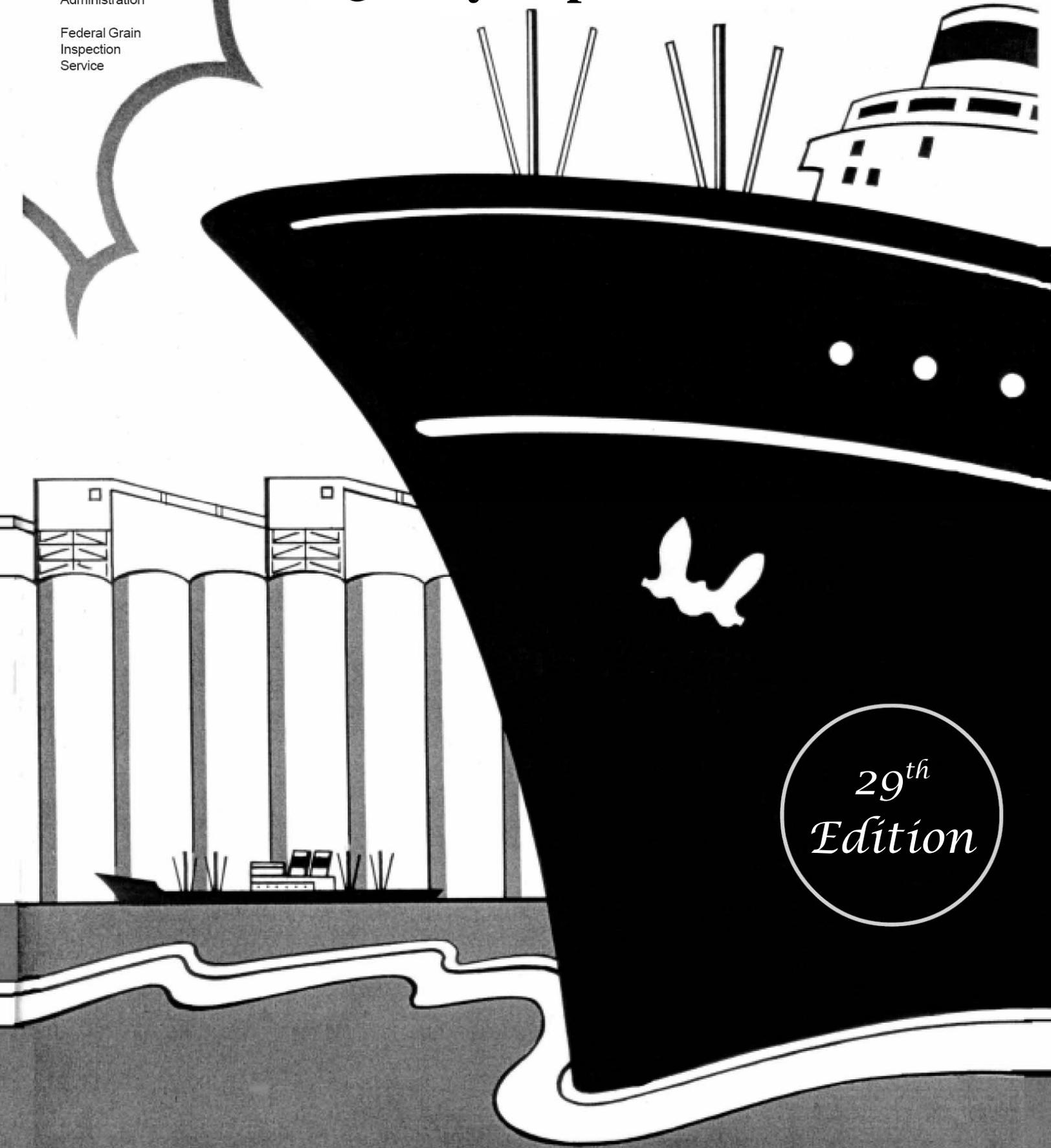




Grain Inspection,
Packers and
Stockyards
Administration

Federal Grain
Inspection
Service

2012 U.S. Grain Exports: Quality Report



*29th
Edition*

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Introduction

The *2012 U.S. Grain Exports: Quality Report* is produced by the Federal Grain Inspection Service (FGIS) of the U.S. Department of Agriculture's Grain Inspection, Packers and Stockyards Administration. The report is the result of FGIS' efforts to determine, document, and disseminate critical information regarding U.S. export grain quality.

The 2012 report is the twenty-ninth edition of this annual summary of export grain quality. The report summarizes the quality of export wheat, corn, soybeans, sorghum, barley, canola, and flaxseed. Mixed grain, rye, and sunflower seed are not included in this year's report; no lots have been reported in the past 6 years.

Organization of the Report

The report contains chapters addressing export wheat, export corn, export soybeans, and other grains. Each chapter contains:

- Standards and definitions for each grain,
- Tables that clearly illustrate all factor result averages at each applicable U.S. grade level, and
- Factor quality distribution graphs for selected factors.

In addition, an appendix contains figures illustrating select quantity and quality trends over time.

Methodology

FGIS collects and documents information about export grain shipments in the automated Export Grain Information System (EGIS). This system contains one record for each export lot inspected and/or weighed. In the case of some railcar exports, each record may contain information from several lots which were aggregated to simplify internal reporting. For the purposes of this export quality report, only information from waterborne export shipments was used. Waterborne export shipments represented 91 percent of the total export lots in the EGIS database for 2012. Generally, each EGIS record contains the quantity of the lot and the average factor results certified for the lot. The tables in this report contain descriptive statistics which summarize these lot quantities and the weighted averages. Where appropriate, tables are provided which show the number of lots and the quantity of grain which was used to generate the descriptive statistics. Many of the tables summarize factor averages by grade.

A U.S. grade is determined by analyzing the physical and biological factors present in the sample. Limits for the grading factors are established for each numerical grade. Grades range from U.S. No. 1 (highest) to U.S. Sample grade (lowest). When a particular grade is cited in this report, it includes lots certified at that grade plus lots certified with the "or better" designation. For example, U.S. No. 2 grade includes lots which were certificated as "U.S. No. 2" and lots certificated as "U.S. No. 2 or better." Factors that exceed the established limits, except for test weight, lower the grade. The established limits for test weight represent minimum requirements for each grade.

This report does not contain data on the volume of export grain in bushels. Listed to the right are the equations for converting the approximate quantity of grain from metric tons to bushels.

Conversion Equation	
Bushels =	$\frac{\text{Metric Tons} \times 2204.622 \text{ Pounds}}{\text{Legal Test Weight/Bushel of Grain}}$
Legal Test Weights Per Bushel for Specific Grains	
Wheat =	60 pounds/bushel
Corn =	56 pounds/bushel
Soybeans =	60 pounds/bushel
Canola =	50 pounds/bushel
Sorghum =	56 pounds/bushel
Barley =	48 pounds/bushel
Sunflower Seed =	28 pounds/bushel
Rye =	56 pounds/bushel
Oats =	32 pounds/bushel

Wheat

Wheat Grades and Grade Requirements

Wheat is divided into eight classes: Hard Red Spring wheat, Hard Red Winter wheat, Soft Red Winter wheat, Durum wheat, Hard White wheat, Soft White wheat, Unclassed wheat, and Mixed wheat. The classes Hard Red Spring wheat, Soft White wheat, and Durum wheat are further divided into subclasses. There are no subclasses in the classes Hard Red Winter wheat, Soft Red Winter wheat, Hard White wheat, Unclassed wheat, and Mixed wheat. Each class and subclass is divided into five U.S. numerical grades and U.S. Sample grade. Special grades are provided to emphasize special qualities or conditions affecting the value of wheat. Special grades are added to and made a part of the grade designation. They do not affect the numerical or Sample grade designation.

U.S. Standards for Wheat

Grade	Minimum Limits of:		Maximum Limits of -						
	Test Weight per bushel		Damaged Kernels		Foreign material (percent)	Shrunken and broken kernels (percent)	Defects <u>3/</u> (percent)	Wheat of other classes <u>4/</u>	
	Hard Red Spring Wheat or White Club Wheat <u>1/</u> (pounds)	All other classes and subclasses (pounds)	Heat damage (part of total) (percent)	Total <u>2/</u> (percent)				Contrasting classes (percent)	Total <u>5/</u> (percent)
U.S. No. 1	58.0	60.0	0.2	2.0	0.4	3.0	3.0	1.0	3.0
U.S. No. 2	57.0	58.0	0.2	4.0	0.7	5.0	5.0	2.0	5.0
U.S. No. 3	55.0	56.0	0.5	7.0	1.3	8.0	8.0	3.0	10.0
U.S. No. 4	53.0	54.0	1.0	10.0	3.0	12.0	12.0	10.0	10.0
U.S. No. 5	50.0	51.0	3.0	15.0	5.0	20.0	20.0	10.0	10.0

U.S. Sample Grade:

U.S. Sample Grade is wheat that:

- (a) Does not meet the requirements for grades U.S. No. 1, 2, 3, 4, or 5; or
- (b) Contains 4 or more stones or any number of stones which have an aggregate weight in excess of 0.1 percent of the sample weight, 1 or more pieces of glass, 3 or more crotalaria seeds (*Crotalaria* spp.), 2 or more castor beans (*Ricinus communis* L.), 4 or more particles of an unknown foreign substance(s) or a commonly recognized harmful or toxic substance(s), 2 or more rodent pellets, bird dropping, or an equivalent quantity of other animal filth per 1,000 grams of wheat; or
- (c) Contains 5 or more animal filth, castor beans, crotalaria seeds, glass, stones, or unknown foreign substance(s) in any combination; or
- (d) Has a musty, sour, or commercially objectionable foreign odor (except smut or garlic odor); or
- (e) Is heating or otherwise of distinctly low quality.
- (f) Contains more than 31 insect-damaged kernels in 100 grams.

1/ These requirements also apply when Hard Red Spring or White Club wheat predominates in a sample of Mixed wheat.

2/ Includes heat-damaged kernels.

3/ Includes damaged kernels (total), foreign material, shrunken and broken kernels.

4/ Unclassed wheat of any grade may contain not more than 10.0 percent of wheat of other classes.

5/ Includes contrasting classes.

Wheat

Definitions

Test weight (lb/bu) is pounds of grain per Winchester bushel, determined by an approved device after the removal of dockage.

Test weight (kg/hl) is the metric system equivalent to pounds per bushel. Kilograms per hectoliter are calculated as follows:

For **Durum** wheat, multiply pounds per bushel by 1.292 and add 0.630. For **all other classes of wheat**, multiply pounds per bushel by 1.292 and add 1.419.

Heat-damaged kernels are kernels, pieces of wheat kernels, and other grains which have been materially discolored and damaged by heat.

Damaged kernels (total) are kernels, pieces of wheat kernels, and other grains that are badly ground-damaged, badly weather-damaged, diseased, frost-damaged, heat-damaged, insect bored, mold-damaged, sprout-damaged, or otherwise materially damaged.

Foreign material is all matter other than wheat which remains in a sample after removal of dockage and shrunken and broken kernels.

Shrunken and broken kernels are kernels, kernel pieces, and other matter that pass through a 0.064-by 3/8-inch oblong-hole sieve.

Total defects are the sum of three factors: damaged kernels (total), shrunken and broken kernels, and foreign material. In the factor summary tables, the average values listed for total defects may not equal the sum of the component factor averages due to rounding.

Dockage includes all matter other than wheat that can be removed from the original sample by use of an approved device. The percentage of dockage in a sample does not affect the numerical grade.

Moisture is the water content of grain as determined by an approved electronic moisture meter. The percentage of moisture in a sample does not affect the numerical grade.

Contrasting classes include:

- * Durum, Soft White, and Unclassed wheats in the classes Hard Red Spring and Hard Red Winter wheats.
- * Hard Red Spring, Hard Red Winter, Hard White, Soft Red Winter, Soft White, and Unclassed wheats in the class Durum wheat.
- * Durum and Unclassed wheats in the class Soft Red Winter wheat.
- * Durum, Hard Red Spring, Hard Red Winter, Soft Red Winter and Unclassed wheats in the classes Hard White wheat and Soft White wheat.

Wheat of other classes is any class that is mixed with the predominant class.

Protein is the protein content of grain as determined by an approved near infrared transmittance (NIRT) instrument calibrated against a Combustion Nitrogen Analyzer, or CNA (percent nitrogen multiplied by 5.7). The percentage of protein in a sample does not affect the numerical grade. Protein is certified on a 12 percent moisture basis.

Mixed wheat is a combination of classes of wheat which does not meet the minimum requirements of a specific class.

Table 1. U.S. Wheat Exports: Number of lots and quantity exported by class and grade, 2010-2012

Class	Grade	2010		2011		2012	
		No. of Lots	Metric Tons	No. of Lots	Metric Tons	No. of Lots	Metric Tons
Hard Red	U.S. No. 1	62	492,109	54	396,817	92	828,295
Winter Wheat	U.S. No. 2	686	11,875,031	687	13,789,897	720	11,982,133
	U.S. No. 3	2	39,376	1	1,478	--	--
	U.S. No. 4	1	9,163	--	--	--	--
	Not Inspected	1	8,412	--	--	--	--
	All lots	752	12,424,091	742	14,188,192	812	12,810,428
Hard Red	U.S. No. 1	89	997,293	128	1,383,739	118	1,442,760
Spring Wheat	U.S. No. 2	466	5,966,272	433	6,638,466	514	6,943,813
	U.S. No. 3	--	--	2	17,459	--	--
	U.S. Sample Grade	--	--	--	--	1	8,143
	Not Inspected	--	--	1	1,243	--	--
	All lots	555	6,963,555	564	8,040,907	633	8,394,716
Soft Red	U.S. No. 1	--	--	2	3,030	6	35,518
Winter Wheat	U.S. No. 2	206	1,658,794	258	3,187,620	394	4,843,044
	U.S. No. 3	42	311,853	23	164,275	3	30,459
	U.S. No. 4	--	--	--	--	2	56,722
	U.S. Sample Grade	1	4,249	6	90,026	26	854,689
	Not inspected	--	--	--	3,444,951	--	--
All lots	249	1,975,076	289	1,975,076	431	5,820,432	
Durum Wheat	U.S. No. 1	53	666,643	22	204,168	16	199,643
	U.S. No. 2	43	310,736	24	168,471	39	234,792
	U.S. No. 3	8	101,064	16	192,144	15	142,740
	U.S. No. 4	--	--	7	87,143	2	12,340
	U.S. No. 5	2	38,534	--	--	--	--
	U.S. Sample Grade	1	6,747	--	--	--	--
All lots	107	1,123,724	69	651,926	72	589,515	
Soft White Wheat	U.S. No. 1	120	722,996	98	671,685	130	926,022
	U.S. No. 2	200	3,331,900	175	3,979,915	255	5,336,179
	U.S. No. 3	1	969	--	--	2	77,000
	U.S. No. 4	4	212,622	2	117,249	15	698,623
	U.S. Sample Grade	--	--	3	36,547	11	293,178
	Not Inspected	1	735	--	--	--	--
All lots	326	4,269,222	278	4,805,396	413	7,331,002	
Hard White Wheat	U.S. No. 1	--	--	--	--	--	--
	U.S. No. 2	--	--	1	11,001	11	75,211
	U.S. No. 3	--	--	2	4,326	3	19,794
	U.S. No. 4	12	123,645	11	102,945	14	87,768
	All lots	12	123,645	14	118,272	28	182,773

-- = No lots reported in the category.

Table 1. U.S. Wheat Exports: Number of lots and quantity exported by class and grade, 2010-2012, continued

Class	Grade	2010		2011		2012	
		No. of Lots	Metric Tons	No. of Lots	Metric Tons	No. of Lots	Metric Tons
Mixed Wheat	U.S. No 1	--	--	--	--	2	5,792
	U.S. No 2	2	55,940	1	11,015	--	--
	U.S. Sample Grade	1	1,369	--	--	13	725,039
	All lots	3	57,309	1	11,015	15	730,831
All Classes	U.S. No. 1	324	2,879,031	304	2,659,439	364	3,438,030
	U.S. No. 2	1,603	23,198,853	1,579	27,786,385	1,933	29,415,172
	U.S. No. 3	53	453,262	44	379,682	23	269,993
	U.S. No. 4	17	345,430	20	307,337	33	855,453
	U.S. No. 5	2	38,534	--	--	--	--
	U.S. Sample Grade	3	12,365	9	126,573	51	1,881,049
	Not Inspected	2	9,147	1	1,243	--	--
	All lots	2,004	26,936,632	1,957	31,260,659	2,404	35,859,697

-- = No lots reported in the category.

Table 2. Summary of export Hard Red Winter wheat quality, 2010-2012

Factor	Grade	Grade Limit	2010				2011				2012			
			No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High
Test Weight (lb/bu)	U.S. No. 1	60.0	62	61.7	60.3	63.0	54	61.6	60.0	63.3	92	61.5	60.1	63.2
	U.S. No. 2	58.0	686	80.4	76.5	83.0	687	61.1	58.1	64.1	720	61.3	59.4	64.4
	U.S. No. 3	56.0	2	81.7	76.1	81.8	1	60.0	60.0	60.0	--	--	--	--
	U.S. No. 4	54.0	1	61.0	61.0	61.0	--	--	--	--	--	--	--	--
	All lots	N/A	751	61.1	57.8	63.1	742	61.1	58.1	64.1	812	61.3	59.4	64.4
Test Weight (kg/hl)	U.S. No. 1	N/A	62	81.1	79.3	82.8	54	81.0	78.9	83.2	92	80.9	79.1	83.1
	U.S. No. 2	N/A	686	80.4	76.5	83.0	687	80.3	76.5	84.2	720	80.7	78.2	84.6
	U.S. No. 3	N/A	2	81.7	76.1	81.8	1	78.9	78.9	78.9	--	--	--	--
	U.S. No. 4	N/A	1	80.3	80.3	80.3	--	--	--	--	--	--	--	--
	All lots	N/A	751	80.4	76.1	83.0	742	80.4	76.5	84.2	812	80.7	78.2	84.6
Moisture	U.S. No. 1	N/A	62	11.0	8.6	12.2	54	10.8	9.0	12.3	92	10.7	9.5	12.4
	U.S. No. 2	N/A	686	11.3	8.7	12.7	687	11.1	8.9	12.8	720	10.9	9.1	12.2
	U.S. No. 3	N/A	2	11.2	11.2	12.4	1	11.7	11.7	11.7	--	--	--	--
	U.S. No. 4	N/A	1	9.2	9.2	9.2	--	--	--	--	--	--	--	--
	All lots	N/A	751	11.3	8.6	12.7	742	11.1	8.9	12.8	812	10.8	9.1	12.4
Heat-damaged Kernels	U.S. No. 1	0.2	62	0.0	0.0	0.0	54	0.0	0.0	0.0	92	0.0	0.0	0.0
	U.S. No. 2	0.2	686	0.0	0.0	0.1	687	0.0	0.0	0.2	720	0.0	0.0	0.2
	U.S. No. 3	0.5	2	0.0	0.0	0.0	1	0.0	0.0	0.0	--	--	--	--
	U.S. No. 4	1.0	1	0.0	0.0	0.0	--	--	--	--	--	--	--	--
	All lots	N/A	751	0.0	0.0	0.1	742	0.0	0.0	0.2	812	0.0	0.0	0.2
Damaged Kernels (Total)	U.S. No. 1	2.0	62	0.4	0.0	1.7	54	0.3	0.0	1.4	92	0.2	0.0	1.1
	U.S. No. 2	4.0	686	0.9	0.0	3.3	687	1.0	0.0	3.3	720	0.7	0.0	3.0
	U.S. No. 3	7.0	2	0.7	0.7	1.5	1	1.9	1.9	1.9	--	--	--	--
	U.S. No. 4	10.0	1	0.0	0.0	0.0	--	--	--	--	--	--	--	--
	All lots	N/A	751	0.9	0.0	3.3	742	1.0	0.0	3.3	812	0.7	0.0	3.0
Foreign Material	U.S. No. 1	0.4	62	0.1	0.0	0.3	54	0.1	0.0	0.2	92	0.1	0.0	0.4
	U.S. No. 2	0.7	686	0.2	0.0	0.7	687	0.2	0.0	0.6	720	0.2	0.0	0.5
	U.S. No. 3	1.3	2	0.1	0.1	0.2	1	1.0	1.0	1.0	--	--	--	--
	U.S. No. 4	3.0	1	0.1	0.1	0.1	--	--	--	--	--	--	--	--
	All lots	N/A	751	0.2	0.0	0.7	742	0.2	0.0	1.0	812	0.2	0.0	0.5
Shrunken and Broken	U.S. No. 1	3.0	62	1.1	0.6	1.8	54	1.4	0.5	2.7	92	1.5	0.7	2.6
	U.S. No. 2	5.0	686	1.4	0.8	2.3	687	1.5	0.2	2.6	720	1.6	0.7	3.0
	U.S. No. 3	8.0	2	1.3	0.8	1.3	1	1.9	1.9	1.9	--	--	--	--
	U.S. No. 4	12.0	1	1.0	1.0	1.0	--	--	--	--	--	--	--	--
	All lots	N/A	751	1.4	0.6	2.3	742	1.5	0.2	2.7	812	1.6	0.7	3.0
Total Defects ¹	U.S. No. 1	3.0	62	1.6	0.9	2.8	54	1.7	0.7	2.9	92	1.9	0.9	2.8
	U.S. No. 2	5.0	686	2.5	0.9	4.9	687	2.7	0.3	4.8	720	2.6	0.8	5.0
	U.S. No. 3	8.0	2	2.1	2.1	2.5	1	4.8	4.8	4.8	--	--	--	--
	U.S. No. 4	12.0	1	1.1	1.1	1.1	--	--	--	--	--	--	--	--
	All lots	N/A	751	2.5	0.9	4.9	742	2.6	0.3	4.8	812	2.5	0.8	5.0

Table 2. Summary of export Hard Red Winter wheat quality, 2010-2012, continued

Factor	Grade	Grade Limit	2010				2011				2012			
			No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High
Dockage	U.S. No. 1	N/A	62	0.3	0.2	0.9	54	0.3	0.2	1.4	92	0.3	0.2	0.9
	U.S. No. 2	N/A	686	0.6	0.1	1.5	687	0.6	0.2	1.0	718	0.6	0.2	1.0
	U.S. No. 3	N/A	2	0.6	0.6	1.3	1	1.7	1.7	1.7	--	--	--	--
	U.S. No. 4	N/A	1	0.7	0.7	0.7	--	--	--	--	--	--	--	--
	All lots	N/A	751	0.6	0.1	1.5	742	0.6	0.2	1.7	810	0.6	0.2	1.0
Wheat of Other Classes	U.S. No. 1	3.0	62	0.8	0.0	2.1	54	0.8	0.0	2.3	92	0.6	0.0	2.3
	U.S. No. 2	5.0	686	1.1	0.0	4.4	687	1.0	0.0	4.9	720	1.1	0.0	4.1
	U.S. No. 3	10.0	2	1.0	0.4	1.0	1	0.0	0.0	0.0	--	--	--	--
	U.S. No. 4	10.0	1	3.7	3.7	3.7	--	--	--	--	--	--	--	--
	All lots	N/A	751	1.1	0.0	4.4	742	1.0	0.0	4.9	812	1.1	0.0	4.1
Contrasting Classes	U.S. No. 1	1.0	62	0.3	0.0	1.0	54	0.4	0.0	1.0	92	0.3	0.0	1.0
	U.S. No. 2	2.0	686	0.1	0.0	1.4	687	0.1	0.0	1.3	720	0.1	0.0	1.3
	U.S. No. 3	3.0	2	0.0	0.0	0.0	1	0.0	0.0	0.0	--	--	--	--
	U.S. No. 4	10.0	1	3.7	3.7	3.7	--	--	--	--	--	--	--	--
	All lots	N/A	751	0.1	0.0	3.7	742	0.1	0.0	1.3	812	0.1	0.0	1.3
Protein (as is basis)	U.S. No. 1	N/A	62	12.3	11.5	13.1	54	12.1	11.6	13.4	91	12.5	11.6	13.4
	U.S. No. 2	N/A	685	11.8	10.3	13.4	680	11.9	10.2	14.4	715	12.1	9.7	14.5
	U.S. No. 3	N/A	1	12.1	12.1	12.1	1	11.8	11.8	11.8	--	--	--	--
	All lots	N/A	748	11.8	10.3	13.4	735	11.9	10.2	14.4	806	12.1	9.7	14.5
Protein (12% moisture)	U.S. No. 1	N/A	62	12.1	11.5	13.0	54	11.9	11.5	13.0	91	12.3	11.5	13.1
	U.S. No. 2	N/A	685	11.7	10.2	13.5	680	11.8	10.0	14.0	715	11.9	9.5	14.5
	U.S. No. 3	N/A	1	12.0	12.0	12.0	1	11.8	11.8	11.8	--	--	--	--
	All lots	N/A	748	11.7	10.2	13.5	735	11.8	10.0	14.0	806	11.9	9.5	14.5

N/A = Does not apply.

-- = No lots reported in this category.

¹The sum of the component factor averages may not equal the average for this factor due to rounding.

