| No. 2 AD | --- | --- | --- | --- | --- | --- | --- | --- | 2 | --- | --- | --- | --- | --- | --- | 2 | |
| No. 3 AD | --- | --- | --- | --- | --- | 3 | --- | --- | 2 | --- | --- | --- | --- | --- | --- | 5 | |
| No. 4 AD | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 | |
| TOTAL | --- | 1 | 3 | 4 | 10 | 15 | 15 | 11 | 6 | 1 | 1 | --- | --- | --- | --- | 52 | |
| | | NORTHEAST AREA | | | | | | | | | | | | | | | |
| No. 1 HAD | --- | --- | --- | --- | 2 | 14 | 14 | 14 | 20 | 4 | 3 | --- | --- | --- | --- | 57 | |
| No. 2 HAD | --- | --- | --- | --- | --- | 2 | --- | --- | 5 | --- | --- | --- | --- | --- | --- | 7 | |
| No. 3 HAD | --- | --- | --- | --- | --- | 10 | 9 | 10 | 10 | 6 | 1 | --- | --- | --- | --- | 36 | |
| No. 4 HAD | --- | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | 1 | |
| No. 1 AD | --- | --- | --- | --- | --- | 1 | 1 | 1 | --- | --- | --- | --- | --- | --- | --- | 2 | |
| No. 2 AD | --- | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | 1 | |
| No. 3 AD | --- | --- | --- | --- | --- | --- | --- | --- | 2 | --- | --- | --- | --- | --- | --- | 2 | |
| No. 5 AD | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | 1 | |
| S.G. Du. | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | 1 | |
| TOTAL | --- | --- | --- | --- | 2 | 27 | 26 | 37 | 10 | 5 | 1 | --- | --- | --- | --- | 108 | |

B-13. PERCENTAGE DISTRIBUTION AND NUMBERS OF CARLOT SAMPLES OF DURUM WHEAT FALLING WITHIN 0.5 PER CENT PROTEIN RANGES, BY TABULATION AREA, AUGUST THROUGH OCTOBER, 1962, 1961 AND 1960

| | 1962 | | | | | | | | | | | | TOTAL | | |
|-------------------------|-------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | Protein Range, Per Cent | | | | | | | | | | | | | | |
| Tabulation Area | 10.0 to 10.4 | 10.5 to 10.9 | 11.0 to 11.4 | 11.5 to 11.9 | 12.0 to 12.4 | 12.5 to 12.9 | 13.0 to 13.4 | 13.5 to 13.9 | 14.0 to 14.4 | 14.5 to 14.9 | 15.0 to 15.4 | 15.5 to 15.9 | 16.0 to 16.4 | 16.5 to 16.9 | 17.0 to 17.4 |
| Northwest | --- | --- | --- | --- | 1 | 2 | 6 | 6 | 3 | 1 | 1 | --- | --- | --- | 20 |
| North Central | --- | --- | 1 | 2 | 7 | 14 | 23 | 16 | 7 | 4 | 2 | --- | 2 | --- | 78 |
| Northeast | --- | --- | 1 | 10 | 31 | 42 | 61 | 11 | 8 | 5 | 2 | --- | --- | --- | 171 |
| TOTAL | --- | --- | 2 | 12 | 39 | 58 | 90 | 33 | 18 | 10 | 5 | --- | 2 | --- | 269 |
| Percentage Distribution | --- | --- | 0.7 | 4.5 | 14.5 | 21.6 | 33.5 | 12.3 | 6.7 | 3.7 | 1.8 | --- | 0.7 | --- | 100.0 |

| | 1961 | | | | | | | | | | | | TOTAL | | |
|-------------------------|-------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | Protein Range, Per Cent | | | | | | | | | | | | | | |
| Tabulation Area | 10.0 to 10.4 | 10.5 to 10.9 | 11.0 to 11.4 | 11.5 to 11.9 | 12.0 to 12.4 | 12.5 to 12.9 | 13.0 to 13.4 | 13.5 to 13.9 | 14.0 to 14.4 | 14.5 to 14.9 | 15.0 to 15.4 | 15.5 to 15.9 | 16.0 to 16.4 | 16.5 to 16.9 | 17.0 to 17.4 |
| Northwest | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 | --- | 8 | --- | 1 |
| North Central | --- | --- | --- | --- | --- | 1 | 4 | 11 | 4 | 14 | 14 | 4 | 1 | 2 | --- |
| Northeast | 1 | --- | --- | --- | 1 | --- | 3 | 5 | 21 | 35 | 68 | 29 | 7 | --- | 170 |
| TOTAL | 1 | --- | --- | --- | 1 | --- | 3 | 6 | 25 | 46 | 83 | 33 | 16 | 2 | 1 |
| Percentage Distribution | 0.5 | --- | --- | --- | 0.5 | --- | 1.4 | 2.8 | 11.4 | 21.2 | 38.2 | 15.2 | 7.4 | 0.9 | 0.5 |