Figure 1. HRW Dockage Distribution, All Grades

U.S. WHEAT EXPORTED, 2012
DISTRIBUTION FOR DOCKAGE – ALL GRADES
HRW

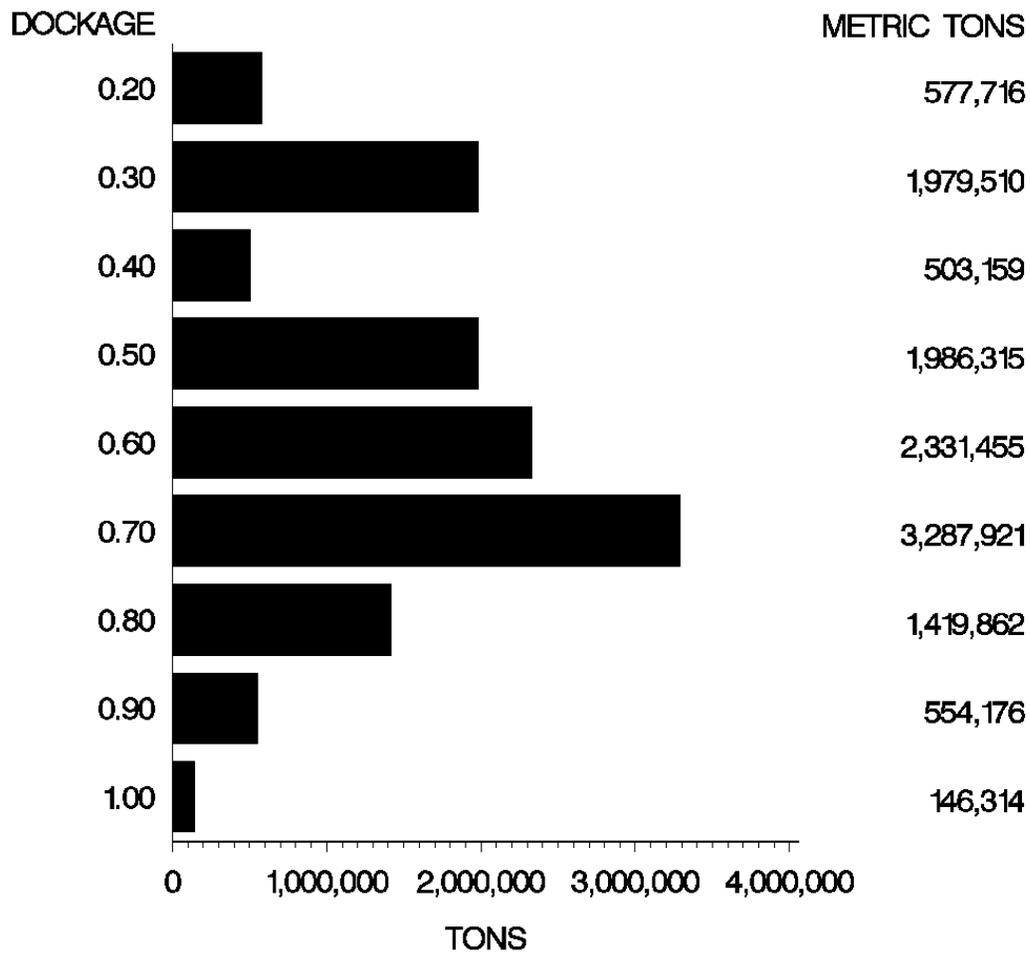


Figure 2. HRW Protein Distribution, All Grades

U.S. WHEAT EXPORTED, 2012
DISTRIBUTION FOR PROTEIN (12% M) – ALL GRADES
HRW

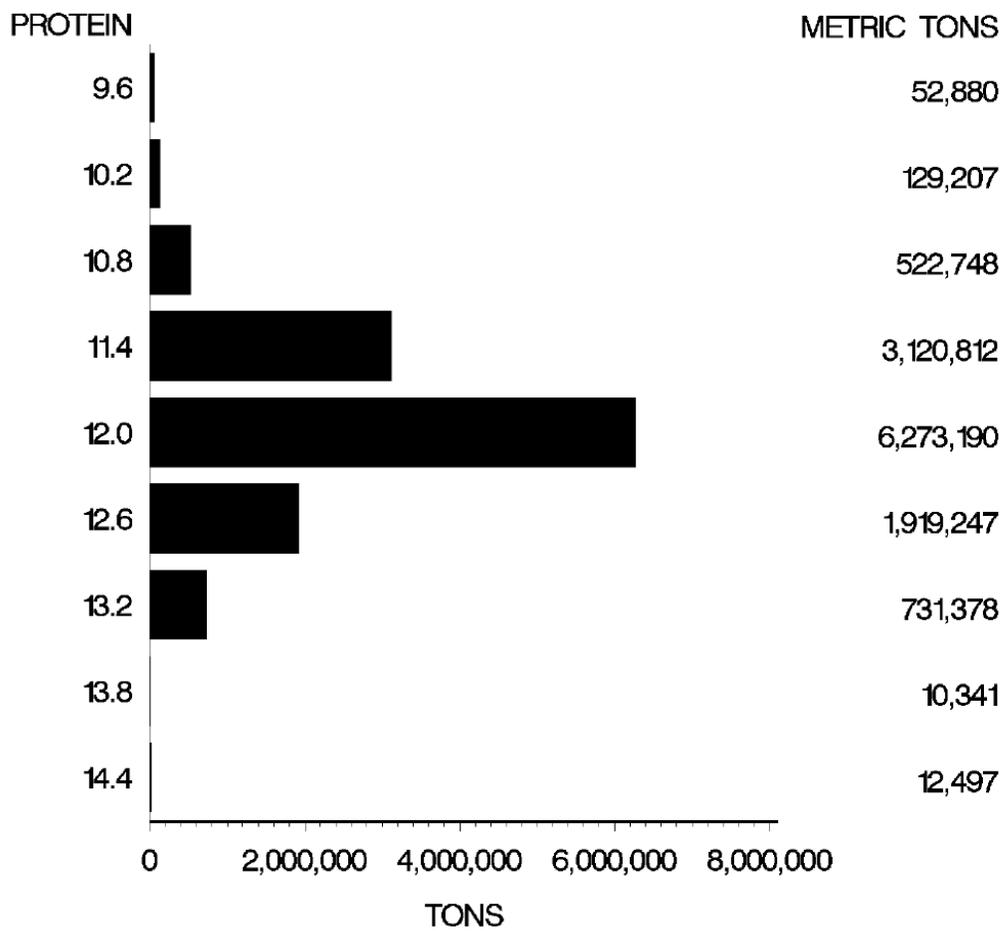


Table 3. Summary of export Hard Red Spring wheat quality, 2010-2012

Factor	Grade	Grade Limit	2010				2011				2012			
			No. of				No. of				No. of			
			Lots	Avg.	Low	High	Lots	Avg.	Low	High	Lots	Avg.	Low	High
Test Weight (lb/bu)	U.S. No. 1	58.0	89	62.0	60.2	63.5	128	61.7	60.1	63.9	118	61.7	60.5	63.5
	U.S. No. 2	57.0	466	62.2	59.9	64.0	433	61.7	58.9	64.3	514	61.8	59	63.8
	U.S. No. 3	55.0	--	--	--	--	2	61.7	60.7	62.4	--	--	--	--
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	1	61.5	61.5	61.5
	All lots	N/A	555	62.2	59.9	64.0	563	61.7	58.9	64.3	633	61.7	59	63.8
Test Weight (kg/hl)	U.S. No. 1	N/A	89	81.6	79.2	83.5	128	81.2	79.0	84.0	118	81.1	79.6	83.5
	U.S. No. 2	N/A	466	81.8	78.8	84.1	433	81.2	77.5	84.5	514	81.2	77.6	83.8
	U.S. No. 3	N/A	--	--	--	--	2	81.1	79.8	82.0	--	--	--	--
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	1	80.9	80.9	80.9
	All lots	N/A	555	81.7	78.8	84.1	563	81.2	77.5	84.5	633	81.2	77.6	83.8
Moisture	U.S. No. 1	N/A	89	11.6	8.9	13.2	128	11.7	9.5	13.4	118	11.3	9.9	13.1
	U.S. No. 2	N/A	466	12.5	9.1	13.5	433	12.2	9.8	13.5	514	11.5	9.4	13.2
	U.S. No. 3	N/A	--	--	--	--	2	13.1	12.9	13.2	--	--	--	--
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	1	10.1	10.1	10.1
	All lots	N/A	555	12.3	8.9	13.5	563	12.1	9.5	13.5	633	11.5	9.4	13.2
Heat-damaged Kernels	U.S. No. 1	0.2	89	0.0	0.0	0.1	128	0.0	0.0	0.1	118	0.0	0.0	0.0
	U.S. No. 2	0.2	466	0.0	0.0	0.1	433	0.0	0.0	0.2	514	0.0	0.0	0.2
	U.S. No. 3	0.5	--	--	--	--	2	0.1	0.0	0.2	--	--	--	--
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	1	0.0	0.0	0.0
	All lots	N/A	555	0.1	0.0	0.6	563	0.0	0.0	0.2	633	0.0	0.0	0.2
Damaged Kernels (Total)	U.S. No. 1	2.0	89	0.4	0.0	1.6	128	0.4	0.0	1.6	118	0.4	0	1.4
	U.S. No. 2	4.0	466	0.6	0.0	2.5	433	0.7	0.0	4.0	514	0.6	0	2.6
	U.S. No. 3	7.0	--	--	--	--	2	4.0	0.9	6.1	--	--	--	--
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	1	0.2	0.2	0.2
	All lots	N/A	555	0.6	0.0	2.5	563	0.7	0.0	6.1	633	0.5	0	2.6
Foreign Material	U.S. No. 1	0.4	89	0.1	0.0	0.2	128	0.1	0.0	0.3	118	0.1	0	0.4
	U.S. No. 2	0.7	466	0.1	0.0	0.6	433	0.1	0.0	0.5	514	0.1	0	0.6
	U.S. No. 3	1.3	--	--	--	--	2	0.1	0.1	0.1	--	--	--	--
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	1	0.1	0.1	0.1
	All lots	N/A	555	0.1	0.0	0.6	563	0.1	0.0	0.5	633	0.1	0	0.6
Shrunken and Broken	U.S. No. 1	3.0	89	1.0	0.5	1.5	128	1.1	0.4	2.2	118	1.4	0.5	2.4
	U.S. No. 2	5.0	466	0.8	0.4	2.0	433	1.1	0.4	2.2	514	1.5	0.6	2.5
	U.S. No. 3	8.0	--	--	--	--	2	1.0	0.8	1.2	--	--	--	--
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	1	1.2	1.2	1.2
	All lots	N/A	555	0.9	0.4	2.0	563	1.1	0.4	2.2	633	1.4	0.5	2.5

Table 3. Summary of export Hard Red Spring wheat quality, 2010-2012, continued

Factor	Grade	Grade Limit	2010				2011				2012			
			No. of				No. of				No. of			
			Lots	Avg.	Low	High	Lots	Avg.	Low	High	Lots	Avg.	Low	High
Total Defects ¹	U.S. No. 1	3.0	89	1.5	0.6	2.8	128	1.6	0.5	2.8	118	2.0	0.7	3.0
	U.S. No. 2	5.0	466	1.6	0.8	3.5	433	1.9	0.8	4.9	514	2.1	1	4.7
	U.S. No. 3	8.0	--	--	--	--	2	5.0	2.2	7.0	--	--	--	--
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	1	1.5	1.5	1.5
	All lots	N/A	555	1.6	0.6	3.5	563	1.9	0.5	7.0	633	2.1	0.7	4.7
Dockage	U.S. No. 1	N/A	89	0.3	0.1	0.8	128	0.3	0.1	1.1	115	0.3	0.1	1.3
	U.S. No. 2	N/A	465	0.4	0.1	1.0	433	0.4	0.1	1.0	514	0.4	0.2	1.2
	U.S. No. 3	N/A	--	--	--	--	2	0.6	0.5	0.8	--	--	--	--
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	1	0.6	0.6	0.6
	All lots	N/A	554	0.4	0.1	1.0	563	0.4	0.1	1.1	630	0.4	0.1	1.3
Wheat of	U.S. No. 1	3.0	89	0.5	0.0	1.8	128	0.6	0.0	2.0	118	0.9	0.0	2.6
Other Classes	U.S. No. 2	5.0	466	0.6	0.0	4.1	433	0.6	0.0	5.0	514	1.1	0.0	4.4
	U.S. No. 3	10.0	--	--	--	--	2	1.2	0.2	1.9	--	--	--	--
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	1	0.6	0.6	0.6
	All lots	N/A	555	0.6	0.0	4.1	563	0.6	0.0	5.0	633	1	0.0	4.4
	Contrasting	U.S. No. 1	1.0	89	0.2	0.0	0.9	128	0.3	0.0	1.0	118	0.2	0.0
Classes	U.S. No. 2	2.0	466	0.2	0.0	1.2	433	0.2	0.0	1.7	514	0.3	0.0	1.4
	U.S. No. 3	3.0	--	--	--	--	2	0.0	0.0	0.0	--	--	--	--
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	1	0.5	0.5	0.5
	All lots	N/A	555	0.2	0.0	1.2	563	0.2	0.0	1.7	633	0.3	0.0	1.4
	Protein (as is basis)	U.S. No. 1	N/A	89	13.9	12.9	14.5	127	13.9	8.4	15.0	114	14.4	13.4
U.S. No. 2		N/A	462	13.5	11.9	14.7	426	13.6	11.8	15.0	501	14.0	12.4	15.4
U.S. No. 3		N/A	--	--	--	--	2	13.2	12.8	13.9	--	--	--	--
U.S. Sample Grade		N/A	--	--	--	--	--	--	--	--	1	14.3	14.3	14.3
All lots		N/A	551	13.5	11.9	14.7	555	13.6	8.4	15.0	616	14.1	12.4	15.4
Protein (12% moisture)	U.S. No. 1	N/A	89	13.9	12.9	14.4	127	13.9	8.3	15.1	114	14.3	13.5	15.2
	U.S. No. 2	N/A	462	13.5	12.0	14.6	426	13.6	11.9	15.0	501	14	12.5	15.4
	U.S. No. 3	N/A	--	--	--	--	2	13.4	13.0	14.0	--	--	--	--
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	1	14	14	14
	All lots	N/A	551	13.6	12.0	14.6	555	13.6	8.3	15.1	616	14	12.5	15.4

N/A = Does not apply.

-- = No lots reported in this category.

¹The sum of the component factor averages may not equal the average for this factor due to rounding.

Figure 3. HRS Dockage Distribution, All Grades

**U.S. WHEAT EXPORTED, 2012
DISTRIBUTION FOR DOCKAGE – ALL GRADES
HRS**

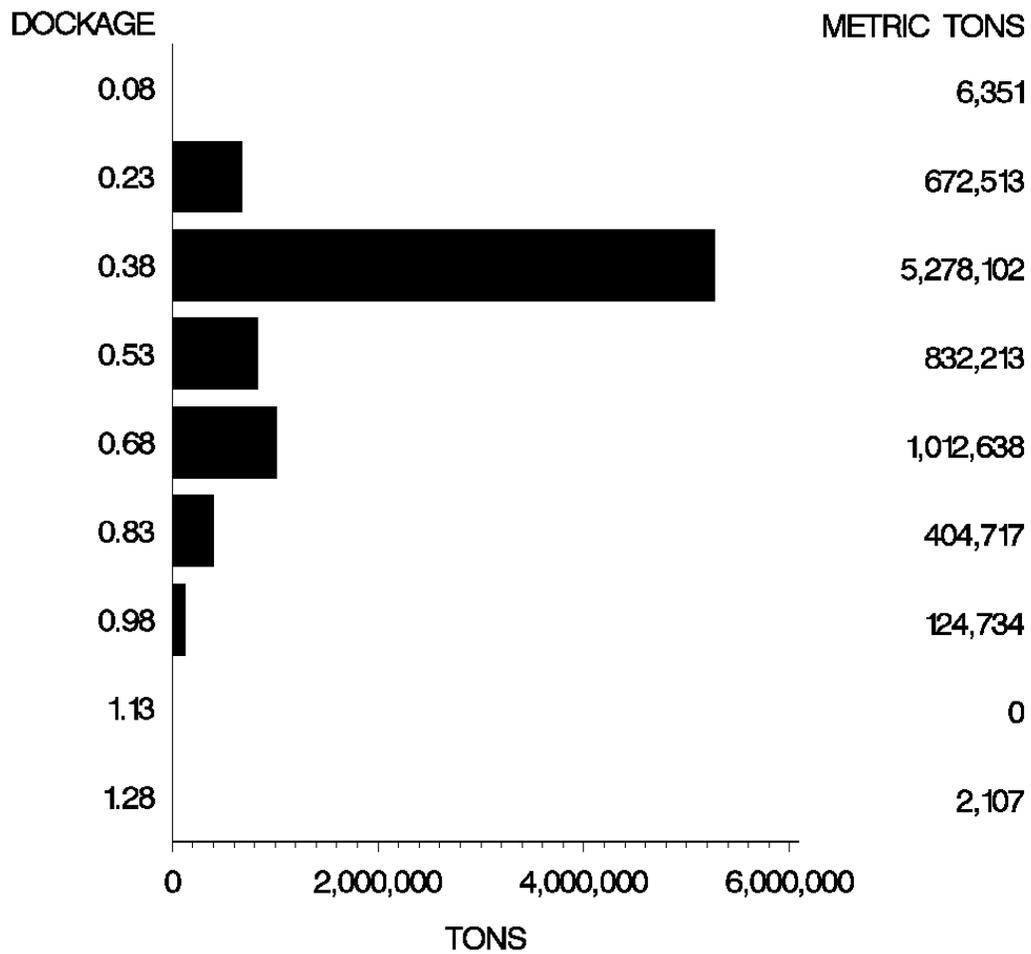


Figure 4. HRS Protein Distribution, All Grades

U.S. WHEAT EXPORTED, 2012
DISTRIBUTION FOR PROTEIN (12% M) – ALL GRADES
HRS

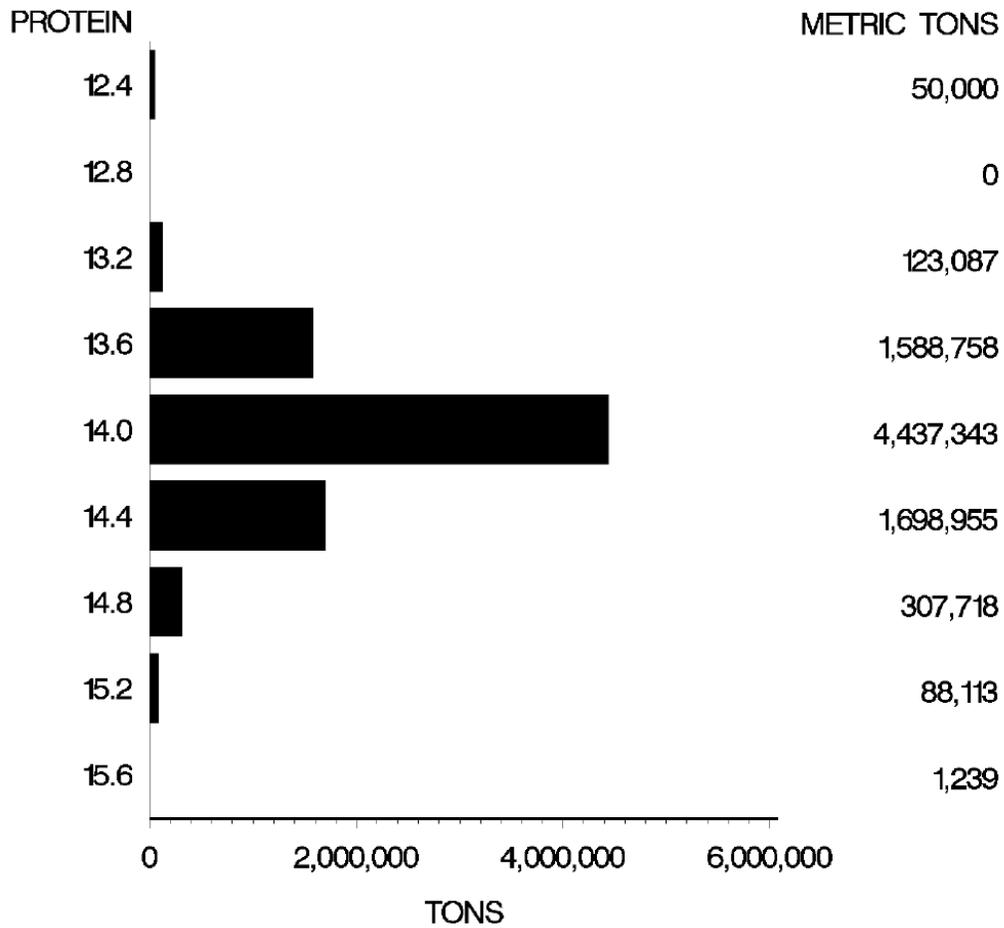


Table 4. Summary of export Soft Red Winter wheat quality, 2010-2012

Factor	Grade	Grade Limit	2010				2011				2012			
			No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High
Test Weight (lb/bu)	U.S. No. 1	60.0	--	--	--	--	2	61.0	60.7	61.4	6	60.1	60.0	60.3
	U.S. No. 2	58.0	206	58.5	58.0	60.2	257	59.4	58.0	62.0	394	60.0	58.3	61.8
	U.S. No. 3	56.0	42	57.6	56.1	58.9	23	58.3	57.2	59.3	3	58.4	58.4	58.4
	U.S. No. 4	54.0	--	--	--	--	--	--	--	--	2	59.3	59.3	59.3
	U.S. Sample Grade	N/A	1	59.2	59.2	59.2	6	58.3	57.1	58.7	26	58.6	56.6	60.2
	All lots	N/A	249	58.4	56.1	60.2	288	59.3	57.1	62.0	431	59.8	56.6	61.8
Test Weight (kg/hl)	U.S. No. 1	N/A	--	--	--	--	2	80.3	79.8	80.7	6	79.1	78.9	79.3
	U.S. No. 2	N/A	206	77.1	76.3	79.1	258	76.8	1.4	81.5	394	78.9	76.8	81.3
	U.S. No. 3	N/A	42	75.8	73.9	77.5	23	76.8	75.3	78.0	3	76.8	76.8	76.8
	U.S. No. 4	N/A	--	--	--	--	--	--	--	--	2	78.1	78.1	78.1
	U.S. Sample Grade	N/A	1	77.9	77.9	77.9	6	76.7	75.1	77.3	26	77.2	74.6	79.2
	All lots	N/A	249	76.9	73.9	79.1	289	76.8	1.4	81.5	431	78.6	74.6	81.3
Moisture	U.S. No. 1	N/A	--	--	--	--	2	13.2	13.1	13.2	6	12.3	11.0	12.6
	U.S. No. 2	N/A	206	12.5	11.9	13.4	257	12.3	9.9	13.4	394	12.2	11.1	13.1
	U.S. No. 3	N/A	42	12.4	11.7	13.5	23	12.4	11.8	13.0	3	13.1	13.1	13.1
	U.S. No. 4	N/A	--	--	--	--	--	--	--	--	2	12.8	12.8	12.8
	U.S. Sample Grade	N/A	1	12.1	12.1	12.1	6	12.1	11.5	13.0	26	11.8	11.5	12.8
	All lots	N/A	249	12.5	11.7	13.5	288	12.3	9.9	13.4	431	12.2	11.0	13.1
Heat-damaged Kernels	U.S. No. 1	0.2	--	--	--	--	2	0.0	0.0	0.0	6	0.0	0.0	0.0
	U.S. No. 2	0.2	206	0.0	0.0	0.2	258	0.0	0.0	0.2	394	0.0	0.0	0.2
	U.S. No. 3	0.5	42	0.0	0.0	0.1	23	0.0	0.0	0.1	3	0.0	0.0	0.0
	U.S. No. 4	1.0	--	--	--	--	--	--	--	--	2	0.1	0.1	0.1
	U.S. Sample Grade	N/A	1	2.0	2.0	2.0	6	0.2	0.0	1.2	26	0.1	0.0	0.4
	All lots	N/A	249	0.0	0.0	2.0	289	0.0	0.0	1.2	431	0.1	0.0	0.4
Damaged Kernels (Total)	U.S. No. 1	2.0	--	--	--	--	2	0.8	0.5	1.1	6	1.2	0.8	1.9
	U.S. No. 2	4.0	206	2.3	0.6	4.0	258	2.1	0.0	4.0	394	1.8	0.2	4.0
	U.S. No. 3	7.0	42	2.9	0.9	4.3	23	2.7	0.6	6.4	3	4.7	4.7	4.7
	U.S. No. 4	10.0	--	--	--	--	--	--	--	--	2	3.7	3.7	3.7
	U.S. Sample Grade	N/A	1	24.5	24.5	24.5	6	11.0	3.3	30.2	26	7.2	3.0	23.4
	All lots	N/A	249	2.5	0.6	24.5	289	2.4	0.0	30.2	431	2.6	0.2	23.4
Foreign Material	U.S. No. 1	0.4	--	--	--	--	2	0.0	0.0	0.0	6	0.1	0.1	0.2
	U.S. No. 2	0.7	206	0.1	0.0	0.5	258	0.1	0.0	0.5	394	0.1	0.0	0.5
	U.S. No. 3	1.3	42	0.1	0.0	0.5	23	0.1	0.0	0.2	3	0.1	0.1	0.1
	U.S. No. 4	3.0	--	--	--	--	--	--	--	--	2	0.0	0.0	0.0
	U.S. Sample Grade	N/A	1	0.1	0.1	0.1	6	0.2	0.1	0.3	26	0.1	0.0	0.3
	All lots	N/A	249	0.1	0.0	0.5	289	0.1	0.0	0.5	431	0.1	0.0	0.5
Shrunken and Broken	U.S. No. 1	3.0	--	--	--	--	2	0.5	0.4	0.6	6	0.7	0.6	0.7
	U.S. No. 2	5.0	206	0.8	0.3	1.5	258	0.7	0.0	1.5	394	0.7	0.1	1.3
	U.S. No. 3	8.0	42	1.0	0.6	1.8	23	1.1	0.7	1.7	3	0.9	0.9	0.9
	U.S. No. 4	12.0	--	--	--	--	--	--	--	--	2	1.1	1.1	1.1
	U.S. Sample Grade	N/A	1	0.8	0.8	0.8	6	1.1	0.6	1.3	26	1.1	0.8	1.3
	All lots	N/A	249	0.8	0.3	1.8	289	0.8	0.0	1.7	431	0.8	0.1	1.3

Table 4. Summary of export Soft Red Winter wheat quality, 2010-2012, continued

Factor	Grade	Grade Limit	2010				2011				2012			
			No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High
Total Defects ¹	U.S. No. 1	3.0	--	--	--	--	2	1.3	1.1	1.5	6	2.0	1.5	2.6
	U.S. No. 2	5.0	206	3.3	1.1	5.0	258	2.9	0.0	4.9	394	2.7	1.1	5
	U.S. No. 3	8.0	42	3.9	1.7	5.9	23	4.0	1.8	7.5	3	5.7	5.7	5.7
	U.S. No. 4	12.0	--	--	--	--	--	--	--	--	2	4.8	4.8	4.8
	U.S. Sample Grade	N/A	1	25.4	25.4	25.4	6	12.3	4.0	31.0	26	8.4	3.8	24.5
	All lots	N/A	249	3.4	1.1	25.4	289	3.2	0.0	31.0	431	3.5	1.1	24.5
Dockage	U.S. No. 1	N/A	--	--	--	--	2	0.7	0.6	0.7	6	1.1	0.9	1.2
	U.S. No. 2	N/A	203	0.8	0.3	1.5	249	0.8	0.1	1.4	393	0.8	0.4	1.8
	U.S. No. 3	N/A	42	0.8	0.3	1.2	22	0.8	0.5	1.2	3	0.5	0.5	0.5
	U.S. No. 4	N/A	--	--	--	--	--	--	--	--	2	0.7	0.7	0.7
	U.S. Sample Grade	N/A	1	0.7	0.7	0.7	5	2.4	0.6	3.3	26	1.2	0.7	2.2
	All lots	N/A	246	0.8	0.3	1.5	278	0.8	0.1	3.3	430	0.8	0.4	2.2
Wheat of	U.S. No. 1	3.0	--	--	--	--	2	0.1	0.0	0.1	6	1.4	0.0	1.8
Other Classes	U.S. No. 2	5.0	206	0.4	0.0	3.3	258	0.5	0.0	4.2	394	0.5	0.0	3.8
	U.S. No. 3	10.0	42	0.7	0.0	5.0	23	1.4	0.0	6.0	3	0.7	0.7	0.7
	U.S. No. 4	10.0	--	--	--	--	--	--	--	--	2	0.1	0.1	0.1
	U.S. Sample Grade	N/A	1	0.1	0.1	0.1	6	0.1	0.0	0.2	26	0.4	0.0	0.9
	All lots	N/A	249	0.5	0.0	5.0	289	0.5	0.0	6.0	431	0.5	0.0	3.8
Contrasting Classes	U.S. No. 1	1.0	--	--	--	--	2	0.0	0.0	0.0	6	0.0	0.0	0.0
	U.S. No. 2	2.0	206	0.0	0.0	0.9	258	0.0	0.0	0.7	394	0.0	0.0	0.6
	U.S. No. 3	3.0	42	0.0	0.0	0.5	23	0.0	0.0	0.0	3	0.1	0.1	0.1
	U.S. No. 4	10.0	--	--	--	--	--	--	--	--	2	0.0	0.0	0.0
	U.S. Sample Grade	N/A	1	0.0	0.0	0.0	6	0.0	0.0	0.0	26	0.0	0.0	0.2
	All lots	N/A	249	0.0	0.0	0.9	289	0.0	0.0	0.7	431	0.0	0.0	0.6
Protein (as is basis)	U.S. No. 1	N/A	--	--	--	--	2	10.8	10.6	10.9	4	10.9	10.8	11.2
	U.S. No. 2	N/A	197	9.9	0.4	10.9	213	10.1	9.2	12.8	321	10.3	9.1	11.6
	U.S. No. 3	N/A	39	9.9	9.0	10.9	21	10.0	9.4	10.7	3	9.6	9.6	9.6
	U.S. No. 4	N/A	--	--	--	--	--	--	--	--	2	9.5	9.5	9.5
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	5	9.2	9.1	9.6
	All lots	N/A	236	9.9	0.4	10.9	236	10.1	9.2	12.8	335	10.3	9.1	11.6
Protein (12% moisture)	U.S. No. 1	N/A	--	--	--	--	2	10.9	10.7	11.1	4	10.8	10.7	11.3
	U.S. No. 2	N/A	197	10.0	0.4	10.9	213	10.2	9.3	12.9	321	10.4	9.2	11.6
	U.S. No. 3	N/A	39	9.9	9.2	10.9	21	10.1	9.5	10.7	3	9.7	9.7	9.7
	U.S. No. 4	N/A	--	--	--	--	--	--	--	--	2	9.6	9.6	9.6
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	5	9.3	9.2	9.7
	All lots	N/A	236	10.0	0.4	10.9	236	10.2	9.3	12.9	335	10.3	9.2	11.6

N/A = Does not apply.

-- = No lots reported in this category.

¹The sum of the component factor averages may not equal the average for this factor due to rounding.

Figure 5. SRW Dockage Distribution, All Grades

**U.S. WHEAT EXPORTED, 2012
DISTRIBUTION FOR DOCKAGE – ALL GRADES
SRW**

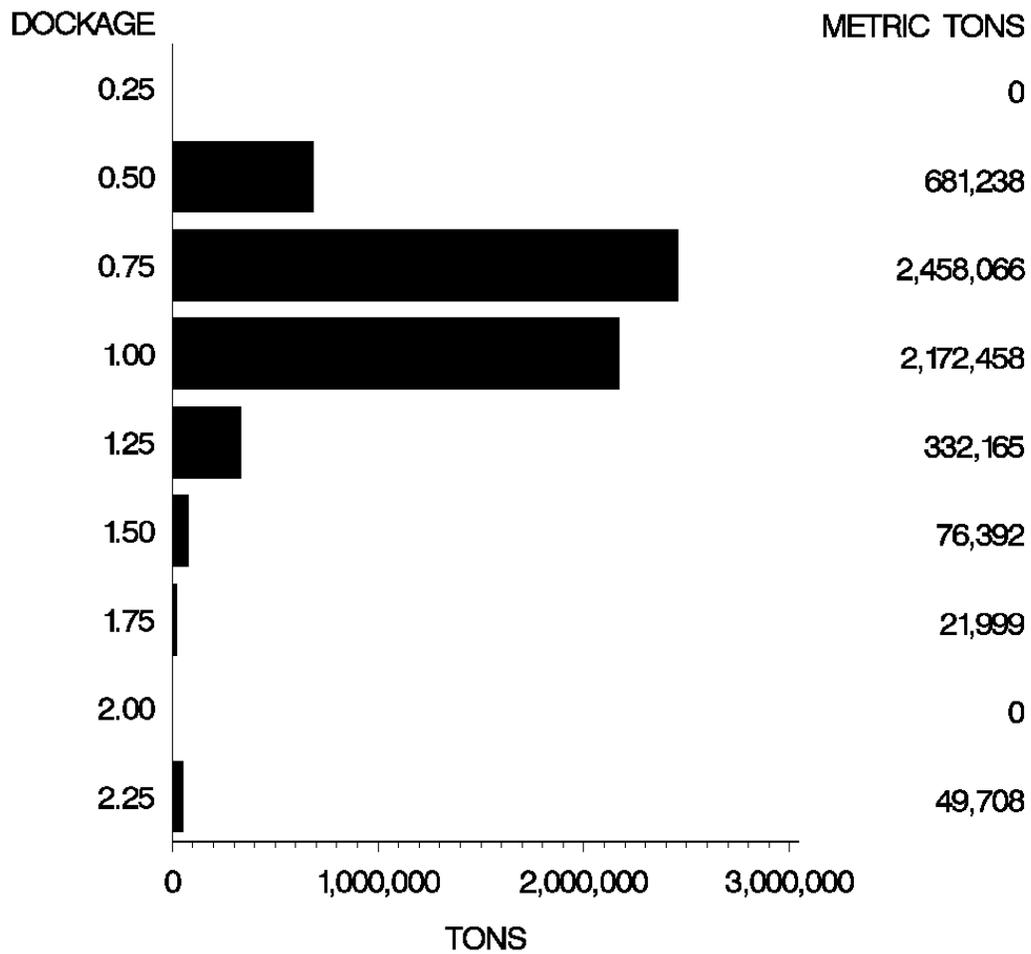


Figure 6. SRW Protein Distribution, All Grades

U.S. WHEAT EXPORTED, 2012
DISTRIBUTION FOR PROTEIN (12% M) – ALL GRADES
SRW

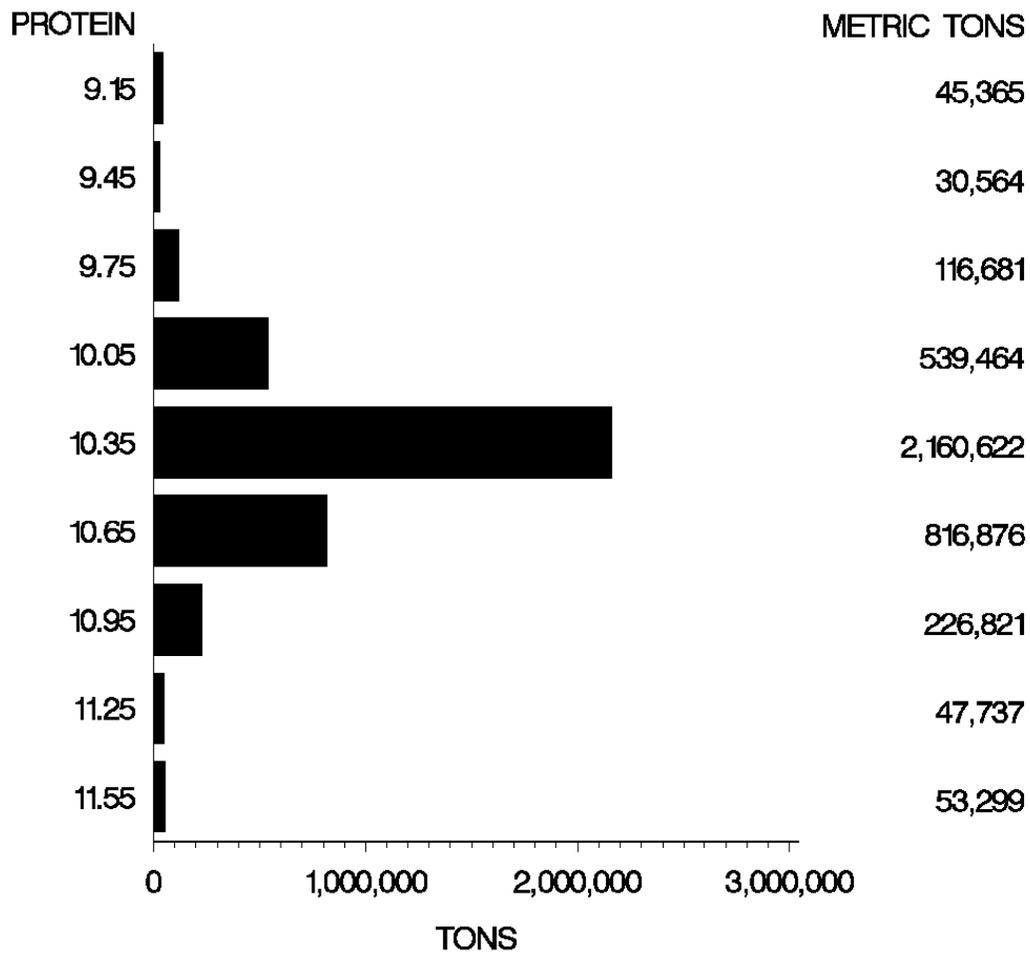


Table 5. Summary of export Durum wheat quality, 2010-2012

Factor	Grade	Grade Limit	2010				2011				2012			
			No. of				No. of				No. of			
			Lots	Avg.	Low	High	Lots	Avg.	Low	High	Lots	Avg.	Low	High
Test Weight (lb/bu)	U.S. No. 1	60.0	53	62.1	61.0	63.3	22	62.6	62.0	63.2	16	62.1	60.9	63.8
	U.S. No. 2	58.0	43	61.9	60.1	62.7	24	60.8	58.5	62.5	39	60.6	59.4	61.7
	U.S. No. 3	56.0	8	60.1	59.0	61.3	16	59.9	59.1	60.8	15	59.9	59.1	60.7
	U.S. No. 4	54.0	--	--	--	--	7	59.4	58.8	60.1	2	59.2	59.2	59.2
	U.S. No. 5	51.0	2	59.4	59.0	59.7	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	1	62.2	62.2	62.2	--	--	--	--	--	--	--	--
	All lots	N/A	107	61.8	59.0	63.3	69	60.9	58.5	63.2	72	60.9	59.1	63.8
Test Weight (kg/hl)	U.S. No. 1	N/A	53	80.8	79.4	82.5	22	81.5	80.7	82.3	16	80.9	79.3	83.0
	U.S. No. 2	N/A	43	80.6	78.3	81.6	24	79.2	76.2	81.4	39	78.9	77.4	80.4
	U.S. No. 3	N/A	8	78.3	76.8	79.8	16	78.0	77.0	79.1	15	78.0	77.0	79.0
	U.S. No. 4	N/A	--	--	--	--	7	77.4	76.6	78.3	2	77.2	77.2	77.2
	U.S. No. 5	N/A	2	77.4	76.9	77.8	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	1	81.0	81.0	81.0	--	--	--	--	--	--	--	--
	All lots	N/A	107	80.4	76.8	82.5	69	79.4	76.2	82.3	72	79.3	77.0	83.0
Moisture	U.S. No. 1	N/A	53	10.2	6.5	12.6	22	7.0	6.2	8.0	16	7.3	5.9	11.5
	U.S. No. 2	N/A	43	12.0	7.5	12.8	24	12.5	11.6	13.1	39	12	9.7	13
	U.S. No. 3	N/A	8	12.6	12.3	13.2	16	12.8	12.4	13.0	15	12.4	11.9	12.8
	U.S. No. 4	N/A	--	--	--	--	7	12.7	12.6	12.8	2	12.6	12.6	12.6
	U.S. No. 5	N/A	2	12.4	12.4	12.5	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	1	7.9	7.9	7.9	--	--	--	--	--	--	--	--
	All lots	N/A	107	11.0	6.5	13.2	69	10.9	6.2	13.1	72	10.5	5.9	13.0
Heat-damaged Kernels	U.S. No. 1	0.2	53	0.0	0.0	0.1	22	0.0	0.0	0.2	16	0.0	0.0	0.0
	U.S. No. 2	0.2	43	0.0	0.0	0.0	24	0.0	0.0	0.1	39	0.0	0.0	0.1
	U.S. No. 3	0.5	8	0.0	0.0	0.0	16	0.0	0.0	0.1	15	0.0	0.0	0.1
	U.S. No. 4	1.0	--	--	--	--	7	0.0	0.0	0.0	2	0.0	0.0	0.0
	U.S. No. 5	3.0	2	0.0	0.0	0.0	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	1	0.0	0.0	0.0	--	--	--	--	--	--	--	--
	All lots	N/A	107	0.0	0.0	0.1	69	0.0	0.0	0.2	72	0.0	0.0	0.1
Damaged Kernels (Total)	U.S. No. 1	2.0	53	0.8	0.3	1.7	22	0.4	0.1	0.6	16	0.4	0.1	1.1
	U.S. No. 2	4.0	43	1.4	0.0	3.0	24	1.8	0.1	3.8	39	2.1	0.1	3
	U.S. No. 3	7.0	8	4.0	2.2	5.6	16	4.9	2.2	6.1	15	4.2	1.7	5.4
	U.S. No. 4	10.0	--	--	--	--	7	7.1	5.2	9.4	2	6.9	6.9	6.9
	U.S. No. 5	15.0	2	6.9	5.9	7.9	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	1	0.8	0.8	0.8	--	--	--	--	--	--	--	--
	All lots	N/A	107	1.5	0.0	7.9	69	3.0	0.1	9.4	72	2.1	0.1	6.9
Foreign Material	U.S. No. 1	0.4	53	0.1	0.1	0.3	22	0.1	0.0	0.4	16	0.1	0.0	0.4
	U.S. No. 2	0.7	43	0.2	0.0	0.5	24	0.1	0.0	0.3	39	0.1	0.0	0.3
	U.S. No. 3	1.3	8	0.2	0.1	0.3	16	0.2	0.0	0.5	15	0.2	0.1	0.3
	U.S. No. 4	3.0	--	--	--	--	7	0.2	0.1	0.3	2	0.1	0.1	0.1
	U.S. No. 5	5.0	2	0.2	0.2	0.2	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	1	0.7	0.7	0.7	--	--	--	--	--	--	--	--
	All lots	N/A	107	0.2	0.0	0.7	69	0.2	0.0	0.5	72	0.1	0.0	0.4

Table 5. Summary of export Durum wheat quality, 2010-2012, continued

Factor	Grade	Grade Limit	2010				2011				2012			
			No. of				No. of				No. of			
			Lots	Avg.	Low	High	Lots	Avg.	Low	High	Lots	Avg.	Low	High
Shrunken and Broken	U.S. No. 1	3.0	53	0.9	0.4	1.2	22	0.8	0.4	1.4	16	1.0	0.6	1.5
	U.S. No. 2	5.0	43	1.0	0.5	1.7	24	1.1	0.8	1.9	39	1.6	0.9	2.1
	U.S. No. 3	8.0	8	1.3	1.1	1.6	16	1.4	1.0	1.6	15	1.8	1.5	2.1
	U.S. No. 4	12.0	--	--	--	--	7	1.5	1.1	1.7	2	2.1	2.1	2.1
	U.S. No. 5	20.0	2	1.5	1.4	1.6	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	1	1.1	1.1	1.1	--	--	--	--	--	--	--	--
	All lots	N/A	107	1.0	0.4	1.7	69	1.1	0.4	1.9	72	1.5	0.6	2.1
Total Defects ¹	U.S. No. 1	3.0	53	0.5	0.3	0.8	22	1.3	0.6	2.1	16	1.5	0.9	2.6
	U.S. No. 2	5.0	43	0.5	0.1	0.8	24	3.1	1.3	5.0	39	3.8	2.0	4.8
	U.S. No. 3	8.0	8	0.6	0.5	0.7	16	6.5	3.7	7.7	15	6.1	3.5	7.4
	U.S. No. 4	12.0	--	--	--	--	7	8.8	6.9	11.2	2	9.1	9.1	9.1
	U.S. No. 5	20.0	2	0.6	0.6	0.6	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	1	1.0	1.0	1.0	--	--	--	--	--	--	--	--
	All lots	N/A	107	0.5	0.1	1.0	69	4.3	0.6	11.2	72	3.7	0.9	9.1
Dockage	U.S. No. 1	N/A	53	0.5	0.3	0.8	22	0.5	0.4	0.7	16	0.5	0.4	0.7
	U.S. No. 2	N/A	43	0.5	0.1	0.8	24	0.6	0.4	1.0	39	0.7	0.4	1.0
	U.S. No. 3	N/A	8	0.6	0.5	0.7	15	0.6	0.6	0.7	15	0.7	0.3	1.0
	U.S. No. 4	N/A	--	--	--	--	7	0.7	0.6	0.8	2	0.8	0.8	0.8
	U.S. No. 5	N/A	2	0.6	0.6	0.6	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	1	1.0	1.0	1.0	--	--	--	--	--	--	--	--
	All lots	N/A	107	0.5	0.1	1.0	68	0.6	0.4	1.0	72	0.6	0.3	1.0
Contrasting Classes	U.S. No. 1	1.0	53	0.5	0.0	1.0	22	0.1	0.0	0.5	16	0.2	0.0	0.9
	U.S. No. 2	2.0	43	1.1	0.0	1.9	24	0.8	0.0	1.6	39	0.9	0.3	1.8
	U.S. No. 3	3.0	8	1.2	0.6	1.7	16	1.3	0.4	2.4	15	1.3	0.0	1.8
	U.S. No. 4	10.0	--	--	--	--	7	1.6	1.0	2.8	2	1.8	1.8	1.8
	U.S. No. 5	10.0	2	1.1	0.9	1.3	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	1	0.4	0.4	0.4	--	--	--	--	--	--	--	--
	All lots	N/A	107	0.7	0.0	1.9	69	0.9	0.0	2.8	72	0.8	0.0	1.8
Protein (as is basis)	U.S. No. 1	N/A	48	13.3	12.2	14.5	20	13.6	12.6	14.1	16	13.9	12.2	14.5
	U.S. No. 2	N/A	34	13.0	12.4	13.9	18	13.4	12.3	15.3	29	14.0	13.3	16.4
	U.S. No. 3	N/A	8	13.2	13.0	13.4	16	13.2	13.0	13.5	15	13.9	13.3	15.4
	U.S. No. 4	N/A	--	--	--	--	7	13.2	13.0	13.5	2	13.5	13.5	13.5
	U.S. No. 5	N/A	2	13.2	13.1	13.2	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	1	11.6	11.6	11.6	--	--	--	--	--	--	--	--
	All lots	N/A	93	13.2	11.6	14.5	61	13.4	12.3	15.3	62	13.9	12.2	16.4
Protein (12% moisture)	U.S. No. 1	N/A	48	13.0	11.6	14.2	20	12.9	11.9	13.4	16	13.9	12.2	14.5
	U.S. No. 2	N/A	34	13.1	11.8	13.9	18	13.5	12.4	15.3	29	14.0	13.3	16.4
	U.S. No. 3	N/A	8	13.3	13.0	13.5	16	13.3	13.1	13.6	15	13.9	13.3	15.4
	U.S. No. 4	N/A	--	--	--	--	7	13.4	13.1	13.6	2	13.5	13.5	13.5
	U.S. No. 5	N/A	2	13.2	13.2	13.3	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	1	11.1	11.1	11.1	--	--	--	--	--	--	--	--
	All lots	N/A	93	13.1	11.1	14.2	61	13.2	11.9	15.3	62	13.9	12.2	16.4

N/A=Does Not Apply, -- = No lots reported, 1. Sum of component factor avg. may not equal factor avg.