| | 1960 | | | | | | | | | | | | TOTAL | | |
|-------------------------|-------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | Protein Range, Per Cent | | | | | | | | | | | | | | |
| Tabulation Area | 10.0 to 10.4 | 10.5 to 10.9 | 11.0 to 11.4 | 11.5 to 11.9 | 12.0 to 12.4 | 12.5 to 12.9 | 13.0 to 13.4 | 13.5 to 13.9 | 14.0 to 14.4 | 14.5 to 14.9 | 15.0 to 15.4 | 15.5 to 15.9 | 16.0 to 16.4 | 16.5 to 16.9 | 17.0 to 17.4 |
| Northwest | --- | --- | --- | --- | --- | --- | 1 | --- | --- | 4 | 3 | 1 | 4 | 5 | 3 |
| North Central | --- | --- | --- | --- | --- | --- | 3 | 3 | 5 | 10 | 16 | 10 | 1 | 4 | --- |
| Northeast | --- | --- | --- | 2 | 2 | 3 | 15 | 14 | 19 | 20 | 25 | 6 | 1 | 1 | 108 |
| TOTAL | --- | --- | --- | 2 | 2 | 3 | 19 | 17 | 24 | 34 | 44 | 17 | 6 | 10 | 3 |
| Percentage Distribution | --- | --- | --- | 1.1 | 1.1 | 1.6 | 10.6 | 9.4 | 13.3 | 18.8 | 24.3 | 9.4 | 3.3 | 5.5 | 1.6 |

B-14. NUMBER OF CARLOT SAMPLES OF DURUM WHEAT GRADES FALLING WITHIN 0.5 PER CENT PROTEIN RANGES, BY TABULATION AREA AND GRADE, AUGUST THROUGH OCTOBER, 1962

| NORTHWEST AREA | | | | | | | | | | | | | | | | |
|-------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------|
| Protein Range, Per Cent | | | | | | | | | | | | | | | | |
| Grade | 10.0 to 10.4 | 10.5 to 10.9 | 11.0 to 11.4 | 11.5 to 11.9 | 12.0 to 12.4 | 12.5 to 12.9 | 13.0 to 13.4 | 13.5 to 13.9 | 14.0 to 14.4 | 14.5 to 14.9 | 15.0 to 15.4 | 15.5 to 15.9 | 16.0 to 16.4 | 16.5 to 16.9 | 17.0 to 17.4 | TOTAL |
| No. 1 HAD | --- | --- | --- | --- | 1 | 1 | 3 | 1 | 1 | --- | --- | --- | --- | --- | --- | 7 |
| No. 3 HAD | --- | --- | --- | --- | --- | --- | 2 | 3 | 2 | 1 | --- | 1 | --- | --- | --- | 9 |
| No. 4 HAD | --- | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | 1 |
| No. 3 AD | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | --- | 1 |
| No. 1 Du. | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 |
| No. 3 Du. | --- | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | 1 |
| TOTAL | --- | --- | --- | --- | 1 | 2 | 6 | 6 | 3 | 1 | --- | 1 | --- | --- | --- | 20 |

| NORTH CENTRAL AREA | | | | | | | | | | | | | | | | |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| No. 1 HAD | --- | --- | --- | --- | 4 | 6 | 9 | 3 | 5 | 2 | 1 | --- | 1 | --- | --- | 31 |
| No. 2 HAD | --- | --- | --- | 1 | 2 | 1 | 3 | 1 | 1 | --- | 1 | --- | --- | --- | --- | 10 |
| No. 3 HAD | --- | --- | 1 | --- | --- | 3 | 5 | 9 | 1 | 1 | --- | --- | 1 | --- | --- | 21 |
| No. 1 AD | --- | --- | --- | --- | --- | 2 | --- | 1 | --- | --- | --- | --- | --- | --- | --- | 3 |
| No. 2 AD | --- | --- | --- | 1 | --- | --- | 2 | 1 | --- | --- | --- | --- | --- | --- | --- | 4 |
| No. 3 AD | --- | --- | --- | --- | 1 | 2 | 2 | 1 | --- | 1 | --- | --- | --- | --- | --- | 7 |
| No. 4 AD | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | --- | 1 |
| No. 2 Du. | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | --- | 1 |
| TOTAL | --- | --- | 1 | 2 | 7 | 14 | 23 | 16 | 7 | 4 | 2 | --- | 2 | --- | --- | 78 |

| NORTHEAST AREA | | | | | | | | | | | | | | | | |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| No. 1 HAD | --- | --- | 1 | --- | 8 | 14 | 27 | 4 | 6 | 1 | 1 | --- | --- | --- | --- | 62 |
| No. 2 HAD | --- | --- | --- | 6 | 12 | 16 | 23 | 4 | 1 | --- | 1 | --- | --- | --- | --- | 63 |
| No. 3 HAD | --- | --- | --- | 3 | 7 | 8 | 9 | 2 | --- | 2 | --- | --- | --- | --- | --- | 31 |
| No. 4 HAD | --- | --- | --- | 1 | 2 | 2 | 1 | --- | --- | --- | --- | --- | --- | --- | --- | 6 |
| No. 5 HAD | --- | --- | --- | --- | --- | 1 | 1 | --- | --- | 2 | --- | --- | --- | --- | --- | 4 |
| S.G. HAD | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 |
| No. 1 AD | --- | --- | --- | --- | 2 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 2 |
| No. 3 AD | --- | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | 1 |
| No. 2 Du. | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | --- | 1 |
| TOTAL | --- | --- | 1 | 10 | 31 | 42 | 62 | 11 | 7 | 5 | 2 | --- | --- | --- | --- | 171 |