Figure 7. DU Dockage Distribution, All Grades

**U.S. WHEAT EXPORTED, 2012
DISTRIBUTION FOR DOCKAGE — ALL GRADES
DU**

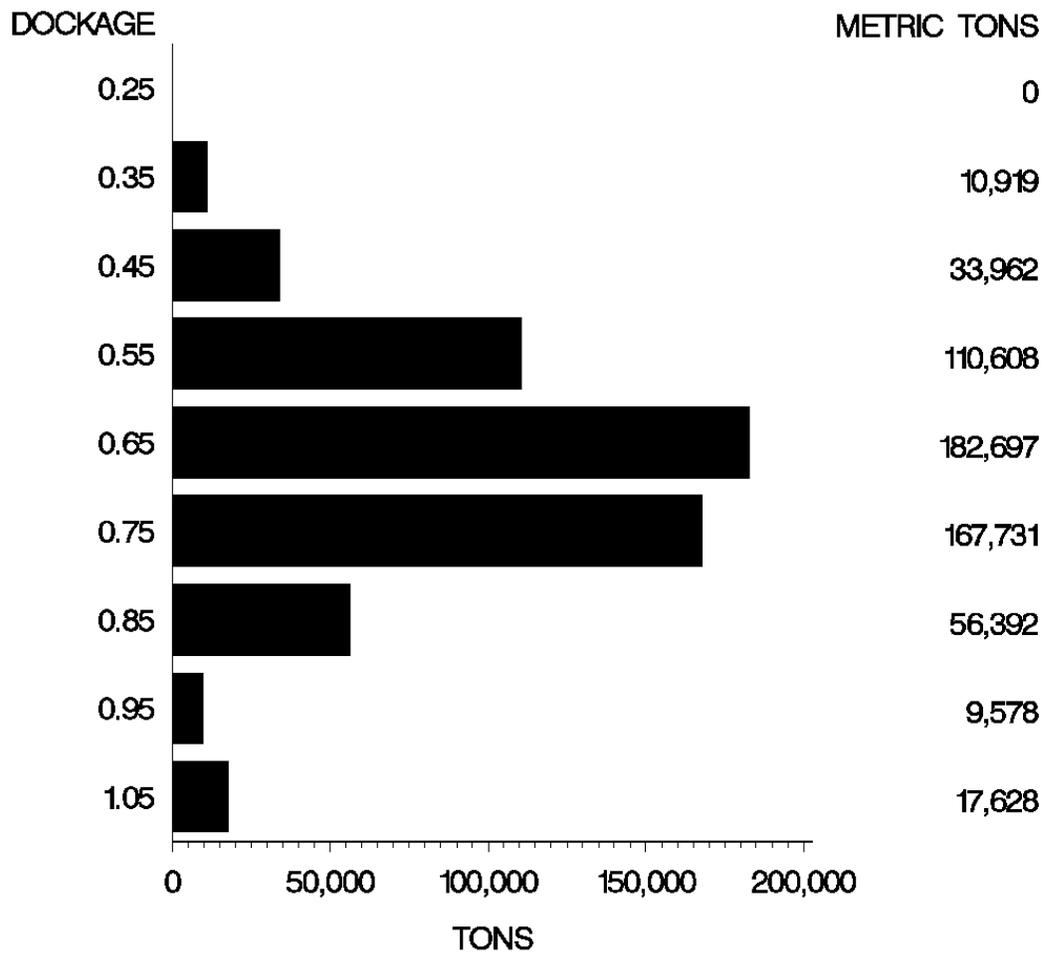


Figure 8. DU Protein Distribution, All Grades

U.S. WHEAT EXPORTED, 2012
DISTRIBUTION FOR PROTEIN (12% M) – ALL GRADES
DU

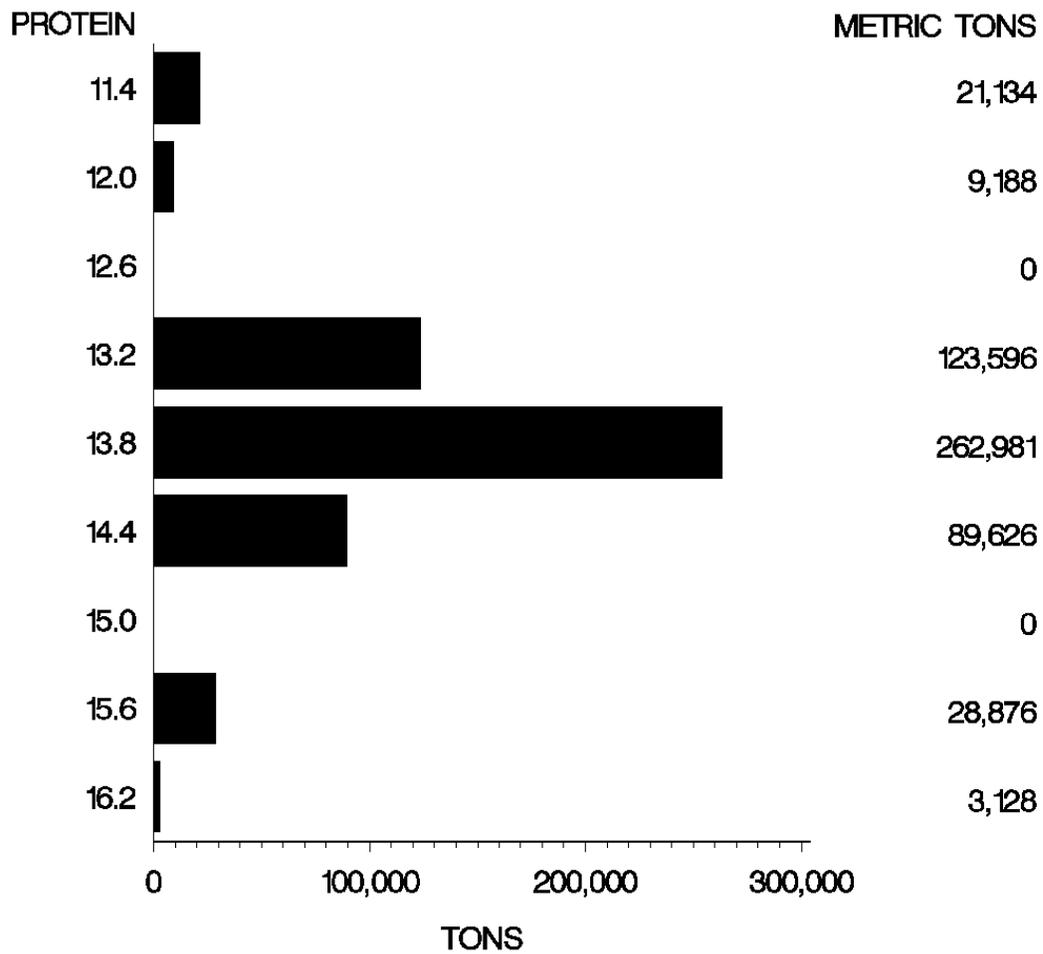


Table 6. Summary of export Soft White wheat quality, 2010-2012

Factor	Grade	Grade Limit	2010				2011				2012			
			No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High
Test Weight (lb/bu)	U.S. No. 1	60.0	120	61.2	60.0	62.8	98	61.6	60.1	63.5	130	62	60.1	63.5
	U.S. No. 2	58.0	200	61.3	60.0	62.9	175	61.5	60.1	63.3	255	62.1	60.8	63.6
	U.S. No. 3	56.0	1	59.3	59.3	59.3	--	--	--	--	2	62.1	62.1	62.1
	U.S. No. 4	54.0	4	61.3	61.0	61.5	2	61.8	61.7	61.9	15	61.7	61.2	62.2
	U.S. Sample Grade	N/A	--	--	--	--	3	61.7	60.6	62.7	11	61.9	61.3	62.8
	All lots	N/A	325	61.3	59.3	62.9	278	61.5	60.1	63.5	413	62	60.1	63.6
Test Weight (kg/hl)	U.S. No. 1	N/A	120	80.5	79.0	82.6	98	81.0	79.1	83.5	130	81.5	79.1	83.5
	U.S. No. 2	N/A	200	80.6	78.9	82.6	175	80.9	79.1	83.2	255	81.6	80	83.6
	U.S. No. 3	N/A	1	78.0	78.0	78.0	--	--	--	--	2	81.7	81.7	81.7
	U.S. No. 4	N/A	4	80.6	80.2	80.9	2	81.2	81.1	81.3	15	81.1	80.5	81.7
	U.S. Sample Grade	N/A	--	--	--	--	3	81.1	79.7	82.4	11	81.4	80.6	82.5
	All lots	N/A	325	80.6	78.0	82.6	278	80.9	79.1	83.5	413	81.5	79.1	83.6
Moisture	U.S. No. 1	N/A	120	10.0	8.5	12.0	98	9.9	9.2	11.6	130	9.9	8.9	12.4
	U.S. No. 2	N/A	200	9.8	9.0	10.9	175	9.9	9.2	11.7	255	9.7	8.8	11.1
	U.S. No. 3	N/A	1	11.5	11.5	11.5	--	--	--	--	2	10	10	10
	U.S. No. 4	N/A	4	9.2	9.0	10.0	2	9.9	9.8	10.0	15	9.9	9	10.6
	U.S. Sample Grade	N/A	--	--	--	--	3	9.8	9.6	10.2	11	9.7	9.3	10.1
	All lots	N/A	325	9.8	8.5	12.0	278	9.9	9.2	11.7	413	9.8	8.8	12.4
Heat-damaged Kernels	U.S. No. 1	0.2	120	0.0	0.0	0.1	98	0.0	0.0	0.0	130	0.0	0.0	0.2
	U.S. No. 2	0.2	200	0.0	0.0	0.0	175	0.0	0.0	0.0	255	0.0	0.0	0.0
	U.S. No. 3	0.5	1	0.0	0.0	0.0	--	--	--	--	2	0.0	0.0	0.0
	U.S. No. 4	1.0	4	0.0	0.0	0.0	2	0.0	0.0	0.0	15	0.0	0.0	0.0
	U.S. Sample Grade	N/A	--	--	--	--	3	0.0	0.0	0.0	11	0.0	0.0	0.0
	All lots	N/A	325	0.0	0.0	0.1	278	0.0	0.0	0.0	413	0.0	0.0	0.2
Damaged Kernels (Total)	U.S. No. 1	2.0	120	0.2	0.0	1.5	98	0.1	0.0	0.5	130	0.1	0.0	0.5
	U.S. No. 2	4.0	200	0.1	0.0	2.4	175	0.1	0.0	0.9	255	0.1	0.0	0.4
	U.S. No. 3	7.0	1	0.2	0.2	0.2	--	--	--	--	2	0.1	0.1	0.1
	U.S. No. 4	10.0	4	0.2	0.1	0.4	2	0.0	0.0	0.1	15	0.1	0.0	0.2
	U.S. Sample Grade	N/A	--	--	--	--	3	0.2	0.1	0.3	11	0.2	0.0	0.5
	All lots	N/A	325	0.2	0.0	2.4	278	0.1	0.0	0.9	413	0.1	0.0	0.5
Foreign Material	U.S. No. 1	0.4	120	0.1	0.0	0.2	98	0.1	0.0	0.2	130	0.1	0.0	0.2
	U.S. No. 2	0.7	200	0.1	0.0	0.2	175	0.1	0.0	0.2	255	0.1	0.0	0.2
	U.S. No. 3	1.3	1	0.1	0.1	0.1	--	--	--	--	2	0.1	0.1	0.1
	U.S. No. 4	3.0	4	0.0	0.0	0.1	2	0.1	0.0	0.1	15	0.1	0.0	0.1
	U.S. Sample Grade	N/A	--	--	--	--	3	0.1	0.1	0.1	11	0.1	0.0	0.2
	All lots	N/A	325	0.1	0.0	0.2	278	0.1	0.0	0.2	413	0.1	0.0	0.2
Shrunken and Broken	U.S. No. 1	3.0	120	0.9	0.4	1.3	98	0.9	0.3	2.1	130	0.7	0.3	1.1
	U.S. No. 2	5.0	200	0.9	0.4	1.7	175	0.9	0.4	1.9	255	0.7	0.5	1.6
	U.S. No. 3	8.0	1	1.1	1.1	1.1	--	--	--	--	2	0.6	0.6	0.6
	U.S. No. 4	12.0	4	1.0	0.9	1.0	2	0.7	0.7	0.7	15	0.6	0.5	0.8
	U.S. Sample Grade	N/A	--	--	--	--	3	0.7	0.6	0.8	11	0.7	0.6	0.8
	All lots	N/A	325	0.9	0.4	1.7	278	0.9	0.3	2.1	413	0.7	0.3	1.6
Total Defects ¹	U.S. No. 1	3.0	120	1.1	0.5	2.4	98	1.0	0.3	2.2	130	0.9	0.3	1.3
	U.S. No. 2	5.0	200	1.2	0.6	3.4	175	1.1	0.5	2.1	255	0.9	0.6	1.7
	U.S. No. 3	8.0	1	1.4	1.4	1.4	--	--	--	--	2	0.8	0.8	0.8
	U.S. No. 4	12.0	4	1.2	1.0	1.5	2	0.8	0.8	0.8	15	0.8	0.6	0.9
	U.S. Sample Grade	N/A	--	--	--	--	3	1.0	0.9	1.1	11	1.0	0.7	1.3
	All lots	N/A	325	1.2	0.5	3.4	278	1.1	0.3	2.2	413	0.9	0.3	1.7

Table 6. Summary of export Soft White wheat quality, 2010-2012, continued

Factor	Grade	Grade Limit	2010				2011				2012			
			No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High
Dockage	U.S. No. 1	N/A	120	0.3	0.1	0.5	98	0.3	0.1	0.5	130	0.3	0.1	1.0
	U.S. No. 2	N/A	200	0.3	0.1	0.7	175	0.4	0.1	0.8	255	0.3	0.1	0.7
	U.S. No. 3	N/A	1	0.4	0.4	0.4	--	--	--	--	2	0.4	0.4	0.4
	U.S. No. 4	N/A	4	0.5	0.4	0.5	2	0.4	0.4	0.4	14	0.4	0.3	0.5
	U.S. Sample Grade	N/A	--	--	--	--	2	0.4	0.4	0.5	9	0.5	0.3	0.8
	All lots	N/A	325	0.3	0.1	0.7	277	0.4	0.1	0.8	410	0.3	0.1	1.0
Wheat of	U.S. No. 1	3.0	120	0.3	0.0	1.0	98	0.3	0.0	0.9	130	0.3	0.0	1.3
Other Classes	U.S. No. 2	5.0	200	0.3	0.0	3.0	175	0.3	0.0	1.9	255	0.3	0.0	1.3
	U.S. No. 3	10.0	1	0.1	0.1	0.1	--	--	--	--	2	0.1	0.1	0.1
	U.S. No. 4	10.0	4	0.5	0.2	1.4	2	0.4	0.3	0.5	15	0.2	0.0	0.5
	U.S. Sample Grade	N/A	--	--	--	--	3	0.2	0.2	0.4	11	0.6	0.1	7.7
	All lots	N/A	325	0.3	0.0	3.0	278	0.3	0.0	1.9	413	0.3	0.0	7.7
Contrasting Classes	U.S. No. 1	1.0	120	0.3	0.0	1.0	98	0.3	0.0	0.9	130	0.3	0.0	0.9
	U.S. No. 2	2.0	200	0.3	0.0	1.2	175	0.3	0.0	1.3	255	0.3	0.0	1.0
	U.S. No. 3	3.0	1	0.1	0.1	0.1	--	--	--	--	2	0.1	0.1	0.1
	U.S. No. 4	10.0	4	0.5	0.2	1.4	2	0.4	0.3	0.5	15	0.2	0.0	0.5
	U.S. Sample Grade	N/A	--	--	--	--	3	0.2	0.2	0.4	11	0.6	0.1	7.7
	All lots	N/A	325	0.3	0.0	1.4	278	0.3	0.0	1.3	413	0.3	0.0	7.7
Protein (as is basis)	U.S. No. 1	N/A	120	10.1	8.3	10.8	98	9.7	8.3	11.7	130	9.6	7.7	10.6
	U.S. No. 2	N/A	200	10.4	9.3	10.9	175	9.8	8.0	10.7	243	9.7	8.6	14.3
	U.S. No. 3	N/A	1	10.4	10.4	10.4	--	--	--	--	2	9.3	9.3	9.3
	U.S. No. 4	N/A	0	--	--	--	--	--	--	--	8	9.3	9.2	10.3
	All lots	N/A	321	10.3	8.3	10.9	273	9.8	8.0	11.7	383	9.7	7.7	14.3
Protein (12% moisture)	U.S. No. 1	N/A	120	9.9	8.3	10.5	98	9.5	8.1	11.5	130	9.4	7.7	10.4
	U.S. No. 2	N/A	200	10.1	9.2	10.6	175	9.6	8.0	10.5	243	9.5	8.4	14
	U.S. No. 3	N/A	1	10.3	10.3	10.3	--	--	--	--	2	9.1	9.1	9.1
	U.S. No. 4	N/A	0	--	--	--	--	--	--	--	8	9.1	9.0	10
	All lots	N/A	321	10.1	8.3	10.6	273	9.6	8.0	11.5	383	9.4	7.7	14.0

N/A = Does not apply.

-- = No lots reported in this category.

¹The sum of the component factor averages may not equal the average for this factor due to rounding.

Figure 9. SWH Dockage Distribution, All Grades

**U.S. WHEAT EXPORTED, 2012
DISTRIBUTION FOR DOCKAGE – ALL GRADES
SWH**

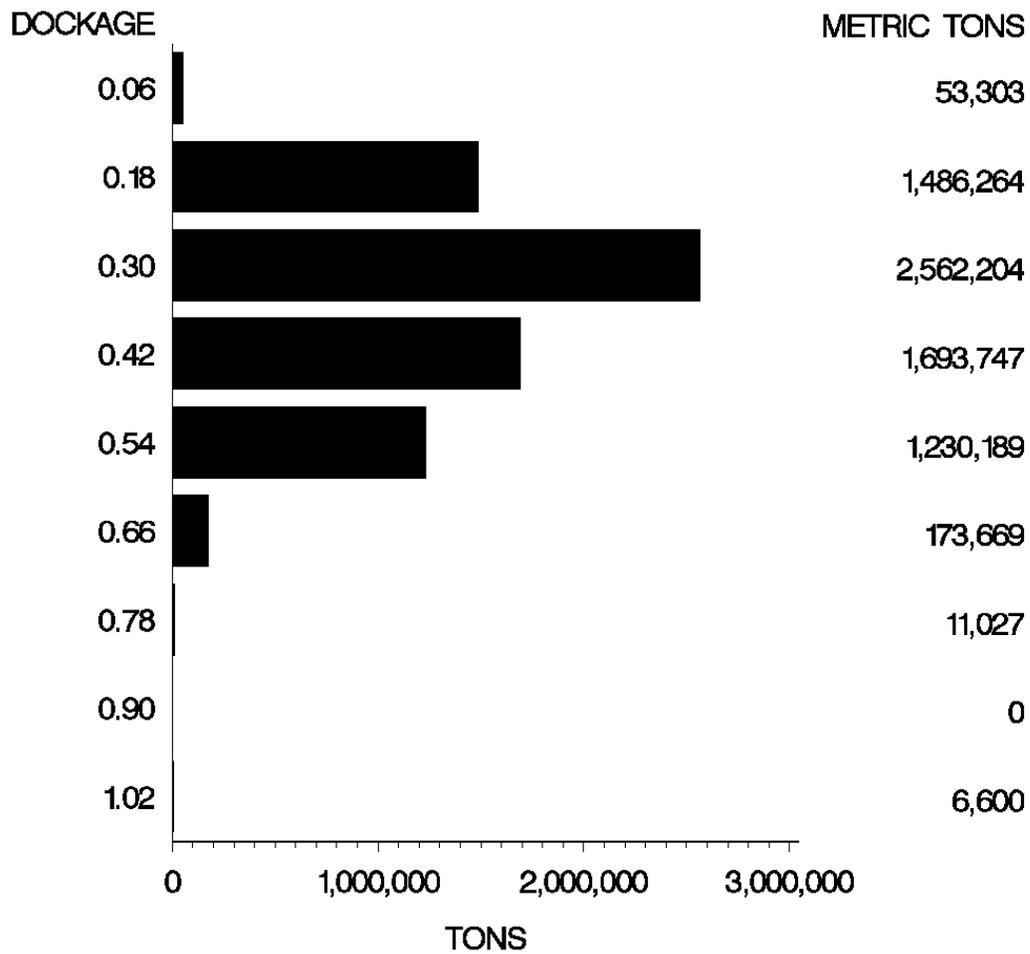


Figure 10. SWH Protein Distribution, All Grades

U.S. WHEAT EXPORTED, 2012
DISTRIBUTION FOR PROTEIN (12% M) – ALL GRADES
SWH

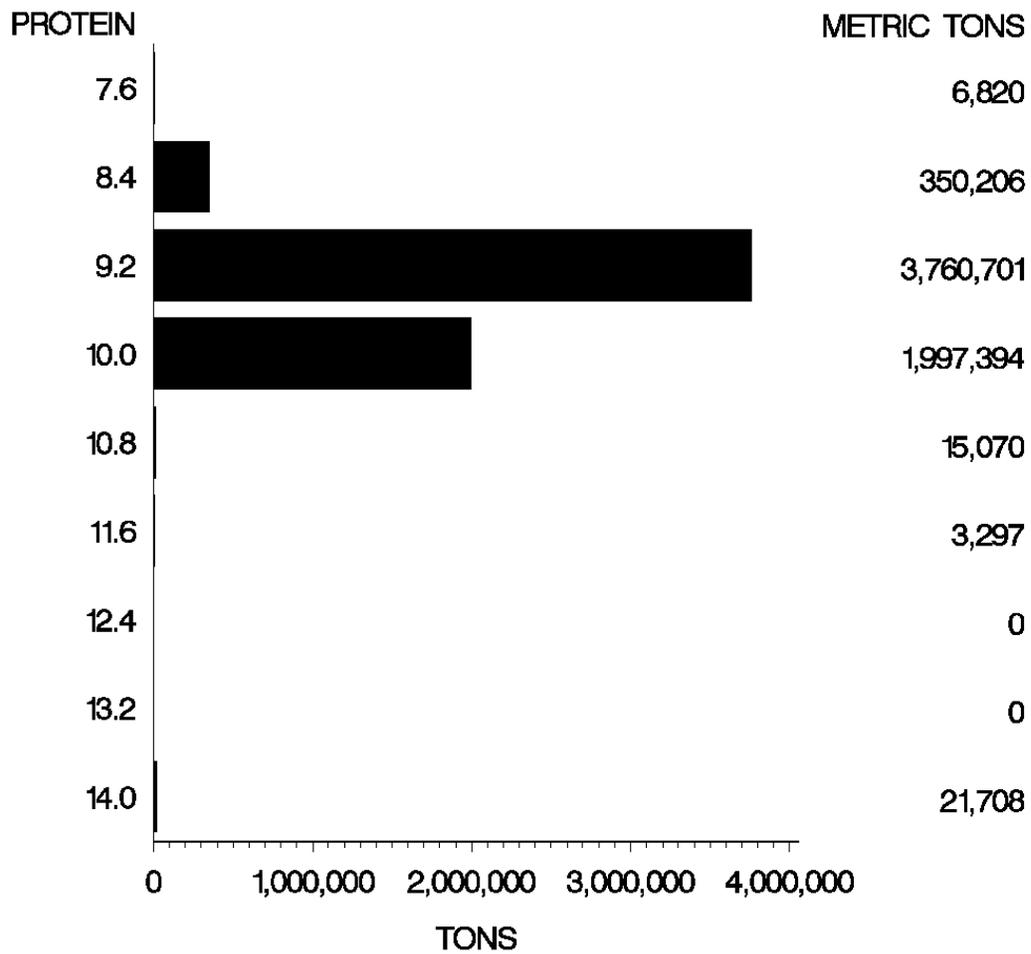


Table 7. Summary of export Hard White wheat quality, 2010-2012

Factor	Grade	Grade Limit	2010				2011				2012			
			No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High
Test Weight (lb/bu)	U.S. No. 1	60.0	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. No. 2	58.0	--	--	--	--	1	63.2	63.2	63.2	11	62.5	62.2	63.2
	U.S. No. 3	56.0	--	--	--	--	2	61.5	61.5	61.5	3	63.3	63.1	63.5
	U.S. No. 4	54.0	12	62.8	61.8	63.5	11	62.3	61.4	63.0	14	62.5	61.7	63.4
	All lots	N/A	12	62.8	61.8	63.5	14	62.4	61.4	63.2	28	62.6	61.7	63.5
Test Weight (kg/hl)	U.S. No. 1	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. No. 2	N/A	--	--	--	--	1	83.1	83.1	83.1	11	82.1	81.8	83.0
	U.S. No. 3	N/A	--	--	--	--	2	80.9	80.9	80.9	3	83.2	83.0	83.4
	U.S. No. 4	N/A	12	82.6	81.3	83.4	11	82.0	80.7	82.8	14	82.2	81.2	83.4
	All lots	N/A	12	82.6	81.3	83.4	14	82.0	80.7	83.1	28	82.3	81.2	83.4
Moisture	U.S. No. 1	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. No. 2	N/A	--	--	--	--	1	10.5	10.5	10.5	11	10.1	9.9	10.4
	U.S. No. 3	N/A	--	--	--	--	2	10.5	10.5	10.5	3	10.2	10.1	10.3
	U.S. No. 4	N/A	12	11.2	10.8	11.4	11	10.9	10.5	11.2	14	10.3	9.9	10.7
	All lots	N/A	12	11.2	10.8	11.4	14	10.9	10.5	11.2	28	10.2	9.9	10.7
Heat-damaged Kernels	U.S. No. 1	0.2	--	--	--	--	--	0.0	0.0	0.0	--	--	--	--
	U.S. No. 2	0.2	--	--	--	--	1	0.0	0.0	0.0	11	0.0	0.0	0.0
	U.S. No. 3	0.5	--	--	--	--	2	0.0	0.0	0.0	3	0.0	0.0	0.0
	U.S. No. 4	1.0	12	0.0	0.0	0.1	11	0.0	0.0	0.0	14	0.0	0.0	0.0
	All lots	N/A	12	0.0	0.0	0.1	14	0.0	0.0	0.0	28	0.0	0.0	0.0
Damaged Kernels (Total)	U.S. No. 1	2.0	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. No. 2	4.0	--	--	--	--	1	0.4	0.4	0.4	11	0.8	0.5	1.2
	U.S. No. 3	7.0	--	--	--	--	2	0.3	0.3	0.3	3	0.6	0.5	0.7
	U.S. No. 4	10.0	12	0.9	0.4	1.6	11	1.0	0.5	1.7	14	1.5	0.6	2.0
	All lots	N/A	12	0.9	0.4	1.6	14	1.0	0.3	1.7	28	1.1	0.5	2.0
Foreign Material	U.S. No. 1	0.4	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. No. 2	0.7	--	--	--	--	1	0.1	0.1	0.1	11	0.1	0.1	0.2
	U.S. No. 3	1.3	--	--	--	--	2	0.1	0.1	0.1	3	0.2	0.1	0.3
	U.S. No. 4	3.0	12	0.2	0.1	0.5	11	0.4	0.1	0.5	14	0.2	0.1	0.4
	All lots	N/A	12	0.2	0.1	0.5	14	0.3	0.1	0.5	28	0.2	0.1	0.4
Shrunken and Broken	U.S. No. 1	3.0	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. No. 2	5.0	--	--	--	--	1	1.4	1.4	1.4	11	1.3	1.2	1.5
	U.S. No. 3	8.0	--	--	--	--	2	1.0	1.0	1.0	3	1.3	1.3	1.4
	U.S. No. 4	12.0	12	1.6	1.3	2.0	11	1.3	0.9	1.6	14	1.4	1.1	1.9
	All lots	N/A	12	1.6	1.3	2.0	14	1.3	0.9	1.6	28	1.3	1.1	1.9
Total Defects ¹	U.S. No. 1	3.0	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. No. 2	5.0	--	--	--	--	1	1.9	1.9	1.9	11	2.2	1.9	2.9
	U.S. No. 3	8.0	--	--	--	--	2	1.4	1.4	1.4	3	2.1	1.9	2.3
	U.S. No. 4	12.0	12	2.7	2.2	3.6	11	2.8	1.5	3.7	14	3.1	2.1	3.7
	All lots	N/A	12	2.7	2.2	3.6	14	2.6	1.4	3.7	28	2.6	1.9	3.7

Table 7. Summary of export Hard White wheat quality, 2010-2012, continued

Factor	Grade	Grade Limit	2010				2011				2012			
			No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High
Dockage	U.S. No. 1	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. No. 2	N/A	--	--	--	--	1	0.7	0.7	0.7	11	0.8	0.5	1.2
	U.S. No. 3	N/A	--	--	--	--	2	0.6	0.6	0.6	3	0.7	0.6	0.8
	U.S. No. 4	N/A	12	0.9	0.7	1.1	11	0.7	0.5	0.8	14	0.7	0.5	1.0
	All lots	N/A	12	0.9	0.7	1.1	14	0.7	0.5	0.8	28	0.8	0.5	1.2
Wheat of Other Classes	U.S. No. 1	3.0	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. No. 2	5.0	--	--	--	--	1	2.6	2.6	2.6	11	1.4	0.9	2.0
	U.S. No. 3	10.0	--	--	--	--	2	2.5	2.5	2.5	3	2.6	2.5	2.8
	U.S. No. 4	10.0	12	3.2	2.0	4.9	11	4.2	2.2	5.4	14	3.6	1.2	4.6
	All lots	N/A	12	3.2	2.0	4.9	14	4.0	2.2	5.4	28	2.5	0.9	4.6
Contrasting Classes	U.S. No. 1	1.0	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. No. 2	2.0	--	--	--	--	1	0.0	0.0	0.0	11	1.4	0.9	2.0
	U.S. No. 3	3.0	--	--	--	--	2	2.5	2.5	2.5	3	2.4	2.3	2.5
	U.S. No. 4	10.0	12	3.2	2.0	4.9	11	3.9	0.0	5.4	14	3.6	1.2	4.6
	All lots	N/A	12	3.2	2.0	4.9	14	3.5	0.0	5.4	28	2.5	0.9	4.6
Protein (as is basis)	U.S. No. 1	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. No. 2	N/A	--	--	--	--	1	13.1	13.1	13.1	11	12.9	12.6	13.4
	U.S. No. 3	N/A	--	--	--	--	2	11.4	11.4	11.4	3	12.8	12.6	13.0
	U.S. No. 4	N/A	12	11.6	11.0	12.2	11	12.2	11.8	13.1	14	12.8	12.6	13.2
	All lots	N/A	12	11.6	11.0	12.2	14	12.3	11.4	13.1	28	12.9	12.6	13.4
Protein (12% moisture)	U.S. No. 1	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. No. 2	N/A	--	--	--	--	1	12.9	12.9	12.9	11	12.6	12.3	13.1
	U.S. No. 3	N/A	--	--	--	--	2	11.2	11.2	11.2	3	12.6	12.3	12.8
	U.S. No. 4	N/A	12	11.5	10.9	12.0	11	12.1	11.7	12.9	14	12.6	12.3	13.0
	All lots	N/A	12	11.5	10.9	12.0	14	12.1	11.2	12.9	28	12.6	12.3	13.1

N/A = Does not apply.

-- = No lots reported in this category.

¹The sum of the component factor averages may not equal the average for this factor due to rounding.

Table 8. Summary of export Mixed wheat quality, 2010-2012

Factor	Grade	2010					2011				2012			
		Grade Limit	No. of				No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High
			Lots	Avg.	Low	High								
Test Weight (lb/bu)	U.S. No. 1	60.0	--	--	--	--	--	--	--	--	2	61.4	61.4	61.4
	U.S. No. 2	58.0	2	62.6	62.3	62.7	1	62.1	62.1	62.1	--	--	--	--
	U.S. Sample Grade	N/A	1	59.0	59.0	59.0	--	--	--	--	13	62.6	62.0	63.4
	All lots	N/A	3	62.5	59.0	62.7	1	62.1	62.1	62.1	15	62.6	61.4	63.4
Test Weight (kg/hl)	U.S. No. 1	N/A	--	--	--	--	--	--	--	--	2	80.7	80.7	80.7
	U.S. No. 2	N/A	2	82.3	81.9	82.4	1	81.7	81.7	81.7	--	--	--	--
	U.S. Sample Grade	N/A	1	77.6	77.6	77.6	--	--	--	--	13	82.3	81.5	83.3
	All lots	N/A	3	82.2	77.6	82.4	1	81.7	81.7	81.7	15	82.3	80.7	83.3
Moisture	U.S. No. 1	N/A	--	--	--	--	--	--	--	--	2	11.7	11.7	11.7
	U.S. No. 2	N/A	2	11.0	10.0	11.4	1	12.3	12.3	12.3	--	--	--	--
	U.S. Sample Grade	N/A	1	12.7	12.7	12.7	--	--	--	--	13	9.8	9.5	10.1
	All lots	N/A	3	11.0	10.0	12.7	1	12.3	12.3	12.3	15	9.8	9.5	11.7
Heat-damaged Kernels	U.S. No. 1	0.2	--	--	--	--	--	--	--	--	2	0.1	0.1	0.1
	U.S. No. 2	0.2	2	0.0	0.0	0.0	1	0.0	0.0	0.0	--	--	--	--
	U.S. Sample Grade	N/A	1	0.0	0.0	0.0	--	--	--	--	13	0.0	0.0	0.0
	All lots	N/A	3	0.0	0.0	0.0	1	0.0	0.0	0.0	15	0.0	0.0	0.1
Damaged Kernels (Total)	U.S. No. 1	2.0	--	--	--	--	--	--	--	--	2	0.9	0.9	0.9
	U.S. No. 2	4.0	2	0.2	0.1	0.3	1	1.1	1.1	1.1	--	--	--	--
	U.S. Sample Grade	N/A	1	1.1	1.1	1.1	--	--	--	--	13	0.1	0.0	0.4
	All lots	N/A	3	0.2	0.1	1.1	1	1.1	1.1	1.1	15	0.1	0.0	0.9
Foreign Material	U.S. No. 1	0.4	--	--	--	--	--	--	--	--	2	0.1	0.1	0.1
	U.S. No. 2	0.7	2	0.1	0.1	0.1	1	0.2	0.2	0.2	--	--	--	--
	U.S. Sample Grade	N/A	1	0.3	0.3	0.3	--	--	--	--	13	0.1	0.0	0.1
	All lots	N/A	3	0.1	0.1	0.3	1	0.2	0.2	0.2	15	0.1	0.0	0.1
Shrunken and Broken	U.S. No. 1	3.0	--	--	--	--	--	--	--	--	2	1.2	1.2	1.2
	U.S. No. 2	5.0	2	1.1	0.9	1.2	1	1.1	1.1	1.1	--	--	--	--
	U.S. Sample Grade	N/A	1	1.2	1.2	1.2	--	--	--	--	13	0.8	0.7	1.4
	All lots	N/A	3	1.1	0.9	1.2	1	1.1	1.1	1.1	15	0.9	0.7	1.4
Total Defects ¹	U.S. No. 1	3.0	--	--	--	--	--	--	--	--	2	2.2	2.2	2.2
	U.S. No. 2	5.0	2	1.4	1.3	1.4	1	2.4	2.4	2.4	--	--	--	--
	U.S. Sample Grade	N/A	1	2.6	2.6	2.6	--	--	--	--	13	1.1	0.8	1.7
	All lots	N/A	3	1.4	1.3	2.6	1	2.4	2.4	2.4	15	1.1	0.8	2.2
Dockage	U.S. No. 1	N/A	--	--	--	--	--	--	--	--	2	0.5	0.5	0.5
	U.S. No. 2	N/A	2	0.5	0.3	0.6	1	0.9	0.9	0.9	--	--	--	--
	U.S. Sample Grade	N/A	1	0.7	0.7	0.7	--	--	--	--	13	0.5	0.2	1.5
	All lots	N/A	3	0.5	0.3	0.7	1	0.9	0.9	0.9	15	0.5	0.2	1.5
Protein (as is basis)	U.S. No. 1	N/A	--	--	--	--	--	--	--	--	2	12.0	12.0	12.0
	U.S. No. 2	N/A	0	--	--	--	1	13.4	13.4	13.4	--	--	--	--
	U.S. Sample Grade	N/A	1	11.9	11.9	11.9	--	--	--	--	4	9.8	9.5	10.0
	All lots	N/A	1	11.9	11.9	11.9	1	13.4	13.4	13.4	6	9.9	9.5	12.0
Protein (12% moisture)	U.S. No. 1	N/A	--	--	--	--	--	--	--	--	2	12.0	12.0	12.0
	U.S. No. 2	N/A	0	--	--	--	1	13.4	13.4	13.4	--	--	--	--
	U.S. Sample Grade	N/A	1	12.0	12.0	12.0	--	--	--	--	4	9.6	9.3	9.8
	All lots	N/A	1	12.0	12.0	12.0	1	13.4	13.4	13.4	6	9.6	9.3	12.0

N/A = Does not apply.

-- = No lots reported in this category.

¹The sum of the component factor averages may not equal the average for this factor due to rounding.

Corn

Corn Grades and Grade Requirements

Corn is divided into three classes: Yellow corn, White Corn, and Mixed corn. There are no subclasses of corn. Each class of corn is divided into five U.S. numerical grades and U.S. Sample grade. Special grades are provided to emphasize the qualities or conditions affecting the value of the corn. These special grades are made a part of the grade designation but do not affect the numerical or Sample grade designation.

U.S. Standards for Corn

Grade:	Min Limits of:	Max Limits of:		
		Damaged Kernels		Broken Corn and Foreign material (percent)
	Test Weight/bu (pounds)	Heat-Damaged kernels (percent)	Damaged kernels total (percent)	
U.S. No. 1	56.0	0.1	3.0	2.0
U.S. No. 2	54.0	0.2	5.0	3.0
U.S. No. 3	52.0	0.5	7.0	4.0
U.S. No. 4	49.0	1.0	10.0	5.0
U.S. No. 5	46.0	3.0	15.0	7.0

U.S. Sample Grade:

U.S. Sample Grade is corn that:

- (a) Does not meet the requirements for grades U.S. No.1, 2, 3, 4, or 5; or
- (b) Contains stones which have an aggregate weight in excess of 0.1 percent of the sample weight, 2 or more pieces of glass, 3 or more crotalaria seeds (*Crotalaria* spp.), 2 or more castor beans (*Ricinus communis* L.), 4 or more particles of an unknown foreign substance(s) or a commonly recognized harmful or toxic substance(s), 8 or more cockleburs (*Xanthium* spp.) or similar seeds singly or in combination, or animal filth in excess of 0.20 percent in 1,000 grams; or
- (c) Has a musty, sour, or commercially objectionable foreign odor; or
- (d) Is heating or otherwise of distinctly low quality.

Corn

Definitions

Test weight (lb/bu) is pounds of grain per Winchester bushel (2,150.42 cubic inches) as determined using an approved device. Test weight is determined before the removal of broken corn and foreign material.

Test weight (kg/hl) is the metric system equivalent to pounds per bushel. Kilograms per hectoliter are calculated by multiplying pounds per bushel by 1.287.

Moisture is the water content of grain as determined by an approved moisture meter. The percentage of moisture in a sample does not affect the numerical grade.

Broken corn is all matter that passes readily through a 12/64-inch round-hole sieve and over a 6/64-inch round-hole sieve. The percentage of broken corn by itself does not affect the numerical grade.

Foreign material is all matter that passes readily through a 6/64-inch round-hole sieve and all matter other than corn that remains on top of the 12/64-inch round-hole sieve. The percentage of foreign material by itself does not affect the numerical grade.

Broken corn and foreign material is all matter that passes readily through a 12/64-inch sieve, and all matter other than corn that remains in the sieved sample.

Damaged kernels (total) are kernels and pieces of corn kernels that are badly ground-damaged, badly weather-damaged, diseased, frost-damaged, germ-damaged, heat-damaged, insect-bored, mold-damaged, sprout-damaged, or otherwise materially damaged.

Heat-damaged kernels are kernels and pieces of corn kernels that are materially discolored by excessive respiration, with dark discoloration extending out of the germ, through the sides, and into the back of the kernel.

Mixed corn is corn that does not meet the color requirements for either of the classes Yellow corn or White corn, and which includes White-capped Yellow corn.

Oil, protein, and starch percentages in corn are determined by an approved near infrared transmittance (NIRT) instrument calibrated to approved methods. Percent corn oil, protein, or starch is reported on a dry matter basis unless other basis is requested. The level of oil, protein, or starch in a sample does not affect the numerical grade.

Table 9. U.S. Corn Exports: Number of lots and quantity exported by class and grade, 2010-2012

Class	Grade	2010		2011		2012	
		No. of Lots	Metric Tons	No. of Lots	Metric Tons	No. of Lots	Metric Tons
Yellow Corn	U.S. No. 1	38	579,610	93	1,145,134	107	1,326,185
	U.S. No. 2	906	20,766,858	811	19,057,643	970	19,208,843
	U.S. No. 3	696	19,992,886	509	16,323,443	551	15,338,296
	U.S. No. 4	13	144,092	4	44,282	--	--
	U.S. No. 5	10	118,312	1	86	--	--
	U.S. Sample Grade	9	96,424	--	--	--	--
	Not Inspected	3	166,325	5	224,504	6	61,846
	All lots	1,675	41,864,507	1,423	36,795,092	1,634	35,935,170
White Corn	U.S. No. 1	9	111,545	16	167,492	17	408,320
	U.S. No. 2	61	627,052	53	610,079	52	532,162
	U.S. No. 3	3	13,370	3	12,352	9	40,420
	U.S. No. 4	2	32,378	--	--	1	4,595
	U.S. Sample Grade	--	--	1	1,438	1	1,584
	Not Inspected	--	--	--	--	--	--
	All lots	75	784,345	73	791,361	80	987,081
	All Classes	U.S. No. 1	47	691,155	109	1,312,626	124
U.S. No. 2		967	21,393,910	864	19,667,722	1,022	19,741,005
U.S. No. 3		699	20,006,256	512	16,335,795	560	15,378,716
U.S. No. 4		15	176,470	4	44,282	1	4,595
U.S. No. 5		10	118,312	1	86	--	--
U.S. Sample Grade		9	96,424	1	1,438	1	1,584
Not Inspected		3	166,325	5	224,504	6	61,846
All lots		1,750	42,648,852	1,496	37,586,453	1,714	36,922,251

-- = No lots reported in the category.

Not inspected = These lots were sold without grade designation.

Table 10. Summary of export Yellow Corn quality, 2010-2012

Factor	Grade	Grade Limit	2010				2011				2012			
			No. of				No. of				No. of			
			Lots	Avg.	Low	High	Lots	Avg.	Low	High	Lots	Avg.	Low	High
Test Weight (lb/bu)	U.S. No. 1	56.0	38	56.9	56.0	61.0	93	57.9	56.1	60.5	107	58.3	56.3	60.7
	U.S. No. 2	54.0	905	55.8	54.0	60.7	811	57.2	54.1	60.0	970	57.6	54.1	68.0
	U.S. No. 3	52.0	696	55.5	52.4	59.3	509	57.0	53.9	60.0	551	57.5	54.6	69.5
	U.S. No. 4	49.0	13	55.0	50.0	58.0	4	56.3	55.6	57.1	--	--	--	--
	U.S. No. 5	46.0	10	56.0	48.4	57.5	1	58.0	58.0	58.0	--	--	--	--
	U.S. Sample Grade	N/A	9	54.1	45.5	57.2	--	--	--	--	--	--	--	--
	All lots	N/A	1,671	55.7	45.5	61.0	1,418	57.1	53.9	60.5	1,628	57.6	54.1	69.5
Test Weight (kg/hl)	U.S. No. 1	N/A	38	73.2	72.1	78.5	93	74.6	72.2	77.9	107	75.0	72.5	78.1
	U.S. No. 2	N/A	905	71.8	69.5	78.1	811	73.7	69.6	77.2	970	74.1	69.6	87.5
	U.S. No. 3	N/A	696	71.5	67.5	76.3	509	73.3	69.3	77.2	551	74.0	70.3	89.4
	U.S. No. 4	N/A	13	70.8	64.3	74.7	4	72.5	71.6	73.5	--	--	--	--
	U.S. No. 5	N/A	10	72.1	62.2	74.0	1	74.7	74.7	74.7	--	--	--	--
	U.S. Sample Grade	N/A	9	69.6	58.6	73.6	--	--	--	--	--	--	--	--
	All lots	N/A	1,671	71.7	58.6	78.5	1,418	73.5	69.3	77.9	1,628	74.1	69.6	89.4
Moisture	U.S. No. 1	N/A	38	14.3	13.5	14.8	93	14.0	13.0	14.8	107	14.3	13.5	15.2
	U.S. No. 2	N/A	904	14.2	12.7	15.6	810	14.0	12.9	15.0	970	14.3	13.1	14.9
	U.S. No. 3	N/A	696	14.3	13.2	15.0	509	14.2	12.8	15.2	551	14.3	13.6	14.9
	U.S. No. 4	N/A	13	14.1	13.5	14.7	4	13.9	13.7	14.2	--	--	--	--
	U.S. No. 5	N/A	10	14.3	12.8	14.7	1	14.1	14.1	14.1	--	--	--	--
	U.S. Sample Grade	N/A	9	13.9	13.6	14.4	--	--	--	--	--	--	--	--
	All lots	N/A	1,670	14.3	12.7	15.6	1,417	14.1	12.8	15.2	1,628	14.3	13.1	15.2
Heat-damaged Kernels	U.S. No. 1	0.1	38	0.0	0.0	0.0	93	0.0	0.0	0.0	107	0.0	0.0	0.0
	U.S. No. 2	0.2	906	0.0	0.0	0.1	811	0.0	0.0	0.2	970	0.0	0.0	0.2
	U.S. No. 3	0.5	696	0.0	0.0	0.3	509	0.0	0.0	0.3	551	0.0	0.0	0.1
	U.S. No. 4	1.0	13	0.0	0.0	0.0	4	0.0	0.0	0.0	--	--	--	--
	U.S. No. 5	3.0	10	0.0	0.0	0.0	1	0.0	0.0	0.0	--	--	--	--
	U.S. Sample Grade	N/A	9	0.1	0.0	0.1	--	--	--	--	--	--	--	--
	All lots	N/A	1,672	0.0	0.0	0.3	1,418	0.0	0.0	0.3	1,628	0.0	0.0	0.2

Table 10. Summary of export Yellow Corn quality, 2010-2012, continued

Factor	Grade	Grade Limit	2010				2011				2012			
			No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High
Damaged	U.S. No. 1	3.0	38	2.5	0.6	3.0	93	1.8	0.0	3.0	107	1.8	0.0	3.0
Kernels	U.S. No. 2	5.0	906	3.9	0.0	5.0	811	2.9	0.0	5.0	970	2.0	0.0	5.0
(Total)	U.S. No. 3	7.0	696	4.2	0.4	7.0	509	2.9	0.2	7.0	551	1.8	0.0	6.7
	U.S. No. 4	10.0	13	4.6	0.2	8.9	4	1.9	1.3	2.5	--	--	--	--
	U.S. No. 5	15.0	10	7.1	3.3	15.0	1	0.5	0.5	0.5	--	--	--	--
	U.S. Sample Grade	N/A	9	19.1	3.6	27.0	--	--	--	--	--	--	--	--
	All lots	N/A	1,672	4.1	0.0	27.0	1,418	2.9	0.0	7.0	1,628	1.9	0.0	6.7
Broken Corn	U.S. No. 1	2.0	38	1.9	1.1	2.0	93	1.7	0.8	2.0	107	1.8	0.8	2.0
and Foreign	U.S. No. 2	3.0	905	2.7	1.0	3.0	811	2.7	0.8	3.0	970	2.7	0.9	3.0
Material	U.S. No. 3	4.0	696	3.4	0.9	4.0	509	3.3	0.7	4.0	551	3.4	1.0	4.0
	U.S. No. 4	5.0	13	4.3	1.4	4.9	4	4.2	3.8	4.5	--	--	--	--
	U.S. No. 5	7.0	10	3.8	1.4	4.9	1	5.3	5.3	5.3	--	--	--	--
	U.S. Sample Grade	N/A	9	3.7	1.5	7.4	--	--	--	--	--	--	--	--
	All lots	N/A	1,671	3.0	0.9	7.4	1,418	2.9	0.7	5.3	1,628	3.0	0.8	4.0
Broken Corn	U.S. No. 1	N/A	16	1.4	1.3	1.6	9	1.5	1.0	1.6	11	1.4	1.3	1.5
	U.S. No. 2	N/A	66	2.0	1.1	3.0	86	2.0	0.7	3.0	80	2.1	1.5	2.8
	U.S. No. 3	N/A	--	--	--	--	3	3.5	2.5	3.9	--	--	--	--
	U.S. No. 4	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. No. 5	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	All lots	N/A	82	1.8	1.1	3.0	98	2.0	0.7	3.9	91	2.0	1.3	2.8
Foreign	U.S. No. 1	N/A	16	0.5	0.3	0.6	9	0.5	0.4	0.7	11	0.5	0.4	0.7
Material	U.S. No. 2	N/A	67	0.7	0.4	1.2	82	0.8	0.2	1.2	78	0.7	0.3	1.1
	U.S. No. 3	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. No. 4	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. No. 5	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	All lots	N/A	83	0.7	0.3	1.2	91	0.7	0.2	1.2	89	0.7	0.3	1.1

N/A = Does not apply.

-- = No lots reported in this category.

Table 11. Summary of export White Corn quality, 2010-2012

Factor	Grade	Grade Limit	2010				2011				2012			
			No. of				No. of				No. of			
			Lots	Avg.	Low	High	Lots	Avg.	Low	High	Lots	Avg.	Low	High
Test Weight (lb/bu)	U.S. No. 1	56.0	9	59.4	58.7	60.2	16	59.4	58.3	60.7	17	59.9	59.1	60.8
	U.S. No. 2	54.0	61	59.0	57.9	60.0	53	59.4	58.0	60.8	52	59.6	58.3	61.0
	U.S. No. 3	52.0	3	58.0	52.8	58.9	3	59.8	59.5	60.2	9	59.7	58.0	60.1
	U.S. No. 4	49.0	2	57.8	57.7	58.5	--	--	--	--	1	58.5	58.5	58.5
	U.S. Sample Grade	N/A	--	--	--	--	1	59.6	59.6	59.6	1	59.8	59.8	59.8
	All lots	N/A	75	59.0	52.8	60.2	73	59.4	58.0	60.8	80	59.7	58.0	61.0
Test Weight (kg/hl)	U.S. No. 1	N/A	9	76.4	75.6	77.5	16	76.4	75.1	78.1	17	77.1	76.1	78.2
	U.S. No. 2	N/A	61	76.0	74.6	77.2	53	76.5	74.7	78.3	52	76.8	75.0	78.5
	U.S. No. 3	N/A	3	74.6	68.0	75.8	3	77.0	76.6	77.5	9	76.8	74.7	77.3
	U.S. No. 4	N/A	2	74.4	74.3	75.3	--	--	--	--	1	75.3	75.3	75.3
	U.S. Sample Grade	N/A	--	--	--	--	1	76.7	76.7	76.7	1	77.0	77.0	77.0
	All lots	N/A	75	75.9	68.0	77.5	73	76.5	74.7	78.3	80	76.9	74.7	78.5
Moisture	U.S. No. 1	N/A	9	13.9	13.2	14.6	16	13.6	13.0	14.6	17	14.2	13.4	14.5
	U.S. No. 2	N/A	61	14.0	13.4	14.4	53	13.6	12.7	14.6	52	14.0	12.2	14.5
	U.S. No. 3	N/A	2	14.0	14.0	14.0	3	13.4	13.1	13.7	9	14.2	13.5	14.4
	U.S. No. 4	N/A	2	14.2	14.0	14.2	--	--	--	--	1	13.9	13.9	13.9
	U.S. Sample Grade	N/A	--	--	--	--	1	13.5	13.5	13.5	1	13.8	13.8	13.8
	All lots	N/A	74	14.0	13.2	14.6	73	13.6	12.7	14.6	80	14.1	12.2	14.5
Heat-damaged Kernels	U.S. No. 1	0.1	9	0.0	0.0	0.0	16	0.0	0.0	0.0	17	0.0	0.0	0.0
	U.S. No. 2	0.2	61	0.0	0.0	0.1	53	0.0	0.0	0.1	52	0.0	0.0	0.0
	U.S. No. 3	0.5	3	0.0	0.0	0.0	3	0.0	0.0	0.0	9	0.0	0.0	0.0
	U.S. No. 4	1.0	2	0.0	0.0	0.0	--	--	--	--	1	0.0	0.0	0.0
	U.S. Sample Grade	N/A	--	--	--	--	1	0.0	0.0	0.0	1	0.0	0.0	0.0
	All lots	N/A	75	0.0	0.0	0.1	73	0.0	0.0	0.1	80	0.0	0.0	0.0

Table 11. Summary of export White Corn quality, 2010-2012, continued

Factor	Grade	Grade Limit	2010				2011				2012			
			No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High
Damaged Kernels (Total)	U.S. No. 1	3.0	9	1.3	0.6	1.7	16	1.1	0.6	1.7	17	0.8	0.6	2.2
	U.S. No. 2	5.0	61	2.8	0.7	4.9	53	1.6	0.3	4.1	52	1.7	0.5	4.9
	U.S. No. 3	7.0	3	3.3	2.5	5.8	3	1.4	1.2	1.5	9	3.2	0.7	6.4
	U.S. No. 4	10.0	2	3.1	2.5	3.2	--	--	--	--	1	1.3	1.3	1.3
	U.S. Sample Grade	N/A	--	--	--	--	1	2.5	2.5	2.5	1	1.7	1.7	1.7
	All lots	N/A	75	2.6	0.6	5.8	73	1.5	0.3	4.1	80	1.4	0.5	6.4
Broken Corn and Foreign Material	U.S. No. 1	2.0	9	1.4	1.2	1.9	16	1.8	1.4	2.0	17	1.7	1.5	1.9
	U.S. No. 2	3.0	61	2.4	1.5	3.0	53	2.3	0.5	3.0	52	2.5	0.9	3.0
	U.S. No. 3	4.0	3	3.3	2.6	3.5	3	2.8	1.6	3.6	9	2.9	1.8	3.5
	U.S. No. 4	5.0	2	4.5	4.3	4.5	--	--	--	--	1	4.1	4.1	4.1
	U.S. Sample Grade	N/A	--	--	--	--	1	2.5	2.5	2.5	1	2.9	2.9	2.9
	All lots	N/A	75	2.3	1.2	4.5	73	2.2	0.5	3.6	80	2.2	0.9	4.1
Broken Corn	U.S. No. 1	N/A	--	--	--	--	1	1.2	1.2	1.2	--	--	--	--
	U.S. No. 2	N/A	15	1.9	1.5	2.4	10	1.7	1.1	2.1	9	1.8	1.3	2.3
	U.S. No. 3	N/A	--	--	--	--	--	--	--	--	1	2.3	2.3	2.3
	U.S. No. 4	N/A	1	2.1	2.1	2.1	--	--	--	--	1	3.2	3.2	3.2
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	1	1.8	1.8	1.8
	All lots	N/A	16	2.0	1.5	2.4	11	1.6	1.1	2.1	12	1.9	1.3	3.2
Foreign Material	U.S. No. 1	N/A	--	--	--	--	1	0.4	0.4	0.4	--	--	--	--
	U.S. No. 2	N/A	15	0.5	0.4	0.7	10	0.7	0.5	0.9	9	0.6	0.4	0.9
	U.S. No. 3	N/A	--	--	--	--	--	--	--	--	1	0.8	0.8	0.8
	U.S. No. 4	N/A	1	2.4	2.4	2.4	--	--	--	--	1	0.9	0.9	0.9
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	1	1.1	1.1	1.1
	All lots	N/A	16	0.8	0.4	2.4	11	0.6	0.4	0.9	12	0.6	0.4	1.1

N/A = Does not apply.

-- = No lots reported in this category.

Figure 11. Corn BCFM Distribution, Grade 2

**U.S. CORN EXPORTED, 2012
DISTRIBUTION FOR BCFM – GRADE 2**

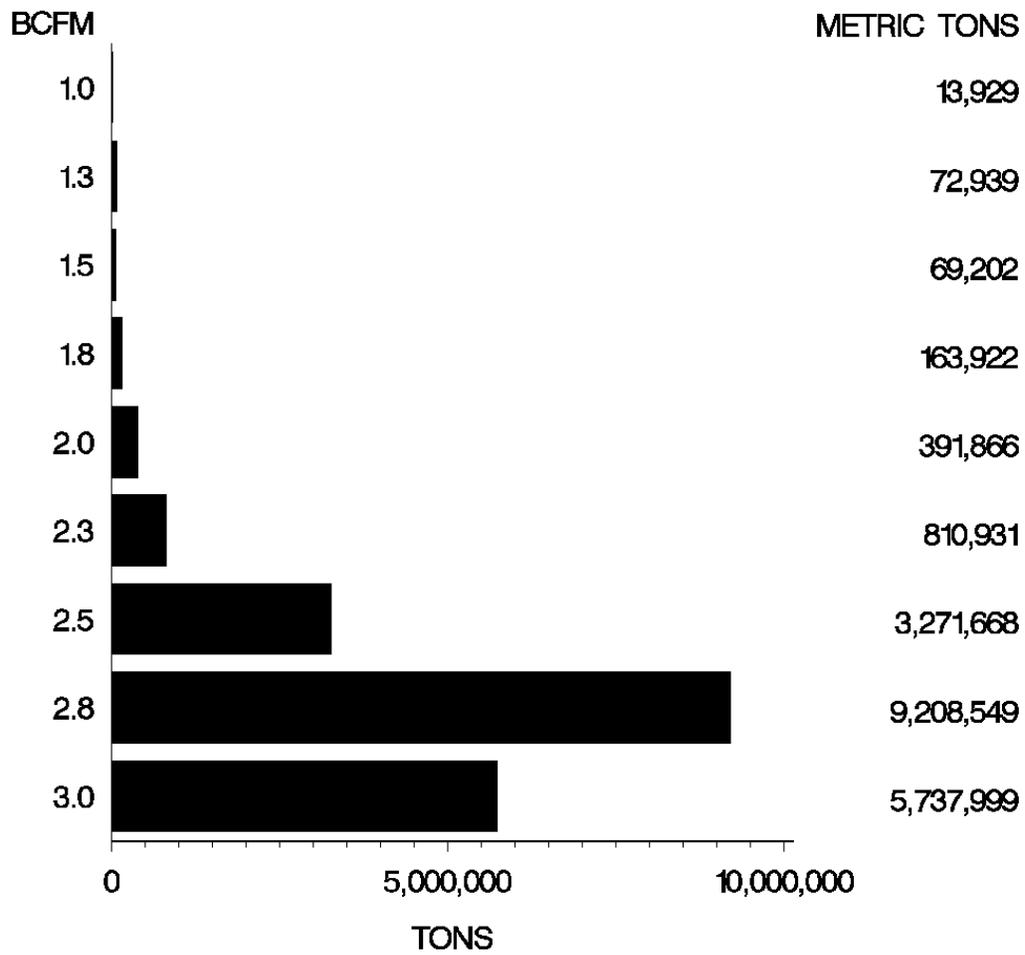
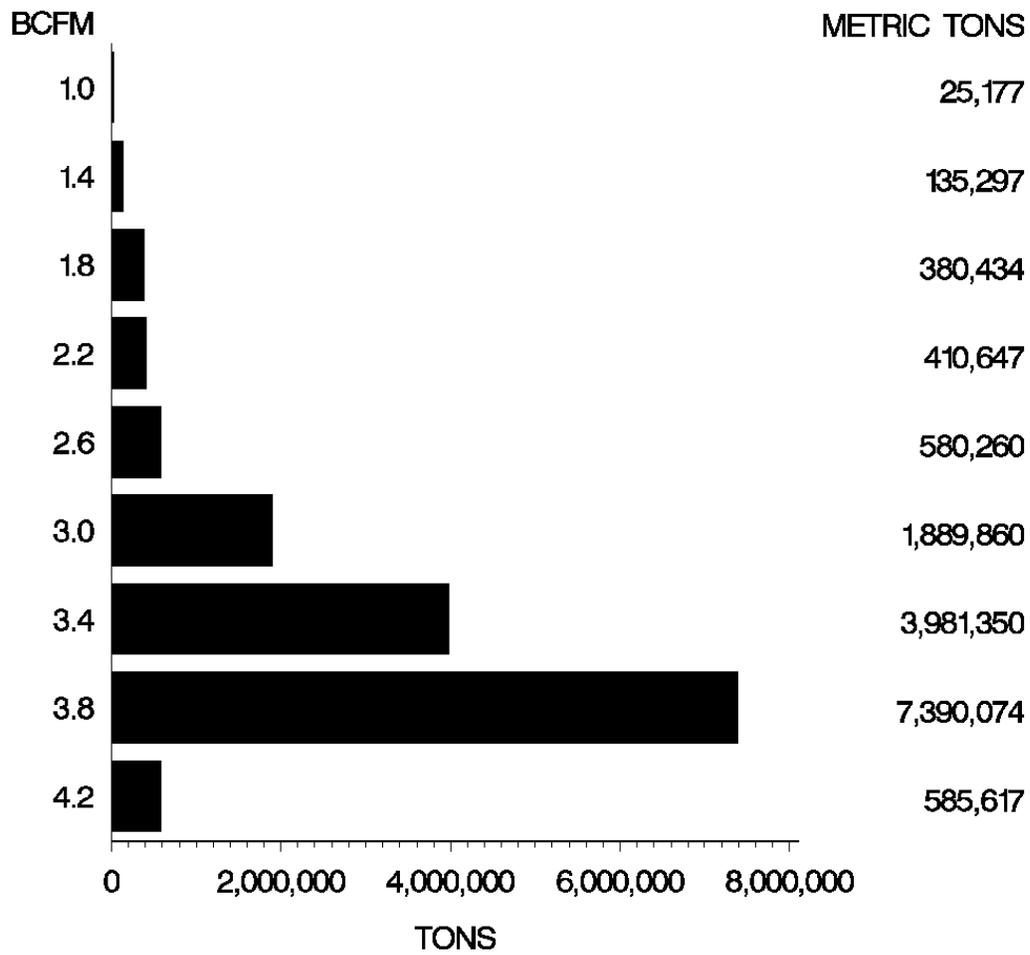


Figure 12. Corn BCFM Distribution, Grade 3

**U.S. CORN EXPORTED, 2012
DISTRIBUTION FOR BCFM – GRADE 3**



Soybeans

Soybean Grades and Grade Requirements

There are two classes of soybeans: Yellow soybeans and Mixed soybeans. There are no soybean subclasses. The class Yellow soybeans is the class most commonly exported by the U.S. market. Each class is divided into four U.S. numerical grades and U.S. Sample grade.

Special grades are provided to emphasize special qualities or conditions affecting the value of the soybeans. These special grades are a part of the grade designation but do not affect the numerical or Sample grade designation.