B-15. NUMBER OF CARLOT SAMPLES OF DURUM WHEAT GRADES FALLING WITHIN 0.5 PER CENT PROTEIN RANGES, BY TABULATION AREA AND GRADE, AUGUST THROUGH OCTOBER, 1961

| NORTHWEST AREA | | | | | | | | | | | | | | | | |
|-------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----|
| Protein Range, Per Cent | | | | | | | | | | | | | | | | |
| | 10.0 | 10.5 | 11.0 | 11.5 | 12.0 | 12.5 | 13.0 | 13.5 | 14.0 | 14.5 | 15.0 | 15.5 | 16.0 | 16.5 | 17.0 | |
| Grade | to | to | to | to | to | to | to | to | to | to | to | to | to | to | to | |
| | 10.4 | 10.9 | 11.4 | 11.9 | 12.4 | 12.9 | 13.4 | 13.9 | 14.4 | 14.9 | 15.4 | 15.9 | 16.4 | 16.9 | 17.4 | |
| | TOTAL | | | | | | | | | | | | | | | |
| No. 1 HAD | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 | --- | 5 | --- | 1 | 7 |
| No. 3 HAD | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 | --- | --- | 1 |
| No. 4 HAD | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 2 | --- | --- | 2 |
| TOTAL | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 | --- | 8 | --- | 1 | 10 |

| NORTH CENTRAL AREA | | | | | | | | | | | | | | | | |
|--------------------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----|
| | 10.0 | 10.5 | 11.0 | 11.5 | 12.0 | 12.5 | 13.0 | 13.5 | 14.0 | 14.5 | 15.0 | 15.5 | 16.0 | 16.5 | 17.0 | |
| Grade | to | to | to | to | to | to | to | to | to | to | to | to | to | to | to | |
| | 10.4 | 10.9 | 11.4 | 11.9 | 12.4 | 12.9 | 13.4 | 13.9 | 14.4 | 14.9 | 15.4 | 15.9 | 16.4 | 16.9 | 17.4 | |
| | TOTAL | | | | | | | | | | | | | | | |
| No. 1 HAD | --- | --- | --- | --- | --- | --- | --- | --- | 4 | 8 | 8 | 2 | --- | --- | --- | 22 |
| No. 2 HAD | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 | 2 | 1 | --- | --- | --- | 4 |
| No. 3 HAD | --- | --- | --- | --- | --- | --- | 1 | --- | --- | 2 | 4 | 1 | 1 | 1 | --- | 10 |
| No. 4 HAD | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 | --- | 1 |
| TOTAL | --- | --- | --- | --- | --- | --- | --- | 1 | 4 | 11 | 14 | 4 | 1 | 2 | --- | 37 |

| NORTHEAST AREA | | | | | | | | | | | | | | | | |
|----------------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| | 10.0 | 10.5 | 11.0 | 11.5 | 12.0 | 12.5 | 13.0 | 13.5 | 14.0 | 14.5 | 15.0 | 15.5 | 16.0 | 16.5 | 17.0 | |
| Grade | to | to | to | to | to | to | to | to | to | to | to | to | to | to | to | |
| | 10.4 | 10.9 | 11.4 | 11.9 | 12.4 | 12.9 | 13.4 | 13.9 | 14.4 | 14.9 | 15.4 | 15.9 | 16.4 | 16.9 | 17.4 | |
| | TOTAL | | | | | | | | | | | | | | | |
| No. 1 HAD | --- | --- | --- | --- | --- | --- | 1 | 1 | 8 | 17 | 33 | 17 | 1 | --- | --- | 78 |
| No. 2 HAD | --- | --- | --- | --- | --- | --- | 1 | 1 | 3 | 10 | 19 | 6 | 1 | --- | --- | 41 |
| No. 3 HAD | --- | --- | --- | --- | --- | --- | --- | 3 | 9 | 6 | 17 | 6 | 4 | --- | --- | 45 |
| No. 2 AD | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 | --- | --- | 1 |
| No. 3 AD | --- | --- | --- | --- | --- | --- | 1 | --- | --- | 1 | --- | --- | --- | --- | --- | 2 |
| No. 5 AD | --- | --- | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | 1 |
| No. 2 Du. | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 |
| No. 3 Du. | 1 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 |
| TOTAL | 1 | --- | --- | --- | --- | 1 | 3 | 5 | 21 | 34 | 69 | 29 | 7 | --- | --- | 170 |