U.S. Standards for Soybeans

Grade:	Max Limits of:				
	Damaged Kernels		Foreign Material (percent)	Splits (percent)	Soybeans of other colors <u>1</u> / (percent)
	Heat (part of total) (percent)	Total (percent)			
U.S. No. 1	0.2	2.0	1.0	10.0	1.0
U.S. No. 2	0.5	3.0	2.0	20.0	2.0
U.S. No. 3	1.0	5.0	3.0	30.0	5.0
U.S. No. 4	3.0	8.0	5.0	40.0	10.0

U.S. Sample Grade:

U.S. Sample grade shall be soybeans which:

- (a) Do not meet the requirements for U.S. Nos. 1, 2, 3, or 4; or
- (b) Contains 4 or more stones which have an aggregate weight in excess of 0.1 percent of the sample weight, 1 or more pieces of broken glass, 3 or more crotalaria seeds, 2 or more castor beans, 4 or more particles of an unknown foreign substance(s) or a commonly recognized harmful or toxic foreign substance(s), 10 or more rodent pellets, bird droppings, or an equivalent quantity of other animal filth in 1,000 grams of soybeans; or
- (c) Contains 11 or more pieces, in any combination, of animal filth, castor beans, crotalaria seeds, glass, stones, or unknown foreign substances.
- (d) Have a musty, sour, or commercially objectionable foreign odor (except garlic odor); or
- (e) Are heating or otherwise of distinctly low quality.

1/ Disregard for Mixed Soybeans.

Soybeans

Definitions

Test weight (lb/bu) is pounds of grain per Winchester bushel determined by an approved device and is recorded to the nearest tenth pound for soybeans.

Test weight (kg/hl) is the metric system equivalent to pounds per bushel. Kilograms per hectoliter are calculated by multiplying pounds per bushel by 1.287.

Moisture is the water content of grain as determined by an approved electronic moisture meter. The percentage of moisture in a sample does not affect the numerical grade.

Splits are soybeans with more than one-fourth of the bean removed and which are not damaged.

Damaged kernels are soybeans and pieces of soybeans which are badly ground-damaged, badly weather-damaged, diseased, frost-damaged, heat-damaged, insect-bored, mold-damaged, sprout damaged, stinkbug-stung, or otherwise materially damaged.

Heat-damaged kernels are soybeans and pieces of soybeans which are materially discolored and damaged by heat.

Foreign material is all matter, including soybeans and pieces of soybeans that will pass readily through an 8/64-inch sieve and all matter other than soybeans remaining on the sieve after sieving.

Soybeans of other colors are soybeans which have green, black, brown, or bicolored seed coats. Before September 9, 1985, this factor was called "brown, black, and/or bicolored soybeans in yellow or green soybeans."

Mixed soybeans is a combination of classes of soybeans which does not meet the minimum requirements of the class Yellow soybeans.

Protein and oil percentages in soybeans are determined by an approved near infrared transmittance (NIRT) instrument calibrated to approved methods. Percent protein and oil is reported on a 13 percent moisture basis unless another basis is requested. The level of protein and oil in a sample does not affect the numerical grade.

Table 12. U.S. Soybean Exports: Number of lots and quantity exported by grade, 2010-2012

Grade	2010		2011		2012	
	No. of Lots	Metric Tons	No. of Lots	Metric Tons	No. of Lots	Metric Tons
U.S. No. 1	26	532,098	11	178,456	41	612,745
U.S. No. 2	1,029	36,215,801	793	29,277,552	1,361	53,699,243
U.S. No. 3	11	192,479	4	31,463	4	32,123
U.S. No. 4	1	8,811	--	--	--	--
U.S. Sample Grade	15	654,218	--	--	3	226,179
Not Inspected	1	62,995	2	24,288	2	130,984
All lots	1,083	37,666,402	810	29,511,759	1,411	54,701,274

-- = No lots reported in the category.

Not inspected = These lots were sold without grade designation.

Table 13. Summary of export Soybean quality, 2010-2012

Factor	Grade	Grade Limit	2010				2011				2012			
			No. of				No. of				No. of			
			Lots	Avg.	Low	High	Lots	Avg.	Low	High	Lots	Avg.	Low	High
Test Weight (lb/bu)	U.S. No. 1	N/A	26	56.4	55.4	57.5	11	56.3	55.8	57.1	40	56.3	55.6	57.3
	U.S. No. 2	N/A	993	55.9	54.1	58.6	759	56.1	53.4	58.5	1,286	55.9	46.4	57.7
	U.S. No. 3	N/A	5	55.3	52.5	56.1	4	57.2	56.6	57.8	4	56.4	54.5	58.1
	U.S. No. 4	N/A	1	55.1	55.1	55.1	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	15	54.8	52.6	56.1	--	--	--	--	3	55.8	55.8	55.8
	All lots	N/A	1,040	55.8	52.5	58.6	774	56.1	53.4	58.5	1,333	55.9	46.4	58.1
Test Weight (kg/hl)	U.S. No. 1	N/A	26	72.6	71.3	74.1	11	72.5	71.8	73.5	40	72.5	71.6	73.8
	U.S. No. 2	N/A	993	71.9	69.6	75.5	759	72.2	68.7	75.3	1,286	72.0	59.8	74.3
	U.S. No. 3	N/A	5	71.1	67.6	72.2	4	73.7	72.9	74.4	4	72.6	70.2	74.8
	U.S. No. 4	N/A	1	70.9	70.9	70.9	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	15	70.5	67.7	72.3	--	--	--	--	3	71.8	71.8	71.8
	All lots	N/A	1,040	71.9	67.6	75.5	774	72.2	68.7	75.3	1,333	72.0	59.8	74.8
Moisture	U.S. No. 1	N/A	26	12.3	10.7	13.4	11	10.7	9.8	12.3	40	11.0	9.6	12.7
	U.S. No. 2	N/A	1,026	11.7	9.5	13.3	793	10.8	8.6	13.9	1,360	10.8	8.6	13.9
	U.S. No. 3	N/A	11	12.0	11.0	12.9	4	10.7	10.5	10.8	4	11.3	10.2	12.7
	U.S. No. 4	N/A	1	12.5	12.5	12.5	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	15	12.4	10.5	13.2	--	--	--	--	3	10.7	10.7	10.7
	All lots	N/A	1,079	11.7	9.5	13.4	808	10.8	8.6	13.9	1,407	10.8	8.6	13.9
Heat-damaged Kernels	U.S. No. 1	0.2	26	0.0	0.0	0.1	11	0.0	0.0	0.0	41	0.0	0.0	0.0
	U.S. No. 2	0.5	1,029	0.1	0.0	0.5	793	0.1	0.0	0.5	1,361	0.0	0.0	0.5
	U.S. No. 3	1.0	11	0.3	0.0	0.6	4	0.0	0.0	0.0	4	0.1	0.0	0.3
	U.S. No. 4	3.0	1	0.5	0.5	0.5	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	15	0.6	0.1	2.1	--	--	--	--	3	0.1	0.1	0.1
	All lots	N/A	1,082	0.1	0.0	2.1	808	0.1	0.0	0.5	1,409	0.0	0.0	0.5
Damaged Kernels (Total)	U.S. No. 1	2.0	26	0.7	0.2	1.0	11	0.5	0.2	0.8	41	0.5	0.0	1.0
	U.S. No. 2	3.0	1,029	1.4	0.0	3.2	793	0.8	0.0	3.0	1,361	0.8	0.0	3.0
	U.S. No. 3	5.0	11	2.8	0.8	4.8	4	0.2	0.1	0.3	4	2.2	0.7	3.9
	U.S. No. 4	8.0	1	5.5	5.5	5.5	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	15	5.5	0.8	13.2	--	--	--	--	3	0.7	0.7	0.7
	All lots	N/A	1,082	1.5	0.0	13.2	808	0.8	0.0	3.0	1,409	0.8	0.0	3.9

Table 13. Summary of export Soybean quality, 2010-2012, continued

Factor	Grade	Grade Limit	2010				2011				2012			
			No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High
Foreign	U.S. No. 1	1.0	26	0.8	0.2	1.0	11	0.9	0.5	1.0	41	0.9	0.0	1.0
Material	U.S. No. 2	2.0	1,029	1.4	0.0	2.0	793	1.5	0.0	2.0	1,361	1.5	0.0	2.0
	U.S. No. 3	3.0	11	1.3	1.1	1.8	4	1.5	1.3	1.7	4	0.9	0.6	1.5
	U.S. No. 4	5.0	1	1.5	1.5	1.5	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	15	1.7	1.1	2.2	--	--	--	--	3	1.9	1.9	1.9
	All lots	N/A	1,082	1.4	0.0	2.2	808	1.5	0.0	2.0	1,409	1.5	0.0	2.0
Splits	U.S. No. 1	10.0	26	6.6	3.1	8.6	11	7.5	3.4	9.7	41	7.2	0.0	9.5
	U.S. No. 2	20.0	1,029	7.2	0.0	17.1	793	8.0	0.0	19.6	1,361	9.1	0.0	18.9
	U.S. No. 3	30.0	11	7.5	3.8	21.3	4	8.1	5.4	11.5	4	5.5	3.8	6.1
	U.S. No. 4	40.0	1	7.7	7.7	7.7	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	15	7.8	4.8	10.2	--	--	--	--	3	11.0	11.0	11.0
All lots	N/A	1,082	7.2	0.0	21.3	808	8.0	0.0	19.6	1,409	9.1	0.0	18.9	
Soybeans of	U.S. No. 1	1.0	26	0.0	0.0	0.2	11	0.0	0.0	0.0	41	0.0	0.0	0.1
Other Colors	U.S. No. 2	2.0	1,029	0.0	0.0	0.4	793	0.0	0.0	0.5	1,361	0.0	0.0	0.2
	U.S. No. 3	5.0	11	0.0	0.0	0.2	4	0.0	0.0	0.1	4	0.1	0.0	0.1
	U.S. No. 4	10.0	1	0.0	0.0	0.0	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	15	0.0	0.0	0.1	--	--	--	--	3	0.0	0.0	0.0
	All lots	N/A	1,082	0.0	0.0	0.4	808	0.0	0.0	0.5	1,409	0.0	0.0	0.2
Protein (adjusted to 13% moisture)	U.S. No. 1	N/A	20	35.6	35.1	36.6	8	35.6	34.9	36.8	35	34.4	33.2	35.5
	U.S. No. 2	N/A	514	34.9	33.2	39.9	411	34.6	33.1	40.2	622	34.2	33.0	38.3
	U.S. No. 3	N/A	--	--	--	--	--	--	--	--	2	35.0	34.9	35.4
	U.S. No. 4	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	12	35.2	34.9	35.5	--	--	--	--	3	33.8	33.8	33.8
All lots	N/A	546	34.9	33.2	39.9	419	34.6	33.1	40.2	662	34.2	33.0	38.3	
Oil (adjusted to 13% moisture)	U.S. No. 1	N/A	20	18.6	18.0	19.3	8	18.9	18.5	19.3	35	18.7	18.1	19.6
	U.S. No. 2	N/A	522	18.9	16.7	20.1	414	18.8	16.1	20.2	640	18.9	16.2	20.5
	U.S. No. 3	N/A	--	--	--	--	--	--	--	--	2	19.5	19.5	19.6
	U.S. No. 4	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	12	18.8	18.5	19.6	--	--	--	--	3	18.9	18.9	18.9
All lots	N/A	554	18.8	16.7	20.1	422	18.8	16.1	20.2	680	18.9	16.2	20.5	

N/A = Does not apply.

-- = No lots reported in this category.

Figure 13. Soybean FM Distribution, Grade 2

U.S. SOYBEANS EXPORTED, 2012 DISTRIBUTION FOR FM – GRADE 2

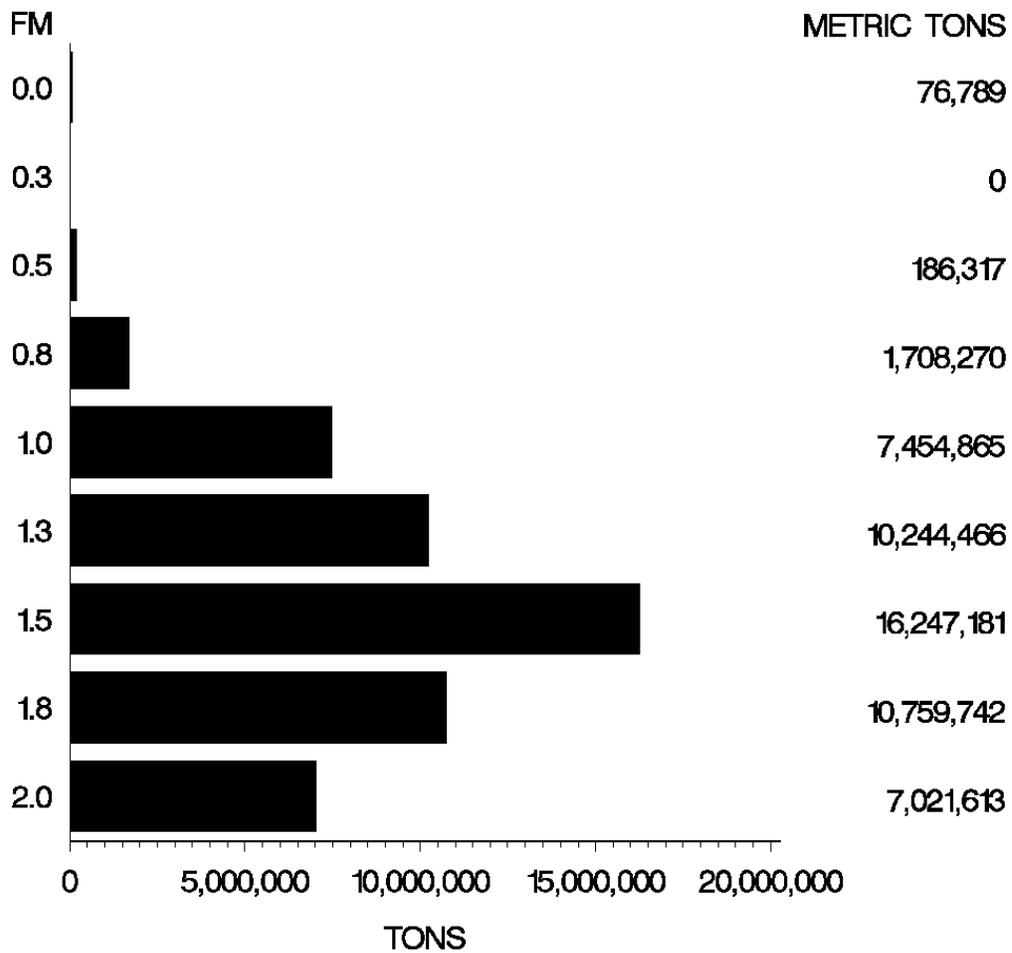


Figure 14. Soybean Protein Distribution, All Grades

U.S. SOYBEANS EXPORTED, 2012
DISTRIBUTION FOR PROTEIN (13% M) – ALL GRADES

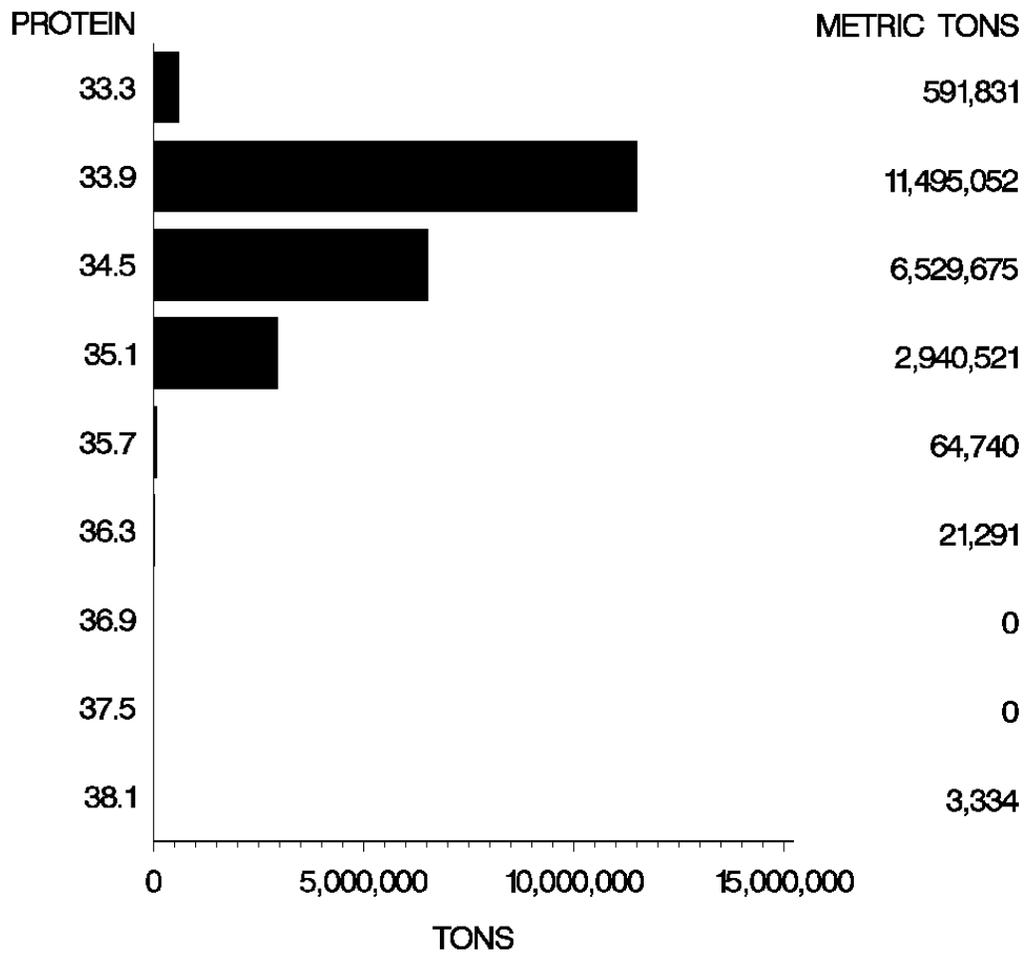
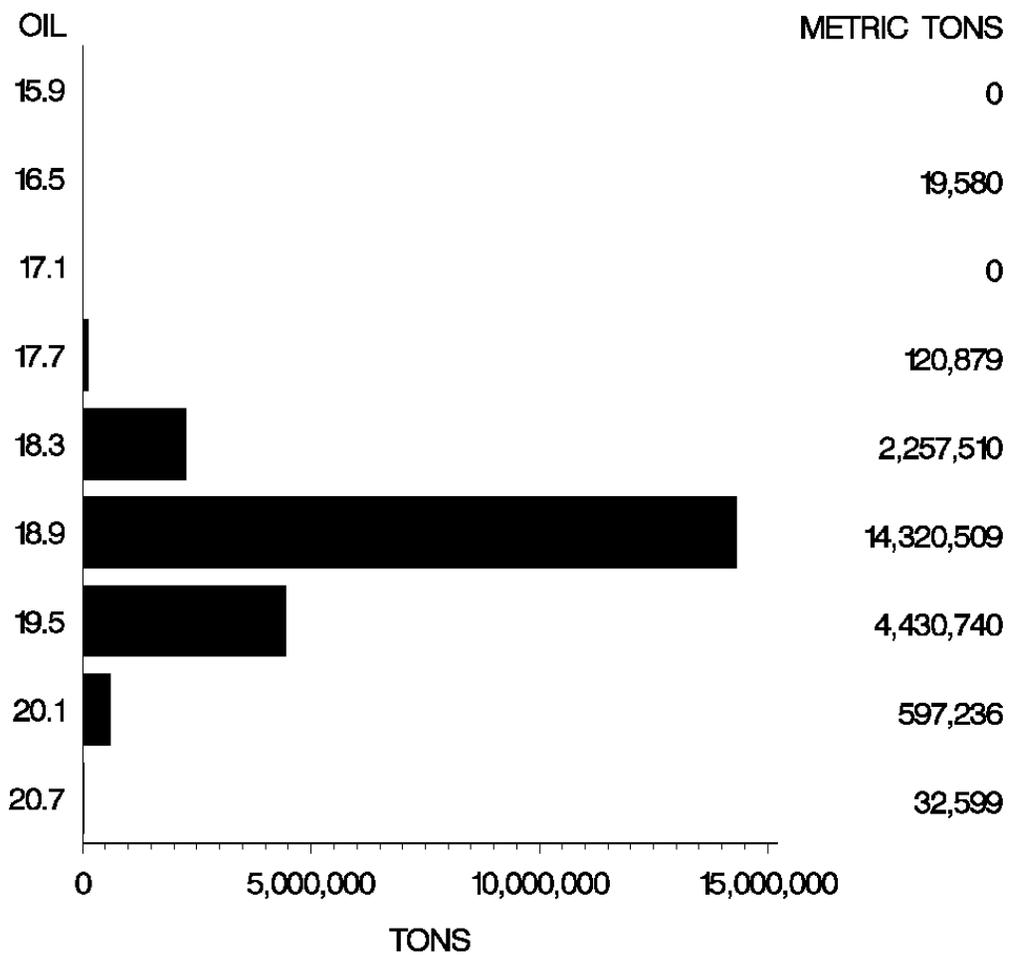


Figure 15. Soybean Oil Distribution, All Grades

**U.S. SOYBEANS EXPORTED, 2012
DISTRIBUTION FOR OIL (13% M) – ALL GRADES**



Other Grain Exports

Sorghum

Sorghum Grades and Grade Requirements

Sorghum is divided into four classes: Sorghum, Tannin sorghum, White sorghum, and Mixed sorghum. There are no subclasses in sorghum. Each class is divided into four numerical grades and U.S. Sample grade. Special grades are provided to emphasize special qualities or conditions affecting the value of sorghum. Special grades are added to and made a part of the grade designation. They do not affect the numerical or Sample grade designation.

U.S. Standards for Sorghum

Grade:	Min Limits of:	Max Limits of:			
	Test weight per bushel (pounds)	Damaged Kernels		Broken kernels and foreign material	
		Heat (percent)	Total (percent)	Foreign material (percent)	Total (percent)
U.S. No. 1	57.0	0.2	2.0	1.0	3.0
U.S. No. 2	55.0	0.5	5.0	2.0	6.0
U.S. No. 3 <u>1/</u>	53.0	1.0	10.0	3.0	8.0
U.S. No. 4	51.0	3.0	15.0	4.0	10.0

U.S. Sample Grade:

U.S. Sample grade shall be sorghum which:

- (a) Do not meet the requirements for U.S. Nos. 1, 2, 3, or 4; or
- (b) Contains 8 or more stones which have an aggregate weight in excess of 0.2 percent of the sample weight, 2 or more pieces of glass, 3 or more crotalaria seeds (*Crotalaria* spp.), 2 or more castor beans (*Ricinus communis* L.), 4 or more particles of an unknown foreign substance(s) or a commonly recognized harmful or toxic substance(s), 8 or more cockleburs (*Xanthium* spp.) or similar seeds singly or in combination, 10 or more rodent pellets, bird droppings, or equivalent quantity of other animal filth; or
- (c) Have a musty, sour, or commercially objectionable foreign odor (except smut odor); or
- (d) Is badly weathered, heating, or otherwise of distinctly low quality.

1/ Sorghum which is distinctly discolored shall not grade any higher than U.S. No. 3.

Sorghum

Definitions

Test weight (lb/bu) is pounds of grain per Winchester bushel (2.150.42 cubic inches) as determined using an approved device before the removal of dockage.

Test weight (kg/hl) is the metric system equivalent to pounds per bushel. Kilograms per hectoliter are calculated by multiplying pounds per bushel by 1.287.

Heat-damaged kernels are kernels, pieces of sorghum kernels, and other grains that are materially discolored and damaged by heat.

Damaged kernels are kernels, pieces of sorghum kernels, and other grains that are badly ground-damaged, badly weather-damaged, diseased, frost-damaged, germ-damaged, heat-damaged, insect-bored, mold-damaged, sprout-damaged, or otherwise materially damaged.

Foreign material is all matter except sorghum, which passes over the number 6 riddle and all matter other than sorghum that remains on the top of the 5/64 triangular-hole sieve.

Broken kernels are all matter which passes through a 5/64 triangular-hole sieve and over a 2.5/64 round-hole sieve.

Broken kernels and foreign material consists of the combination of broken kernels and foreign material.

Dockage is all matter other than sorghum that can be removed from the original sample by use of an approved device. Also, underdeveloped, shriveled, and small pieces of sorghum kernels removed in properly separating the material other than sorghum.

Moisture is the water content of grain as determined by an approved moisture meter. The percentage of moisture in a sample does not affect the numerical grade.

Mixed sorghum is a sorghum which does not meet the minimum requirements for any of the classes of sorghum, Tannin sorghum or White sorghum.

Table 14. U.S. Sorghum Exports: Number of lots and quantity exported by class and grade, 2010-2012

Class	Grade	2010		2011		2012	
		No. of Lots	Metric Tons	No. of Lots	Metric Tons	No. of Lots	Metric Tons
Sorghum	U.S. No. 2	192	2,745,431	127	2,054,787	96	1,451,366
	U.S. No. 3	9	351,380	9	387,853	--	--
	U.S. No. 4	--	--	--	--	--	--
	U.S. Sample Grade	--	--	--	--	--	--
	Not Inspected	--	--	--	--	--	--
	All lots	201	3,096,811	136	2,442,640	96	1,451,366
All Classes	U.S. No. 2	192	2,745,431	127	2,054,787	96	1,451,366
	U.S. No. 3	9	351,380	9	387,853	--	--
	U.S. No. 4	--	--	--	--	--	--
	U.S. Sample Grade	--	--	--	--	--	--
	Not Inspected	--	--	--	--	--	--
	All lots	201	3,096,811	136	2,442,640	96	1,451,366

-- = No lots reported in the category.

Not inspected = These lots were sold without grade designation.