B-16. NUMBER OF CARLOT SAMPLES OF DURUM WHEAT GRADES FALLING WITHIN 0.5 PER CENT PROTEIN RANGES, BY TABULATION AREA AND GRADE, AUGUST THROUGH OCTOBER, 1960

| | | NORTHWEST AREA | | | | | | | | | | | | | | | | | |
|-----------|--|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|----|--|
| | | Protein Range, Per Cent | | | | | | | | | | | | | | | | | |
| Grade | | 10.0 | 10.5 | 11.0 | 11.5 | 12.0 | 12.5 | 13.0 | 13.5 | 14.0 | 14.5 | 15.0 | 15.5 | 16.0 | 16.5 | 17.0 | | | |
| | | to | to | to | to | to | to | to | to | to | to | to | to | to | to | to | to | to | |
| | | 10.4 | 10.9 | 11.4 | 11.9 | 12.4 | 12.9 | 13.4 | 13.9 | 14.4 | 14.9 | 15.4 | 15.9 | 16.4 | 16.9 | 17.4 | TOTAL | | |
| No. 1 HAD | | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | 1 | --- | --- | 2 | --- | 4 | | |
| No. 2 HAD | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 | --- | 1 | --- | --- | 4 | | |
| No. 3 HAD | | --- | --- | --- | --- | --- | --- | --- | --- | 2 | 1 | 1 | --- | 3 | 1 | 3 | 11 | | |
| No. 2 AD | | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | 1 | | |
| No. 3 AD | | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | 1 | | |
| TOTAL | | --- | --- | --- | --- | --- | --- | 1 | --- | --- | 4 | 3 | 1 | 4 | 5 | 3 | 21 | | |
| | | NORTH CENTRAL AREA | | | | | | | | | | | | | | | | | |
| No. 1 HAD | | --- | --- | --- | --- | --- | --- | 1 | 1 | 1 | 3 | 8 | 6 | 1 | 2 | --- | 23 | | |
| No. 2 HAD | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 2 | --- | --- | 1 | --- | 3 | | |
| No. 3 HAD | | --- | --- | --- | --- | --- | --- | 1 | 1 | 3 | 5 | 2 | 3 | --- | 1 | 16 | | | |
| No. 4 HAD | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | 1 | | | |
| S.G. HAD | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | 1 | | | |
| No. 2 AD | | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | 1 | --- | --- | --- | 2 | | | |
| No. 3 AD | | --- | --- | --- | --- | --- | --- | --- | 1 | 1 | 1 | 1 | --- | --- | --- | 5 | | | |
| No. 4 AD | | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | 1 | | | |
| TOTAL | | --- | --- | --- | --- | --- | --- | 3 | 3 | 5 | 10 | 16 | 10 | 1 | 4 | --- | 52 | | |
| | | NORTHEAST AREA | | | | | | | | | | | | | | | | | |
| No. 1 HAD | | --- | --- | --- | --- | 1 | 1 | 2 | 6 | 13 | 12 | 16 | 4 | 1 | 1 | --- | 57 | | |
| No. 2 HAD | | --- | --- | --- | --- | 1 | 1 | 2 | 1 | 1 | 1 | --- | --- | --- | --- | 7 | | | |
| No. 3 HAD | | --- | --- | --- | --- | --- | 10 | 6 | 6 | 4 | 7 | 7 | 2 | --- | --- | 36 | | | |
| No. 4 HAD | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | 1 | | | |
| No. 1 AD | | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 2 | | | |
| No. 2 AD | | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 | | | |
| No. 3 AD | | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | --- | 2 | | | |
| No. 5 AD | | --- | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | 1 | | | |
| S.G. Du. | | --- | --- | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | 1 | | | |
| TOTAL | | --- | --- | --- | 2 | 2 | 3 | 15 | 14 | 19 | 20 | 25 | 6 | 1 | 1 | --- | 108 | | |

B-17. PERCENTAGE DISTRIBUTION AND NUMBER OF CARLOT SAMPLES OF DURUM WHEAT FALLING WITHIN 1 PER CENT DAMAGE RANGES, BY TABULATION AREA, AUGUST THROUGH OCTOBER, 1962, 1961 AND 1960

| | | 1962 | | | | | | | | | | | | | | | | | |
|----------|------|------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|--------------|--------------|--------------|--------------|--------------|-------|----|-----|
| | | Damage Range, Per Cent | | | | | | | | | | | | | | | | | |
| Area | None | 0.1 to 0.9 | 1.0 to 1.9 | 2.0 to 2.9 | 3.0 to 3.9 | 4.0 to 4.9 | 5.0 to 5.9 | 6.0 to 6.9 | 7.0 to 7.9 | 8.0 to 8.9 | 9.0 to 9.9 | 10.0 to 10.9 | 11.0 to 11.9 | 12.0 to 12.9 | 13.0 to 13.9 | 14.0 to 14.9 | TOTAL | | |
| NW | 20 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | -- | -- |
| NC | 74 | -- | 2 | 1 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 78 | -- | -- |
| NE | 139 | 1 | 8 | 4 | 4 | 1 | 1 | 4 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 171 | 1 | 1 |
| TOTAL | 233 | 1 | 10 | 5 | 5 | 1 | 1 | 4 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 269 | 1 | 1 |
| Per Cent | 86.7 | -- | 0.4 | 3.7 | 1.8 | 1.8 | 0.4 | 0.4 | 1.5 | 0.7 | -- | 0.7 | 0.7 | 0.4 | 0.4 | 0.4 | 100.0 | -- | -- |
| | | 1961 | | | | | | | | | | | | | | | | | |
| NW | 10 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 10 | -- | -- |
| NC | 34 | -- | -- | -- | -- | 3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 37 | -- | -- |
| NE | 136 | 1 | 9 | 15 | 4 | 1 | 1 | 2 | -- | -- | -- | -- | -- | 1 | 1 | -- | 170 | 1 | -- |
| TOTAL | 180 | 1 | 9 | 15 | 4 | 4 | 1 | 2 | 2 | -- | -- | -- | -- | 1 | 1 | -- | 217 | 1 | -- |
| Per Cent | 82.9 | 0.5 | -- | 4.2 | 6.9 | 1.8 | 1.8 | 0.5 | 0.9 | -- | -- | -- | -- | -- | 0.5 | -- | 100.0 | -- | -- |
| | | 1960 | | | | | | | | | | | | | | | | | |
| NW | 21 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21 | -- | -- |
| NC | 47 | -- | 3 | -- | 1 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 52 | -- | -- |
| NE | 103 | -- | -- | 2 | -- | 1 | -- | -- | -- | -- | -- | -- | 1 | -- | -- | 1 | 108 | -- | 1 |
| TOTAL | 171 | -- | 3 | 2 | 1 | 2 | -- | -- | -- | -- | -- | -- | 1 | -- | -- | 1 | 181 | -- | 1 |
| Per Cent | 94.4 | -- | 1.6 | 1.1 | 0.6 | 1.1 | -- | -- | -- | -- | -- | -- | 0.6 | -- | -- | 0.6 | 100.0 | -- | 0.6 |

B-18. NUMBER OF CARLOT SAMPLES OF DURUM WHEAT GRADES FALLING WITHIN 1 PER CENT DAMAGE RANGES FOR ENTIRE SAMPLE AREA, AUGUST THROUGH OCTOBER, 1962

| Grade | None | Damage Range, Per Cent | | | | | | | | | | | | | | | | TOTAL |
|------------|------|------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|--------------|--------------|--------------|--------------|--------------|-----|-------|
| | | 0.1 to 0.9 | 1.0 to 1.9 | 2.0 to 2.9 | 3.0 to 3.9 | 4.0 to 4.9 | 5.0 to 5.9 | 6.0 to 6.9 | 7.0 to 7.9 | 8.0 to 8.9 | 9.0 to 9.9 | 10.0 to 10.9 | 11.0 to 11.9 | 12.0 to 12.9 | 13.0 to 13.9 | 14.0 to 14.9 | | |
| 1 HAD | 96 | -- | -- | 6 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 102 | |
| 2 HAD | 64 | -- | 1 | 3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 73 | |
| 3 HAD | 49 | -- | -- | 1 | 4 | 1 | 3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 59 | |
| 4 HAD | 1 | -- | -- | -- | 1 | -- | 1 | 2 | -- | -- | 2 | -- | -- | -- | -- | -- | 7 | |
| 5 HAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2 | 1 | 1 | -- | -- | 4 | |
| S.G. HAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 1 AD | 5 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 5 | |
| 2 AD | 4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 4 | |
| 3 AD | 9 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 9 | |
| 4 AD | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | |
| 5 AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| S.G. AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 1 Du. | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | |
| 2 Du. | 2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2 | |
| 3 Du. | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | |
| 4 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 5 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| S.G. Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| AREA TOTAL | 233 | -- | 1 | 10 | 5 | 5 | 1 | 1 | 4 | 2 | -- | 2 | 1 | 1 | 1 | 1 | 269 | |

B-23. NUMBER OF CARLOT SAMPLES OF DURUM WHEAT GRADES FALLING WITHIN 1 PER CENT DOCKAGE RANGES, FOR ENTIRE SAMPLE AREA, AUGUST THROUGH OCTOBER, 1961

| Grade | Dockage | | | | | | | | | | | | TOTAL | |
|------------|---------|----|----|----|----|----|----|----|----|----|-----|-----|-------|-----|
| | None | 1% | 2% | 3% | 4% | 5% | 6% | 7% | 8% | 9% | 10% | 11% | | 12% |
| 1 HAD | 51 | 29 | 17 | 4 | 3 | -- | 3 | -- | -- | -- | -- | -- | -- | 107 |
| 2 HAD | 21 | 17 | 4 | 3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 45 |
| 3 HAD | 28 | 16 | 6 | 1 | 1 | 1 | 1 | -- | -- | -- | -- | 1 | -- | 56 |
| 4 HAD | 1 | 2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 3 |
| 5 HAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| S.G. HAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1 AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2 AD | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 |
| 3 AD | 1 | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | 2 |
| 4 AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 5 AD | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 |
| S.G. AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2 Du. | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 |
| 3 Du. | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 |
| 4 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 5 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| S.G. Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| AREA TOTAL | 103 | 67 | 27 | 8 | 4 | 1 | 4 | 2 | -- | -- | -- | -- | 1 | 217 |