Table 15. Summary of export Sorghum quality, 2010-2012

Factor	Grade	Grade Limit	2010				2011				2012			
			No. of				No. of				No. of			
			Lots	Avg.	Low	High	Lots	Avg.	Low	High	Lots	Avg.	Low	High
Test Weight (lb/bu)	U.S. No. 2	55.0	192	57.7	55.3	60.1	127	58.6	56.9	60.2	95	58.1	56.4	59.5
	U.S. No. 3	53.0	9	57.4	55.8	58.3	9	57.5	56.4	58.0	--	--	--	--
	U.S. No. 4	51.0	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	All lots	N/A	201	57.7	55.3	60.1	136	58.4	56.4	60.2	95	58.1	56.4	59.5
Test Weight (kg/hl)	U.S. No. 2	N/A	192	74.3	71.2	77.4	127	75.5	73.2	77.5	95	74.8	72.6	76.6
	U.S. No. 3	N/A	9	74.0	71.8	75.0	9	74.0	72.6	74.6	--	--	--	--
	U.S. No. 4	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	All lots	N/A	201	74.2	71.2	77.4	136	75.2	72.6	77.5	95	74.8	72.6	76.6
Moisture	U.S. No. 2	N/A	192	13.4	12.4	14.1	127	13.1	11.9	14.0	95	13.3	12.6	14.0
	U.S. No. 3	N/A	9	13.1	12.6	13.3	9	12.5	12.1	12.7	--	--	--	--
	U.S. No. 4	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	All lots	N/A	201	13.4	12.4	14.1	136	13.0	11.9	14.0	95	13.3	12.6	14.0
Heat-damaged Kernels	U.S. No. 2	0.5	192	0.0	0.0	0.1	127	0.0	0.0	0.2	96	0.0	0.0	0.1
	U.S. No. 3	1.0	9	0.0	0.0	0.0	9	0.0	0.0	0.0	--	--	--	--
	U.S. No. 4	3.0	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	All lots	N/A	201	0.0	0.0	0.1	136	0.0	0.0	0.2	96	0.0	0.0	0.1
Damaged Kernels (Total)	U.S. No. 2	5.0	192	1.9	0.2	5.0	127	1.8	0.2	5.0	96	1.5	0.0	4.0
	U.S. No. 3	10.0	9	6.5	2.7	9.4	9	7.0	4.6	9.6	--	--	--	--
	U.S. No. 4	15.0	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	All lots	N/A	201	2.4	0.2	9.4	136	2.7	0.2	9.6	96	1.5	0.0	4.0

Table 15. Summary of export Sorghum quality, 2010-2012, continued

Factor	Grade	Grade Limit	2010				2011				2012			
			No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High
Broken Kernels and Foreign Material	U.S. No. 2	6.0	192	3.4	2.0	5.1	127	2.7	0.0	4.7	96	2.7	0.0	4.3
	U.S. No. 3	8.0	9	3.1	2.5	3.6	9	3.2	2.6	4.3	--	--	--	--
	U.S. No. 4	10.0	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	All lots	N/A	201	3.4	2.0	5.1	136	2.8	0.0	4.7	96	2.7	0.0	4.3
Broken Kernels	U.S. No. 2	N/A	2	2.6	2.5	2.6	1	1.1	1.1	1.1	7	1.3	0.9	2.0
	U.S. No. 3	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. No. 4	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	All lots	N/A	2	2.6	2.5	2.6	1	1.1	1.1	1.1	7	1.3	0.9	2.0
Foreign Material	U.S. No. 2	2.0	192	1.2	0.0	2.0	127	0.9	0.0	2.0	96	0.9	0.0	2.2
	U.S. No. 3	3.0	9	0.9	0.7	1.4	9	1.0	0.6	1.9	--	--	--	--
	U.S. No. 4	4.0	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	All lots	N/A	201	1.2	0.0	2.0	136	0.9	0.0	2.0	96	0.9	0.0	2.2
Dockage	U.S. No. 2	N/A	186	0.2	0.1	0.6	105	0.2	0.1	0.7	79	0.2	0.1	0.7
	U.S. No. 3	N/A	9	0.2	0.1	0.3	9	0.2	0.2	0.3	--	--	--	--
	U.S. No. 4	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	All lots	N/A	195	0.2	0.1	0.6	114	0.2	0.1	0.7	79	0.2	0.1	0.7

N/A = Does not apply.

-- = No lots reported in this category.

Figure 16. Sorghum BNF_M Distribution, Grade 2

U.S. SORGHUM EXPORTED, 2012 DISTRIBUTION FOR BNF_M – GRADE 2

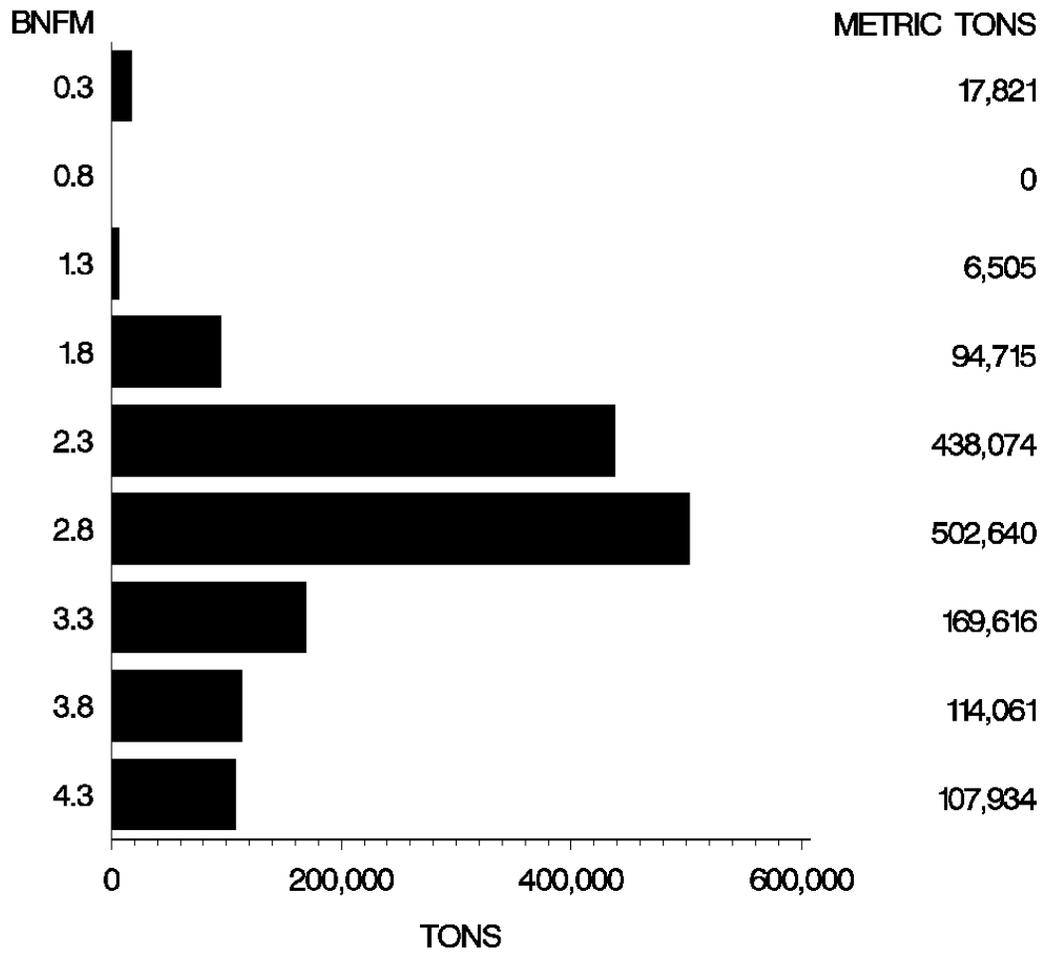
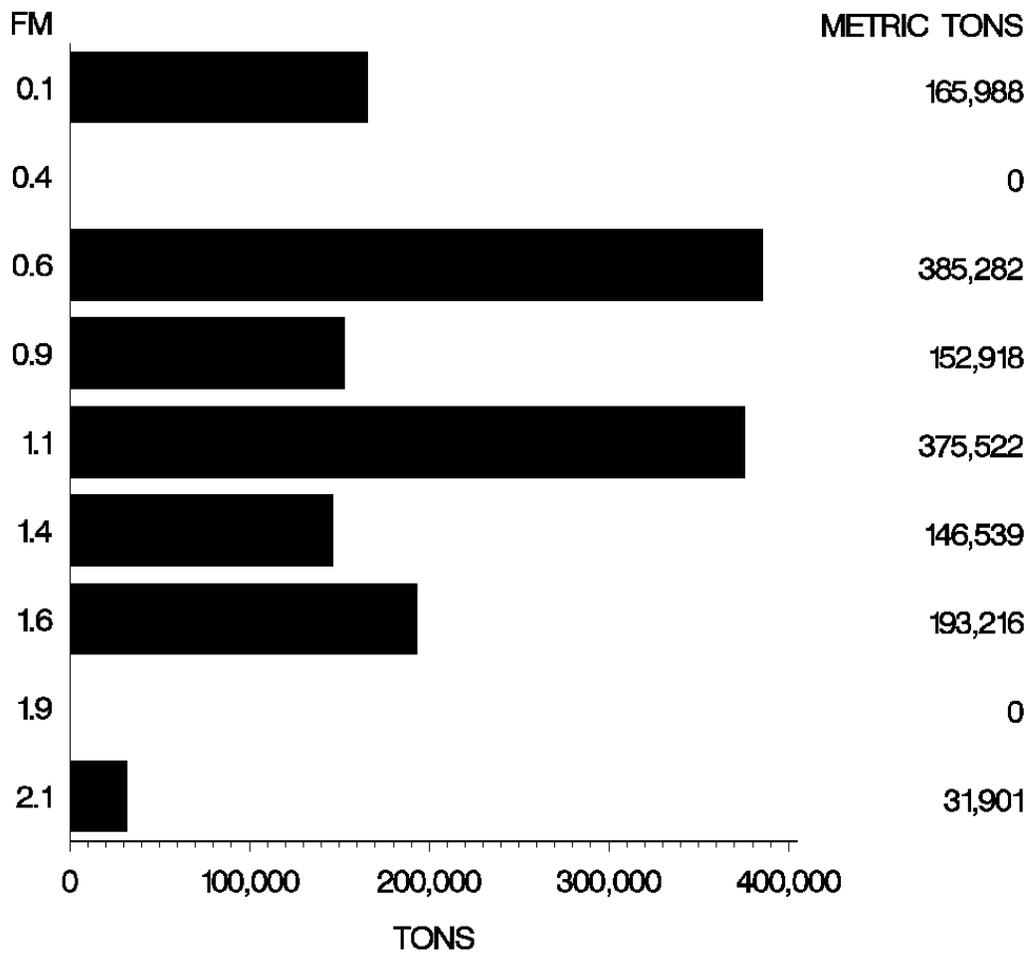


Figure 17. Sorghum FM Distribution, Grade 2

U.S. SORGHUM EXPORTED, 2012
DISTRIBUTION FOR FM – GRADE 2



Barley

Barley Grades and Grade Requirements

Barley is divided into two classes: Malting Barley and Barley. The class Malting Barley is divided into three subclasses: Six-Rowed Malting Barley, Six-Rowed Blue Malting Barley, and Two-Rowed Malting Barley. The class Barley is divided into three subclasses: Six Rowed Barley, Two-Rowed Barley, and Barley. The applicant for service may request either the malting standards or barley standards for malting types.

Grades and grade requirements for Six-rowed Malting barley and Six-rowed Blue Malting barley

Grade	Minimum Limits of:			Maximum Limits of -				
	Test weight per bushel (pounds)	Suitable malting type (percent)	Sound barley <u>1/</u> (percent)	Damaged kernels <u>1/</u> (percent)	Foreign material (percent)	Other grains (percent)	Skinned and broken kernels (percent)	Thin Barley <u>2/</u> (percent)
U.S. No. 1	47.0	95.0	97.0	2.0	0.5	2.0	4.0	7.0
U.S. No. 2	45.0	95.0	94.0	3.0	1.0	3.0	6.0	10.0
U.S. No. 3	43.0	95.0	90.0	4.0	2.0	5.0	8.0	15.0
U.S. No. 4	43.0	95.0	87.0	5.0	3.0	5.0	10.0	15.0

1/ Injured-by-frost kernels and injured-by-mold kernels are not considered damaged kernels or considered against sound barley.

2/ Using a 5.5/64 x 3/4 slotted-hole sieve.

NOTE: Malting barley shall not be infested, blighted, ergoty, garlicky, smutty, or contain any special grades. Upon request, malting barley varieties may be inspected and graded in accordance with standards established for the class Barley.

Grades and grade requirements for Two-rowed Malting barley

Grade	Minimum Limits of:			Maximum Limits of -			
	Test weight per bushel (pounds)	Suitable malting type (percent)	Sound barley <u>1/</u> (percent)	Wild Oats (percent)	Foreign material (percent)	Skinned and broken kernels (percent)	Thin Barley <u>2/</u> (percent)
U.S. No. 1	50.0	97.0	98.0	1.0	0.5	5.0	5.0
U.S. No. 2	48.0	97.0	98.0	1.0	1.0	7.0	7.0
U.S. No. 3	48.0	95.0	96.0	2.0	2.0	10.0	10.0
U.S. No. 4	48.0	95.0	93.0	3.0	3.0	10.0	10.0

1/ Injured-by-frost kernels and injured-by-mold kernels are not considered damaged kernels or considered against sound barley.

2/ Using a 5.5/64 x 3/4 slotted-hole sieve.

NOTE: Malting barley shall not be infested, blighted, ergoty, garlicky, smutty, or contain any special grades. Upon request, malting barley varieties may be inspected and graded in accordance with standards established for the class Barley.

Two-rowed barley that does not meet the requirements for U.S. Nos. 1, 2, 3, or 4 Malting shall be graded under the Barley standards.

Grades and grade requirements for Barley

Grade	Minimum Limits of:		Maximum Limits of -				
	Test weight per bushel (pounds)	Sound barley (percent)	Damaged kernels <u>1/</u> (percent)	Heat damaged kernels (percent)	Foreign material (percent)	Broken kernels (percent)	Thin Barley <u>2/</u> (percent)
U.S. No. 1	47.0	97.0	2.0	0.2	1.0	4.0	10.0
U.S. No. 2	45.0	94.0	4.0	0.3	2.0	8.0	15.0
U.S. No. 3	43.0	90.0	6.0	0.5	3.0	12.0	25.0
U.S. No. 4	40.0	85.0	8.0	1.0	4.0	18.0	35.0
U.S. No. 5	36.0	75.0	10.0	3.0	5.0	28.0	75.0

U.S. Sample Grade:

U.S. Sample Grade is wheat that:

- (a) Does not meet the requirements for grades U.S. No. 1, 2, 3, 4, or 5; or
- (b) Contains 8 or more stones or any number of stones which have an aggregate weight in excess of 0.2 percent of the sample weight, 2 or more pieces of glass, 3 or more crotalaria seeds (*Crotalaria* spp.), 2 or more castor beans (*Ricinus communis* L.), 4 or more particles of an unknown foreign substance(s) or a commonly recognized harmful or toxic substance(s), 8 or more cocklebur (*Xanthium* spp.) or similar seeds singly or in combination, 10 or more rodent pellets, bird droppings, or equivalent quantity of other animal filth per 1-1/8 to 1-1/4 quarts of barley; or
- (c) Has a musty, sour, or commercially objectionable foreign odor (except smut or garlic odor); or
- (d) Is heating or otherwise of distinctly low quality.

1/ Injured-by-frost kernels and injured-by-mold kernels are not considered damaged kernels or considered against sound barley.

2/ Using a 5.5/64 x 3/4 slotted-hole sieve.

Barley

Definitions

Test weight (lb/bu) is pounds of grain per Winchester bushel as determined using an approved device on a dockage-free barley sample.

Test weight (kg/hl) is the metric system equivalent to pounds per bushel. Kilograms per hectoliter are calculated by multiplying pounds per bushel by 1.287.

Heat-damaged kernels are kernels and pieces of barley kernels, other grains, and wild oats that are materially discolored and damaged by heat.

Damaged kernels are kernels, pieces of barley kernels, other grains, and wild oats that are badly ground-damaged, badly weather-damaged, diseased, frost-damaged, germ-damaged, heat-damaged, injured-by-heat, insect-bored, mold-damaged, sprout-damaged, or otherwise materially damaged.

Foreign material is all matter other than barley, other grains, and wild oats that remains in the sample after removal of dockage.

Skinned and broken kernels are barley kernels that have one-third or more of the hull removed, or that the hull is loose or missing over the germ, or broken kernels, or whole kernels that have a part or all of the germ missing.

Dockage is all matter other than barley that can be removed from the original sample by use of an approved device. Also, underdeveloped, shriveled, and small pieces of barley kernels removed by properly separating the material other than barley and that cannot be recovered by properly rescreening or re-cleaning.

Moisture is the water content of grain as determined by an approved moisture meter. The percentage of moisture in a sample does not affect the numerical grade.

Suitable malting type are varieties of malting barley that are recommended by the American Malting Barley Association and any other proprietary malting type(s) used by the malting and brewing industries.

Sound barley is kernels and pieces of barley kernels that are not damaged.

Thin barley is: Six-rowed Malting barley that passes through a 5/64 x 3/4 slotted-hole sieve and Two-rowed Malting barley that passes through a 5.5/64 x 3/4 slotted-hole sieve; Six-rowed barley, Two-rowed barley, or Barley that passes through a 5/64 x 3/4 slotted-hole sieve.

Table 16. U.S. Barley Exports: Number of lots and quantity exported by grade, 2010-2012

Grade	2010		2011		2012	
	No. of Lots	Metric Tons	No. of Lots	Metric Tons	No. of Lots	Metric Tons
U.S. No. 2	5	69,771	4	112,919	5	174,591
All lots	5	69,771	4	112,919	5	174,591

Table 17. Summary of export Barley quality, 2010-2012

Factor	Grade	Grade Limit	2010				2011				2012			
			No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High
Test Weight (lb/bu)	U.S. No. 2	45.0	5	51.0	49.0	54.4	4	50.0	49.7	50.6	5	52.3	50.5	56.4
	All lots	N/A	5	51.0	49.0	54.4	4	50.0	49.7	50.6	5	52.3	50.5	56.4
Test Weight (kg/hl)	U.S. No. 2	N/A	5	65.6	63.1	70.1	4	64.4	64.0	65.1	5	67.4	65.0	72.6
	All lots	N/A	5	65.6	63.1	70.1	4	64.4	64.0	65.1	5	67.4	65.0	72.6
Moisture	U.S. No. 2	N/A	5	12.7	10.8	13.4	4	12.7	12.4	12.8	5	12.4	9.9	13.5
	All lots	N/A	5	12.7	10.8	13.4	4	12.7	12.4	12.8	5	12.4	9.9	13.5
Heat-damaged Kernels	U.S. No. 2	0.3	5	0.2	0.0	0.3	4	0.0	0.0	0.0	5	0.0	0.0	0.0
	All lots	N/A	5	0.2	0.0	0.3	4	0.0	0.0	0.0	5	0.0	0.0	0.0
Damaged Kernels (Total)	U.S. No. 2	4.0	5	1.3	0.0	2.2	4	1.5	0.9	2.0	5	0.9	0.0	1.4
	All lots	N/A	5	1.3	0.0	2.2	4	1.5	0.9	2.0	5	0.9	0.0	1.4
Foreign Material	U.S. No. 2	2.0	5	0.1	0.1	0.2	4	0.2	0.1	0.2	5	0.1	0.0	0.1
	All lots	N/A	5	0.1	0.1	0.2	4	0.2	0.1	0.2	5	0.1	0.0	0.1
Sound Barley	U.S. No. 2	94.0	5	28.2	0.0	98.4	4	97.9	97.3	98.5	5	97.9	97.5	99.2
	All lots	N/A	5	28.2	0.0	98.4	4	97.9	97.3	98.5	5	97.9	97.5	99.2
Thin Barley	U.S. No. 2	15.0	5	3.8	1.1	7.5	4	6.1	5.2	6.4	5	2.9	2.0	3.2
	All lots	N/A	5	3.8	1.1	7.5	4	6.1	5.2	6.4	5	2.9	2.0	3.2
Broken Kernels	U.S. No. 2	8.0	5	0.3	0.0	0.7	4	0.0	0.0	0.0	5	0.0	0.0	0.0
	All lots	N/A	5	0.3	0.0	0.7	4	0.0	0.0	0.0	5	0.0	0.0	0.0
Dockage	U.S. No. 2	N/A	4	1.0	0.4	1.5	2	1.3	1.1	1.8	5	1.1	0.5	1.4
	All lots	N/A	4	1.0	0.4	1.5	2	1.3	1.1	1.8	5	1.1	0.5	1.4

N/A = Does not apply.

Canola

Canola Grades and Grade Requirements

There are no classes of canola. Canola is divided into three numerical grades and U.S. Sample grade. Special grades are provided to emphasize special qualities or conditions affecting the value, and are added to and made a part of the grade designation. They do not affect the numerical or sample grade designation.

U.S. Standards for Canola

Grade	Maximum percent limits of:								Maximum count limits of:		
	Damaged Kernels			Conspicuous Admixture				Inconspicuous admixture	Other Material		
	Heat Damage (percent)	Distinctly green (percent)	Total (percent)	Ergot (percent)	Sclerotinia (percent)	Stones (percent)	Total (percent)		Animal filth	Glass	Unknown foreign substances
U.S. No. 1	0.1	2.0	3.0	0.05	0.05	0.05	1.0	5.0	3	0	1
U.S. No. 2	0.5	6.0	10.0	0.05	0.10	0.05	1.5	5.0	3	0	1
U.S. No. 3	2.0	20.0	20.0	0.05	0.15	0.05	2.0	5.0	3	0	1

U.S. Sample Grade:

U.S. Sample Grade is canola that:

- (a) Does not meet the requirements for U.S. Nos. 1, 2, or 3; or
- (b) Has a musty, sour, or commercially objectionable foreign odor; or
- (c) Is heating or otherwise of distinctly low quality.

Canola

Definitions

Conspicuous admixture is all matter other than canola including, but not limited to, ergot, sclerotinia, and stones, which is conspicuous and readily distinguishable from canola and which remains in the sample after the removal of machine separated dockage. Conspicuous admixture is added to machine separated dockage in the computation of total dockage.

Damaged kernels are canola and pieces of canola that are heat-damaged, sprout-damaged, mold-damaged, distinctly green-damaged, frost-damaged, rime-damaged, or otherwise materially damaged.

Distinctly green kernels are canola and pieces of canola which, after being crushed, exhibit a distinctly green color.

Dockage is all matter other than canola that can be removed from the original sample by use of an approved device according to procedures described in FGIS instructions, as well as underdeveloped, shriveled, and small pieces of canola kernels that cannot be recovered by properly screening or re-cleaning. Machine separated dockage is added to conspicuous admixture in the computation of total dockage.

Ergot is sclerotia of the fungus, *Claviceps* species, which are associated with some seeds other than canola where the fungal organism has replaced the seed.

Heat-damaged kernels are canola and pieces of canola which, after being crushed, exhibit that they are discolored and damaged by heat.

Inconspicuous admixture is any seed which is difficult to distinguish from canola. This includes, but is not limited to, common wild mustard (*Brassica kaber* and *B. juncea*), domestic brown mustard (*Brassica juncea*), yellow mustard (*B. hirta*), and seed other than the mustard group.

Sclerotia are dark colored or black resting bodies of the *Sclerotinia* and *Claviceps*.

Sclerotinia is the genus name which includes the fungus *Sclerotinia sclerotiorum* which produces sclerotia. Canola is only infrequently infected, and the sclerotia, unlike sclerotia of ergot, are usually associated with the stem of the plants.

Table 18. U.S. Canola Exports: Number of lots and quantity exported by grade, 2010-2012

Grade	2010		2011		2012	
	No. of Lots	Metric Tons	No. of Lots	Metric Tons	No. of Lots	Metric Tons
U.S. No. 1	4	65,878	1	21,455	3	59,461
U.S. No. 2	--	--	--	--	1	19,698
All lots	4	65,878	1	21,455	4	79,159

-- = No lots reported in this category.

Table 19. Summary of export Canola quality, 2010-2012

Factor	Grade	Grade Limit	2010				2011				2012			
			No. of				No. of				No. of			
			Lots	Avg.	Low	High	Lots	Avg.	Low	High	Lots	Avg.	Low	High
Dockage	U.S. No. 1	N/A	4	2.6	2.3	2.7	1	2.8	2.8	2.8	3	3.5	3.4	3.7
	U.S. No. 2	N/A	--	--	--	--	--	--	--	--	1	3.3	3.3	3.3
	All lots	N/A	4	2.6	2.3	2.7	1	2.8	2.8	2.8	4	3.5	3.3	3.7
Moisture	U.S. No. 1	N/A	4	7.7	7.3	8.2	1	7.2	7.2	7.2	3	6.2	5.9	6.3
	U.S. No. 2	N/A	--	--	--	--	--	--	--	--	1	7.5	7.5	7.5
	All lots	N/A	4	7.7	7.3	8.2	1	7.2	7.2	7.2	4	6.5	5.9	7.5
Heat-damaged Kernels	U.S. No. 1	0.1	4	0.0	0.0	0.0	1	0.0	0.0	0.0	3	0.0	0.0	0.0
	U.S. No. 2	0.5	--	--	--	--	--	--	--	--	1	0.0	0.0	0.0
	All lots	N/A	4	0.0	0.0	0.0	1	0.0	0.0	0.0	4	0.0	0.0	0.0
Distinctly green Kernels	U.S. No. 1	2.0	4	0.5	0.3	0.7	1	0.4	0.4	0.4	3	0.6	0.5	0.7
	U.S. No. 2	6.0	--	--	--	--	--	--	--	--	1	0.9	0.9	0.9
	All lots	N/A	4	0.5	0.3	0.7	1	0.4	0.4	0.4	4	0.7	0.5	0.9
Total Damaged Kernels	U.S. No. 1	3.0	4	0.6	0.4	0.8	1	0.5	0.5	0.5	3	0.6	0.5	0.7
	U.S. No. 2	10.0	--	--	--	--	--	--	--	--	1	1.0	1.0	1.0
	All lots	N/A	4	0.6	0.4	0.8	1	0.5	0.5	0.5	4	0.7	0.5	1.0
Ergot	U.S. No. 1	0.05	4	0.0	0.0	0.0	1	0.0	0.0	0.0	3	0.0	0.0	0.0
	U.S. No. 2	0.05	--	--	--	--	--	--	--	--	1	0.0	0.0	0.0
	All lots	N/A	4	0.0	0.0	0.0	1	0.0	0.0	0.0	4	0.0	0.0	0.0
Sclerotinia	U.S. No. 1	0.05	4	0.0	0.0	0.0	1	0.0	0.0	0.0	3	0.0	0.0	0.0
	U.S. No. 2	0.10	--	--	--	--	--	--	--	--	1	0.0	0.0	0.0
	All lots	N/A	4	0.0	0.0	0.0	1	0.0	0.0	0.0	4	0.0	0.0	0.0
Stones	U.S. No. 1	0.05	4	0.0	0.0	0.0	1	0.0	0.0	0.0	3	0.0	0.0	0.0
	U.S. No. 2	0.05	--	--	--	--	--	--	--	--	1	0.0	0.0	0.0
	All lots	N/A	4	0.0	0.0	0.0	1	0.0	0.0	0.0	4	0.0	0.0	0.0
Total Conspicuous Admixture	U.S. No. 1	1.0	4	0.2	0.1	0.3	1	0.1	0.1	0.1	3	0.1	0.1	0.2
	U.S. No. 2	1.5	--	--	--	--	--	--	--	--	1	0.1	0.1	0.1
	All lots	N/A	4	0.2	0.1	0.3	1	0.1	0.1	0.1	4	0.1	0.1	0.2
Inconspicuous Admixture	U.S. No. 1	5.0	4	0.0	0.0	0.1	1	0.0	0.0	0.0	3	0.0	0.0	0.0
	U.S. No. 2	5.0	--	--	--	--	--	--	--	--	1	0.0	0.0	0.0
	All lots	N/A	4	0.0	0.0	0.1	1	0.0	0.0	0.0	4	0.0	0.0	0.0

N/A = Does not apply.

-- = No lots reported in this category.

Flaxseed

Flaxseed Grades and Grade Requirements

There are no classes of flaxseed. Flaxseed is divided into two numerical grades and U.S. Sample grade. Other determinations not specifically provided for under the general provisions are made on the basis of the grain when free from dockage, except the determination of odor is made on either the basis of the grain as a whole or the grain when free from dockage.