B-26. NUMBER OF CARLOT SAMPLES OF DURUM WHEAT GRADES FALLING WITHIN 1 PER CENT SHRUNKEN AND BROKEN RANGES FOR ENTIRE SAMPLE AREA, AUGUST THROUGH OCTOBER, 1962

| Grade | None | Shrunken and Broken Range, Per Cent | | | | | | | | | | | | | | | | TOTAL |
|------------|------|-------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|--------------|--------------|--------------|--------------|--------------|--|-------|
| | | 0.1 to 0.9 | 1.0 to 1.9 | 2.0 to 2.9 | 3.0 to 3.9 | 4.0 to 4.9 | 5.0 to 5.9 | 6.0 to 6.9 | 7.0 to 7.9 | 8.0 to 8.9 | 9.0 to 9.9 | 10.0 to 10.9 | 11.0 to 11.9 | 12.0 to 12.9 | 13.0 to 13.9 | 14.0 to 14.9 | | |
| L HAD | 82 | -- | -- | -- | -- | -- | -- | 2 | 17 | 1 | -- | -- | -- | -- | -- | 102 | | |
| 2 HAD | 68 | -- | -- | -- | -- | -- | 1 | 3 | 3 | -- | 1 | -- | -- | -- | -- | 73 | | |
| 3 HAD | 29 | -- | -- | -- | -- | 2 | -- | -- | -- | 9 | 11 | 2 | 6 | -- | -- | 59 | | |
| 4 HAD | 6 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 7 | | |
| 5 HAD | 4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 4 | | |
| S. G. HAD | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | | |
| 1 AD | 2 | -- | -- | -- | -- | -- | -- | -- | 3 | -- | -- | -- | -- | -- | -- | 5 | | |
| 2 AD | 4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 4 | | |
| 3 AD | 2 | -- | -- | -- | -- | -- | -- | -- | -- | 4 | 3 | -- | -- | -- | -- | 9 | | |
| 4 AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | 1 | | |
| 5 AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| S. G. AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| 1 Du. | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | | |
| 2 Du. | 2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2 | | |
| 3 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | 1 | | |
| 4 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| 5 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| S. G. Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| AREA TOTAL | 201 | -- | -- | -- | -- | 2 | -- | 3 | 23 | 14 | 16 | 2 | 6 | 1 | 1 | 269 | | |

B-27. NUMBER OF CARLOT SAMPLES OF DURUM WHEAT GRADES FALLING WITHIN 1 PER CENT SHRUNKEN AND BROKEN RANGES FOR ENTIRE SAMPLE AREA, AUGUST THROUGH OCTOBER, 1961

| Grade | Shrunken and Broken Range, Per Cent | | | | | | | | | | | | | | | | TOTAL |
|------------|-------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|--------------|--------------|--------------|--------------|--------------|-----|-------|
| | 0.1 to 0.9 | 1.0 to 1.9 | 2.0 to 2.9 | 3.0 to 3.9 | 4.0 to 4.9 | 5.0 to 5.9 | 6.0 to 6.9 | 7.0 to 7.9 | 8.0 to 8.9 | 9.0 to 9.9 | 10.0 to 10.9 | 11.0 to 11.9 | 12.0 to 12.9 | 13.0 to 13.9 | 14.0 to 14.9 | | |
| 1 HAD | 93 | -- | -- | -- | -- | -- | -- | 1 | 12 | -- | -- | -- | -- | -- | -- | 107 | |
| 2 HAD | 44 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 45 | |
| 3 HAD | 27 | -- | -- | -- | -- | -- | 1 | 16 | 6 | 4 | 2 | 2 | -- | -- | -- | 56 | |
| 4 HAD | 2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | 3 | |
| 5 HAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| S.G. HAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 1 AD | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- | |
| 2 AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | |
| 3 AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | 1 | -- | -- | -- | 2 | |
| 4 AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 5 AD | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | |
| S.G. AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 1 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 2 Du. | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | |
| 3 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | -- | -- | -- | 1 | |
| 4 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 5 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| S.G. Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| AREA TOTAL | 168 | 2 | -- | -- | -- | -- | -- | 2 | 13 | 17 | 4 | 6 | 4 | 1 | -- | 217 | |

B-28. NUMBER OF CARLOT SAMPLES OF DURUM WHEAT GRADES FALLING WITHIN 1 PER CENT RANGES OF SHRUNKEN AND BROKEN KERNELS FOR ENTIRE SAMPLE AREA, AUGUST THROUGH OCTOBER, 1960

| Grade | None | Shrunken and Broken Range, Per Cent | | | | | | | | | | | | | | | | TOTAL |
|------------|------|-------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|--------------|--------------|--------------|--------------|--------------|-----|-------|
| | | 0.1 to 0.9 | 1.0 to 1.9 | 2.0 to 2.9 | 3.0 to 3.9 | 4.0 to 4.9 | 5.0 to 5.9 | 6.0 to 6.9 | 7.0 to 7.9 | 8.0 to 8.9 | 9.0 to 9.9 | 10.0 to 10.9 | 11.0 to 11.9 | 12.0 to 12.9 | 13.0 to 13.9 | 14.0 to 14.9 | | |
| 1 HAD | 72 | -- | -- | -- | -- | -- | 2 | 1 | 9 | -- | -- | -- | -- | -- | -- | -- | 84 | |
| 2 HAD | 11 | -- | -- | -- | -- | -- | -- | -- | 3 | -- | -- | -- | -- | -- | -- | -- | 14 | |
| 3 HAD | 2 | -- | -- | -- | -- | 1 | -- | -- | -- | 16 | 21 | 4 | 3 | -- | -- | -- | 63 | |
| 4 HAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2 | 2 | |
| 5 HAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| S.G. HAD | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | |
| 1 AD | 2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2 | |
| 2 AD | 3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | 4 | |
| 3 AD | 1 | -- | -- | -- | -- | -- | -- | -- | -- | 2 | 2 | 1 | 2 | -- | -- | -- | 8 | |
| 4 AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 5 AD | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | |
| S.G. AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 1 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 2 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 3 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 4 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 5 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| S.G. Du. | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | |
| AREA TOTAL | 94 | -- | -- | -- | -- | 3 | 1 | 12 | 18 | 23 | 18 | 6 | 3 | 3 | 3 | 3 | 181 | |

B-29. PERCENTAGE DISTRIBUTION AND NUMBER OF CARLOT SAMPLES OF DURUM WHEAT FALLING WITHIN 0.5 PER CENT FOREIGN MATERIAL RANGES, BY TABULATION AREA, AUGUST THROUGH OCTOBER, 1962, 1961 AND 1960

| Tabulation Area | 1962 | | | | | | | | | | TOTAL |
|-------------------------|----------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | Foreign Material Range, Per Cent | | | | | | | | | | |
| | 0.1 to 0.4 | 0.5 to 0.9 | 1.0 to 1.4 | 1.5 to 1.9 | 2.0 to 2.4 | 2.5 to 2.9 | 3.0 to 3.4 | 3.5 to 3.9 | 4.0 to 4.4 | | |
| Northwest | 12 | --- | 2 | 1 | --- | --- | --- | --- | --- | --- | 20 |
| North Central | 73 | 1 | 2 | 1 | 1 | --- | --- | --- | --- | --- | 78 |
| Northeast | <u>164</u> | <u>2</u> | <u>2</u> | <u>3</u> | <u>---</u> | <u>---</u> | <u>---</u> | <u>---</u> | <u>---</u> | <u>---</u> | <u>171</u> |
| TOTAL | 252 | 3 | 6 | 5 | 1 | --- | --- | --- | --- | --- | 269 |
| Percentage Distribution | 93.8 | 0.7 | 1.1 | 1.8 | 0.4 | --- | --- | --- | --- | --- | 100.0 |

| Tabulation Area | 1961 | | | | | | | | | | TOTAL |
|-------------------------|----------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | Foreign Material Range, Per Cent | | | | | | | | | | |
| | 0.1 to 0.4 | 0.5 to 0.9 | 1.0 to 1.4 | 1.5 to 1.9 | 2.0 to 2.4 | 2.5 to 2.9 | 3.0 to 3.4 | 3.5 to 3.9 | 4.0 to 4.4 | | |
| Northwest | 9 | --- | --- | --- | --- | 1 | --- | --- | --- | --- | 10 |
| North Central | 33 | 3 | 1 | --- | --- | --- | --- | --- | --- | --- | 37 |
| Northeast | <u>129</u> | <u>27</u> | <u>11</u> | <u>1</u> | <u>1</u> | <u>---</u> | <u>---</u> | <u>---</u> | <u>---</u> | <u>---</u> | <u>170</u> |
| TOTAL | 171 | 30 | 12 | 1 | 1 | 1 | --- | --- | --- | --- | 217 |
| Percentage Distribution | 78.8 | 0.5 | 13.8 | 0.5 | 0.5 | 0.5 | --- | --- | --- | --- | 100.0 |

| Tabulation Area | 1960 | | | | | | | | | | TOTAL |
|-------------------------|----------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | Foreign Material Range, Per Cent | | | | | | | | | | |
| | 0.1 to 0.4 | 0.5 to 0.9 | 1.0 to 1.4 | 1.5 to 1.9 | 2.0 to 2.4 | 2.5 to 2.9 | 3.0 to 3.4 | 3.5 to 3.9 | 4.0 to 4.4 | | |
| Northwest | 21 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 21 |
| North Central | 51 | --- | 1 | --- | --- | --- | --- | --- | --- | --- | 52 |
| Northeast | <u>103</u> | <u>2</u> | <u>2</u> | <u>---</u> | <u>1</u> | <u>---</u> | <u>---</u> | <u>---</u> | <u>---</u> | <u>---</u> | <u>108</u> |
| TOTAL | 175 | 2 | 3 | --- | 1 | --- | --- | --- | --- | --- | 181 |
| Percentage Distribution | 96.7 | --- | 1.1 | --- | 0.6 | --- | --- | --- | --- | --- | 100.0 |

B-30. NUMBER OF CARLOT SAMPLES OF DURUM WHEAT GRADES FALLING WITHIN 0.5 PER CENT FOREIGN MATERIAL RANGES FOR ENTIRE SAMPLE AREA, BY GRADE, AUGUST THROUGH OCTOBER, 1962

| Grade | Foreign Material Range, Per Cent | | | | | | | | | | TOTAL |
|------------|----------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------|
| | None | 0.1 to 0.4 | 0.5 to 0.9 | 1.0 to 1.4 | 1.5 to 1.9 | 2.0 to 2.4 | 2.5 to 2.9 | 3.0 to 3.4 | 3.5 to 3.9 | 4.0 to 4.4 | |
| 1 HAD | 100 | -- | 2 | -- | -- | -- | -- | -- | -- | -- | 102 |
| 2 HAD | 69 | -- | 3 | 1 | -- | -- | -- | -- | -- | -- | 73 |
| 3 HAD | 49 | -- | -- | 5 | 4 | 1 | -- | -- | -- | -- | 59 |
| 4 HAD | 7 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 7 |
| 5 HAD | 4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 4 |
| S.G. HAD | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 |
| 1 AD | 5 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 5 |
| 2 AD | 4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 4 |
| 3 AD | 8 | -- | -- | -- | 1 | -- | -- | -- | -- | -- | 9 |
| 4 AD | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 |
| 5 AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| S.G. AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1 Du. | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 |
| 2 Du. | 2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2 |
| 3 Du. | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 |
| 4 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 5 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| S.G. Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| AREA TOTAL | 252 | -- | 5 | 6 | 5 | 1 | -- | -- | -- | -- | 269 |

B-35. NUMBER OF CARLOT SAMPLES OF DURUM WHEAT GRADES FALLING WITHIN 1 PER CENT RANGES OF WHEAT OF OTHER CLASSES FOR ENTIRE SAMPLE AREA, AUGUST THROUGH OCTOBER, 1961

| Grade | One Per Cent Range of Wheat of Other Classes | | | | | | | | | | | TOTAL | |
|------------|----------------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------|--------------|
| | None | 0.1 to 0.9 | 1.0 to 1.9 | 2.0 to 2.9 | 3.0 to 3.9 | 4.0 to 4.9 | 5.0 to 5.9 | 6.0 to 6.9 | 7.0 to 7.9 | 8.0 to 8.9 | 9.0 to 9.9 | | 10.0 to 10.9 |
| 1 HAD | 97 | -- | -- | -- | 4 | 3 | 3 | -- | -- | -- | -- | -- | 107 |
| 2 HAD | 44 | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | 45 |
| 3 HAD | 43 | -- | -- | -- | -- | 1 | 1 | 6 | 1 | 3 | 1 | -- | 56 |
| 4 HAD | 3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 3 |
| 5 HAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| S.G. HAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1 AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2 AD | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 |
| 3 AD | 2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2 |
| 4 AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 5 AD | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 |
| S.G. AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2 Du. | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | 1 |
| 3 Du. | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 |
| 4 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 5 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| S.G. Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| AREA TOTAL | 192 | -- | -- | -- | 4 | 5 | 5 | 6 | 1 | 3 | 1 | -- | 217 |

B-36. NUMBER OF CARLOT SAMPLES OF DURUM WHEAT GRADES FALLING WITHIN 1 PER CENT RANGES OF WHEAT OF OTHER CLASSES FOR ENTIRE SAMPLE AREA, AUGUST THROUGH OCTOBER, 1960

| Grade | None | One Per Cent Range of Wheat of Other Classes | | | | | | | | | | TOTAL | | |
|----------|------|----------------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|-------|----|-----|
| | | 0.1 to 0.9 | 1.0 to 1.9 | 2.0 to 2.9 | 3.0 to 3.9 | 4.0 to 4.9 | 5.0 to 5.9 | 6.0 to 6.9 | 7.0 to 7.9 | 8.0 to 8.9 | 9.0 to 10.0 | | | |
| 1 HAD | 81 | -- | -- | -- | 2 | 1 | -- | -- | -- | -- | -- | -- | -- | 84 |
| 2 HAD | 14 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 14 |
| 3 HAD | 61 | -- | 1 | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | 63 |
| 4 HAD | 2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2 |
| 5 HAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| S.G. HAD | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 |
| 1 AD | 2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2 |
| 2 AD | 3 | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 4 |
| 3 AD | 8 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 8 |
| 4 AD | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 |
| 5 AD | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 |
| S.G. AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 5 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| S.G. Du. | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 |
| AREA | 175 | -- | 1 | 3 | 1 | 1 | -- | 1 | -- | -- | -- | -- | -- | 181 |
| TOTAL | | -- | 1 | 3 | 1 | 1 | -- | 1 | -- | -- | -- | -- | -- | |

B-38. NUMBER OF CARLOT SAMPLES OF DURUM WHEAT GRADES FALLING WITHIN 1 PER CENT RANGES OF OTHER GRAINS FOR ENTIRE SAMPLE AREA, AUGUST THROUGH OCTOBER, 1961

| Grade | None | Other Grain Content Range, Per Cent | | | | | | | | | | TOTAL | |
|----------|------|-------------------------------------|----------------|----------------|------------|------------|------------|------------|------------|------------|-------------|-------|-----|
| | | 0.1 to 0.9 | 1.0 to 1.9 | 2.0 to 2.9 | 3.0 to 3.9 | 4.0 to 4.9 | 5.0 to 5.9 | 6.0 to 6.9 | 7.0 to 7.9 | 8.0 to 8.9 | 9.0 to 10.0 | | |
| 1 HAD | 107 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 107 |
| 2 HAD | 44 | -- | 1 ^a | -- | -- | -- | -- | -- | -- | -- | -- | -- | 45 |
| 3 HAD | 56 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 56 |
| 4 HAD | 2 | -- | -- | 1 ^b | -- | -- | -- | -- | -- | -- | -- | -- | 3 |
| 5 HAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| S.G. HAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1 AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2 AD | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 |
| 3 AD | 2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2 |
| 4 AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 5 AD | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 |
| S.G. AD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2 Du. | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 |
| 3 Du. | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 |
| 4 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 5 Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| S.G. Du. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| AREA | | | | | | | | | | | | | |
| TOTAL | 215 | 1 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 217 |

^aFlax.

^bBarley.