U.S. Standards for Flaxseed

Grade:	Minimum Test Weight per bushel (pounds)	Max Limits of damaged kernels:	
		Heat-Damaged kernels (percent)	Damaged kernels total (percent)
U.S. No. 1	49.0	0.2	10.0
U.S. No. 2	47.0	0.5	15.0

U.S. Sample Grade:

U.S. Sample Grade is flaxseed that:

- (a) Does not meet the requirements for the grades U.S. Nos. 1 or 2; or
- (b) Contains 8 or more stones which have an aggregate weight in excess of 0.2 percent of the sample weight, 2 or more pieces of glass, 3 or more crotalaria seeds (*Crotalaria* spp.), 2 or more castor beans (*Ricinus communis* L.), 4 or more particles of an unknown foreign substance(s) or a commonly recognized harmful or toxic substance(s), 10 or more rodent pellets, bird dropping, or equivalent quantity of other animal filth per 1-1/8 to 1-1/4 quarts of flaxseed; or
- (c) Has a musty, sour, or commercially objectionable foreign odor (except smut or garlic odor); or
- (d) Is heating or otherwise of distinctly low quality.

Definitions

Flaxseed. Grain that, before the removal of dockage, consists of 50 percent or more of common flaxseed (*Linum usitatissimum* L.) and not more than 20 percent of other grains for which standards have been established under the United States Grain Standards Act and which, after the removal of dockage, contains 50 percent or more of whole flaxseed.

Damaged kernels. Kernels and pieces of flaxseed kernels that are badly ground damaged, badly weather-damaged, diseased, frost-damaged, germ-damaged, heat damaged, insect-bored, mold-damaged, sprout-damaged, or otherwise materially damaged.

Dockage. All matter other than flaxseed that can be removed from the original sample by use of an approved device according to procedures prescribed in FGIS instructions. Also, underdeveloped, shriveled, and small pieces of flaxseed kernels removed in properly separating the material other than flaxseed and that cannot be recovered by properly rescreening or re-cleaning.

Heat-damaged kernels. Kernels and pieces of flaxseed kernels that are materially discolored and damaged by heat.

Other grains. Barley, corn, cultivated buckwheat, einkorn, emmer, guar, hull-less barley, non-grain sorghum, oats, Polish wheat, popcorn, poulard wheat, rice, rye, safflower, sorghum, soybeans, spelt, sunflower seed, sweet corn, triticale, wheat, and wild oats.

Table 20. U.S. Flaxseed Exports: Number of lots and quantity exported by grade, 2010-2012

Grade	2010		2011		2012	
	No. of Lots	Metric Tons	No. of Lots	Metric Tons	No. of Lots	Metric Tons
U.S. No. 1	3	46,550	1	10,507	1	10,593
All lots	3	46,550	1	10,507	1	10,593

Table 21. Summary of export Flaxseed quality, 2010-2012

Factor	Grade	Grade Limit	2010				2011				2012			
			No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High
Test Weight (lb/bu)	U.S. No. 1	49.0	3	49.8	49.6	50.2	1	49.3	49.3	49.3	1	50.7	50.7	50.7
	All lots	N/A	3	49.8	49.6	50.2	1	49.3	49.3	49.3	1	50.7	50.7	50.7
Test Weight (kg/hl)	U.S. No. 1	N/A	3	64.2	63.9	64.6	1	63.5	63.5	63.5	1	65.2	65.2	65.2
	All lots	N/A	3	64.2	63.9	64.6	1	63.5	63.5	63.5	1	65.2	65.2	65.2
Moisture	U.S. No. 1	N/A	3	7.5	7.4	7.8	1	7.5	7.5	7.5	1	6.5	6.5	6.5
	All lots	N/A	3	7.5	7.4	7.8	1	7.5	7.5	7.5	1	6.5	6.5	6.5
Heat-damaged kernels	U.S. No. 1	0.2	3	0.0	0.0	0.0	1	0.0	0.0	0.0	1	0.0	0.0	0.0
	All lots	N/A	3	0.0	0.0	0.0	1	0.0	0.0	0.0	1	0.0	0.0	0.0
Damaged Flaxseed (Total)	U.S. No. 1	10.0	3	0.0	0.0	0.1	1	0.1	0.1	0.1	1	0.0	0.0	0.0
	All lots	N/A	3	0.0	0.0	0.1	1	0.1	0.1	0.1	1	0.0	0.0	0.0
Dockage	U.S. No. 1	N/A	3	4.6	4.3	5.1	1	4.0	4.0	4.0	1	6.2	6.2	6.2
	All lots	N/A	3	4.6	4.3	5.1	1	4.0	4.0	4.0	1	6.2	6.2	6.2

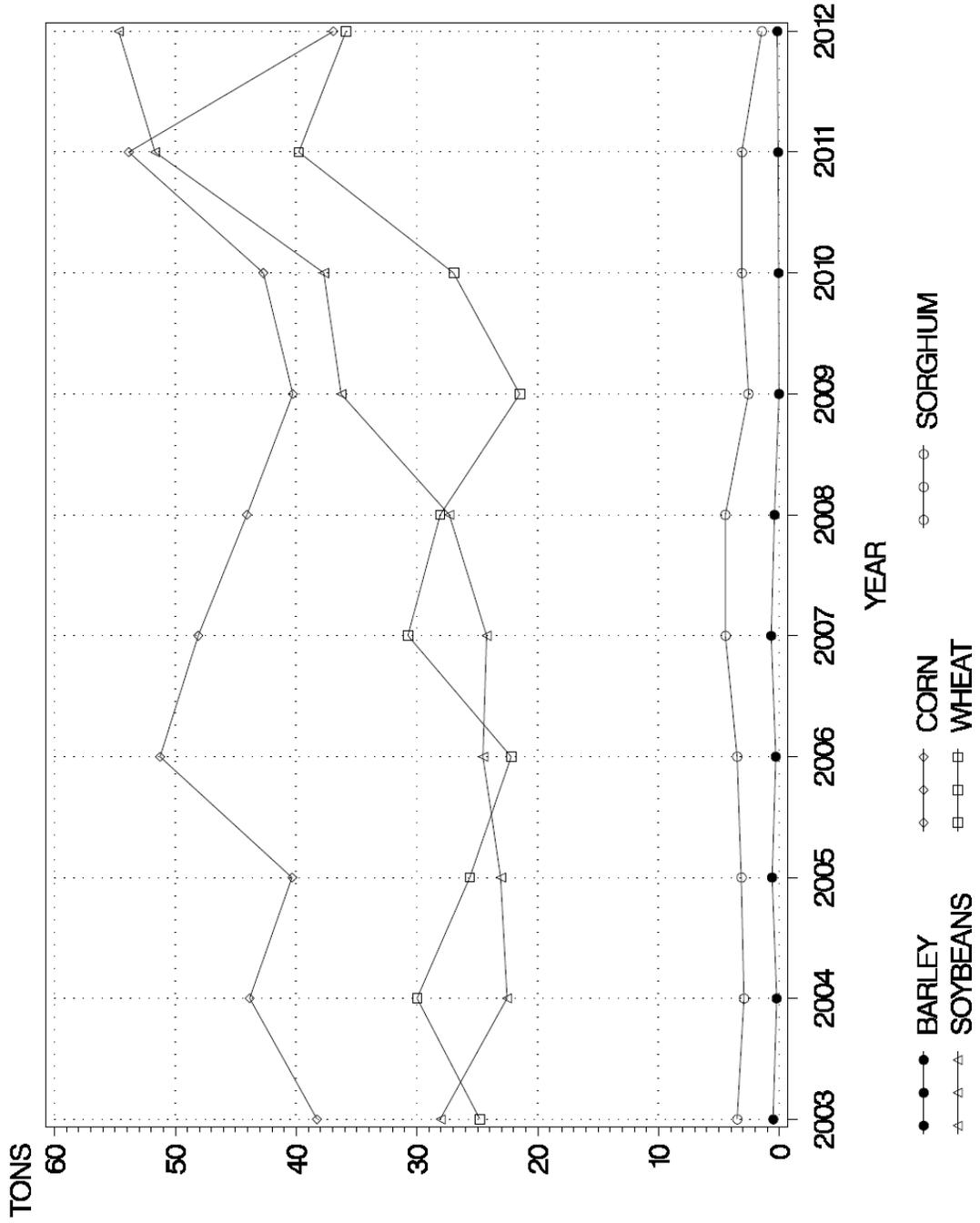
N/A = Does not apply.

Appendix

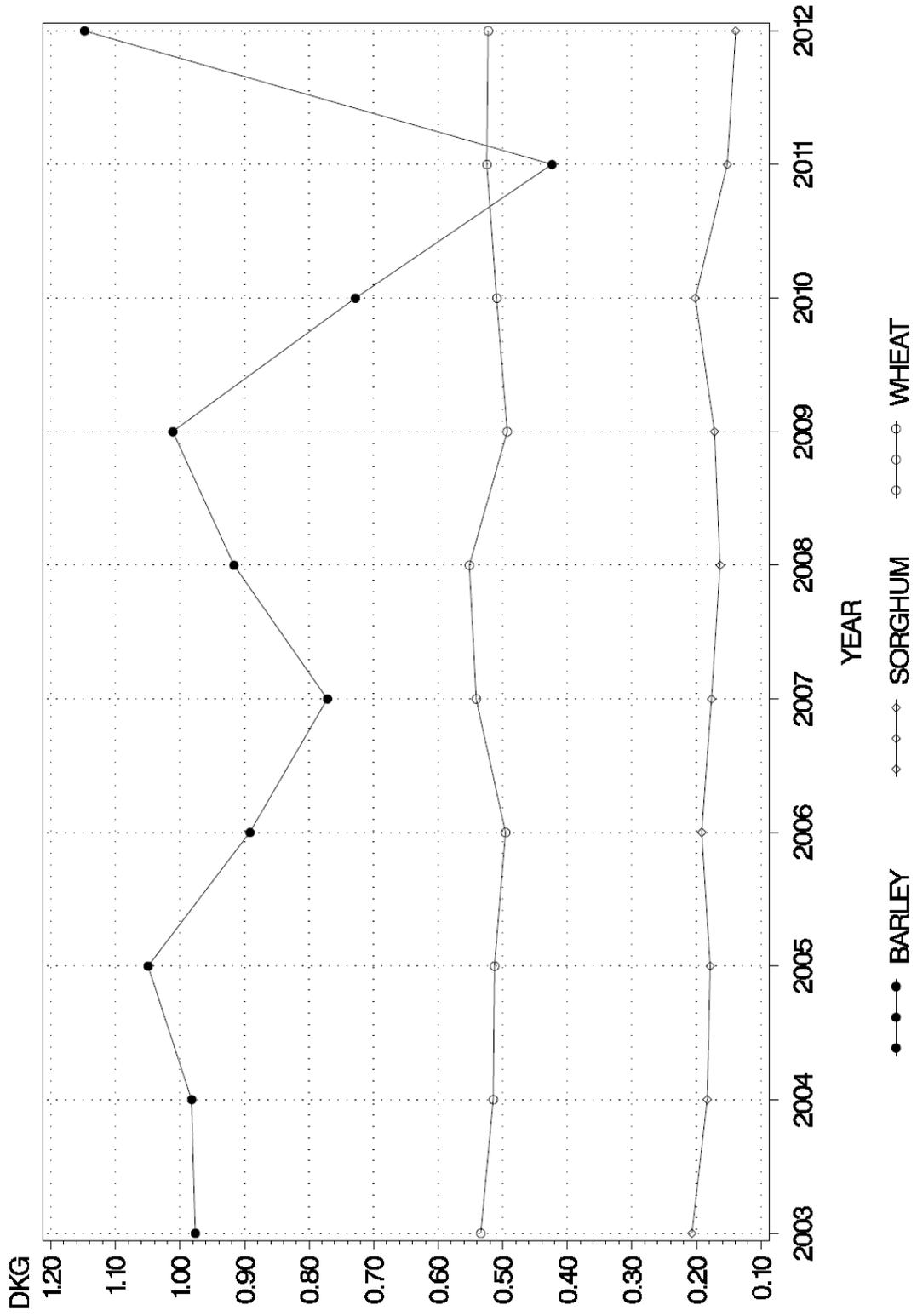
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U.S. GRAIN QUANTITY EXPORTED, 2003—2012

METRIC TONS IN MILLIONS

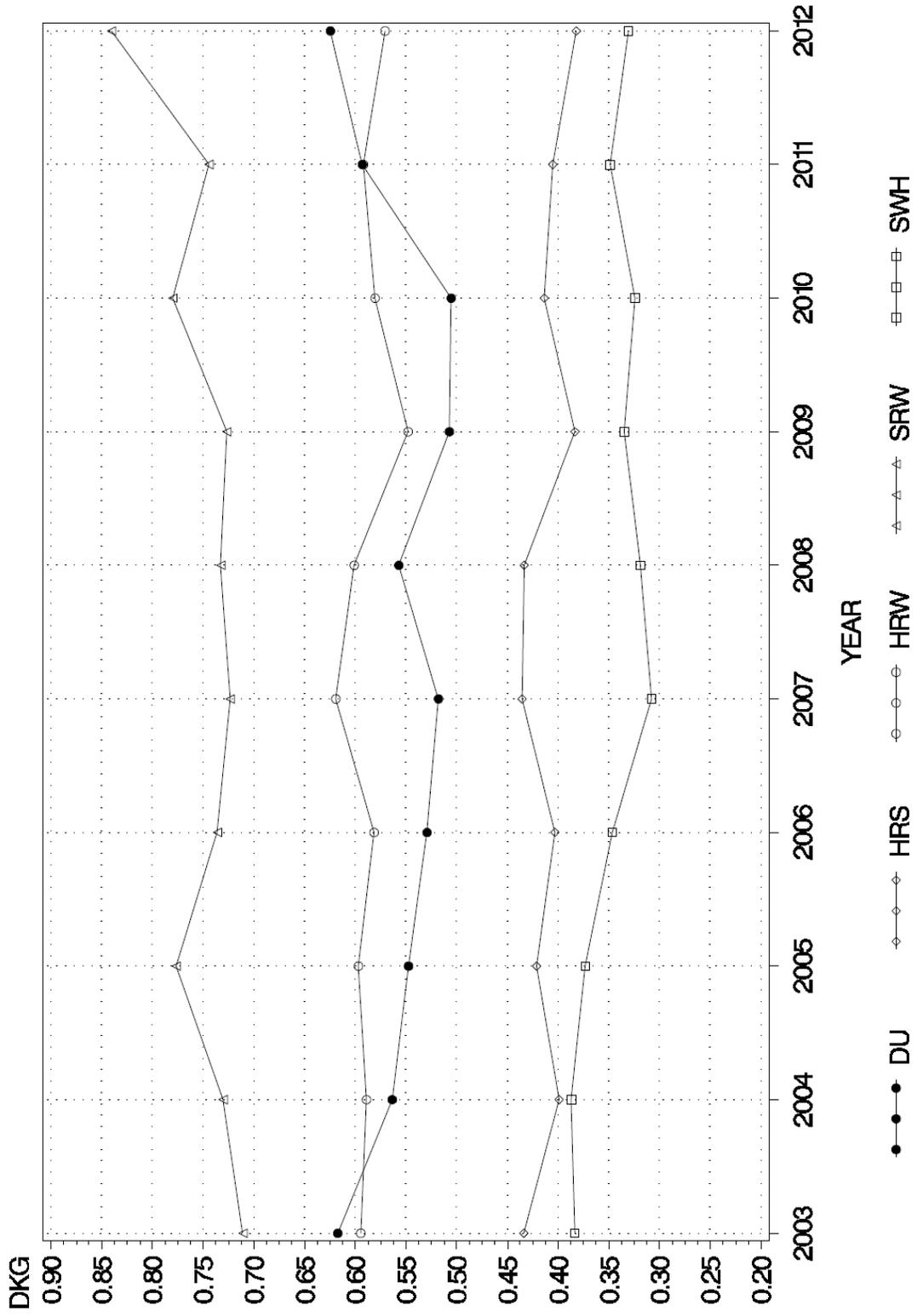


U.S. GRAIN EXPORTED, 2003--2012
AVG DOCKAGE BY GRAIN

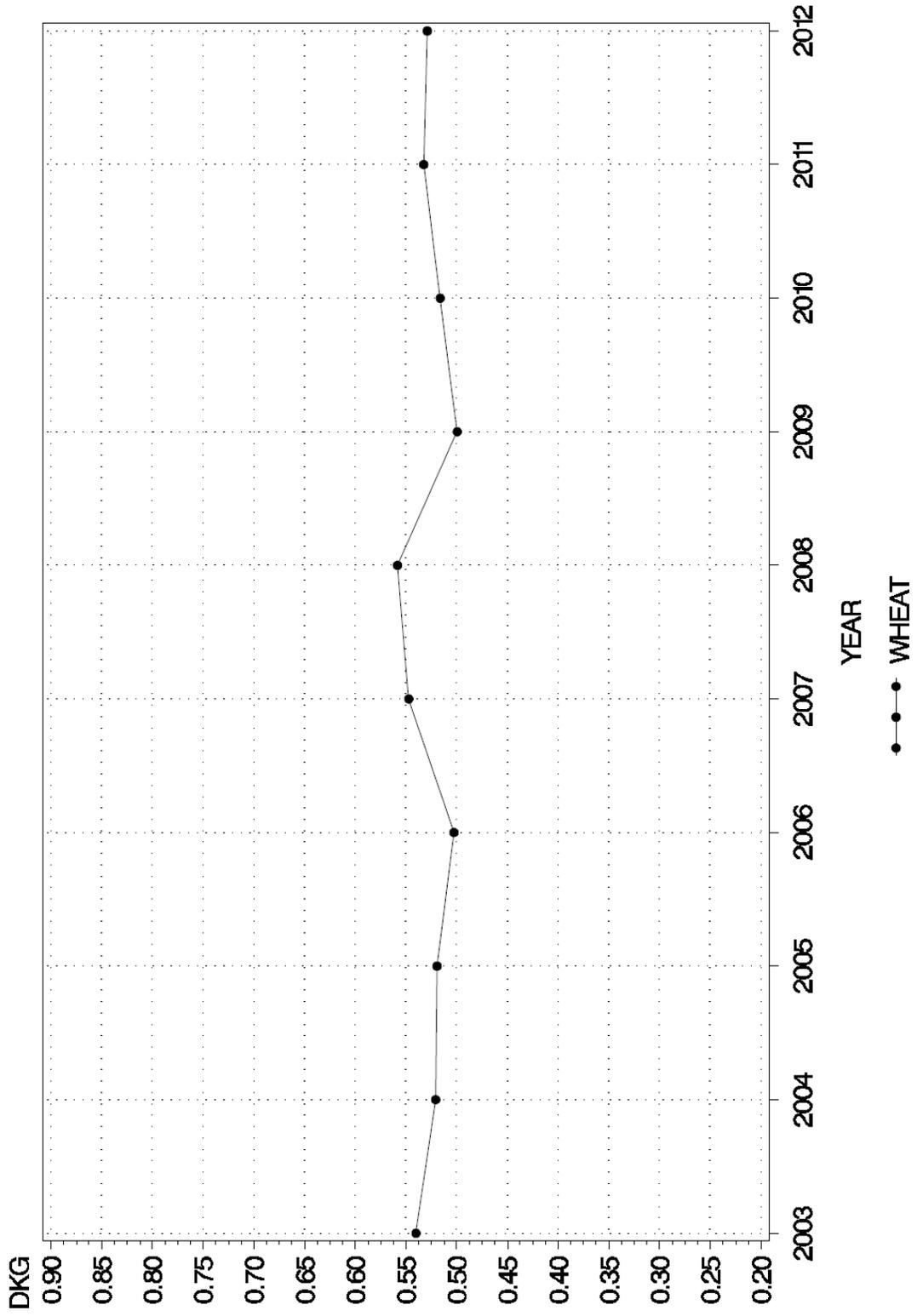


U.S. WHEAT EXPORTED, 2003–2012

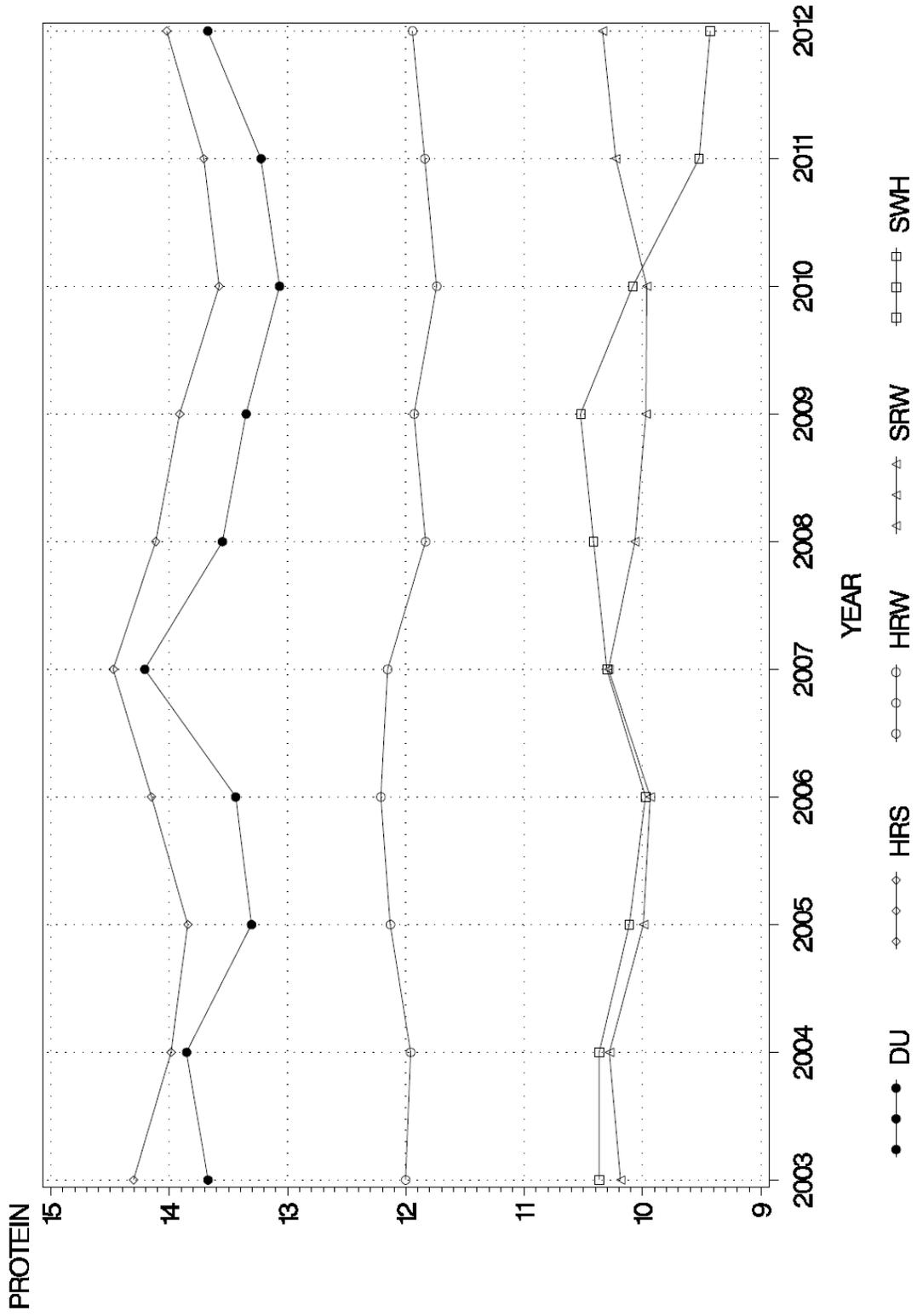
AVG DOCKAGE BY CLASS



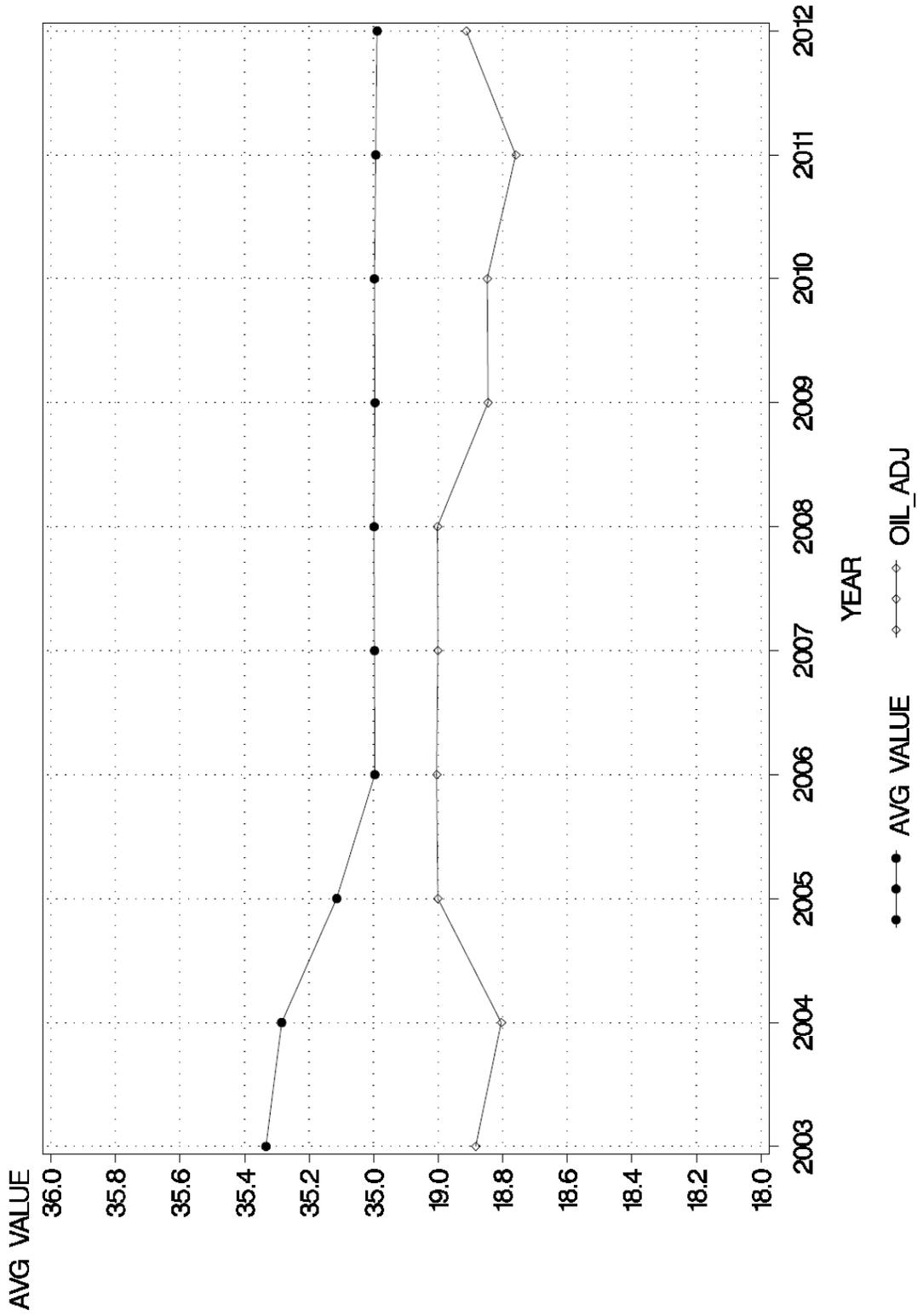
U.S. WHEAT EXPORTED, 2003–2012
AVG DOCKAGE



U.S. WHEAT EXPORTED, 2003—2012
AVG PROTEIN(12% M) BY CLASS

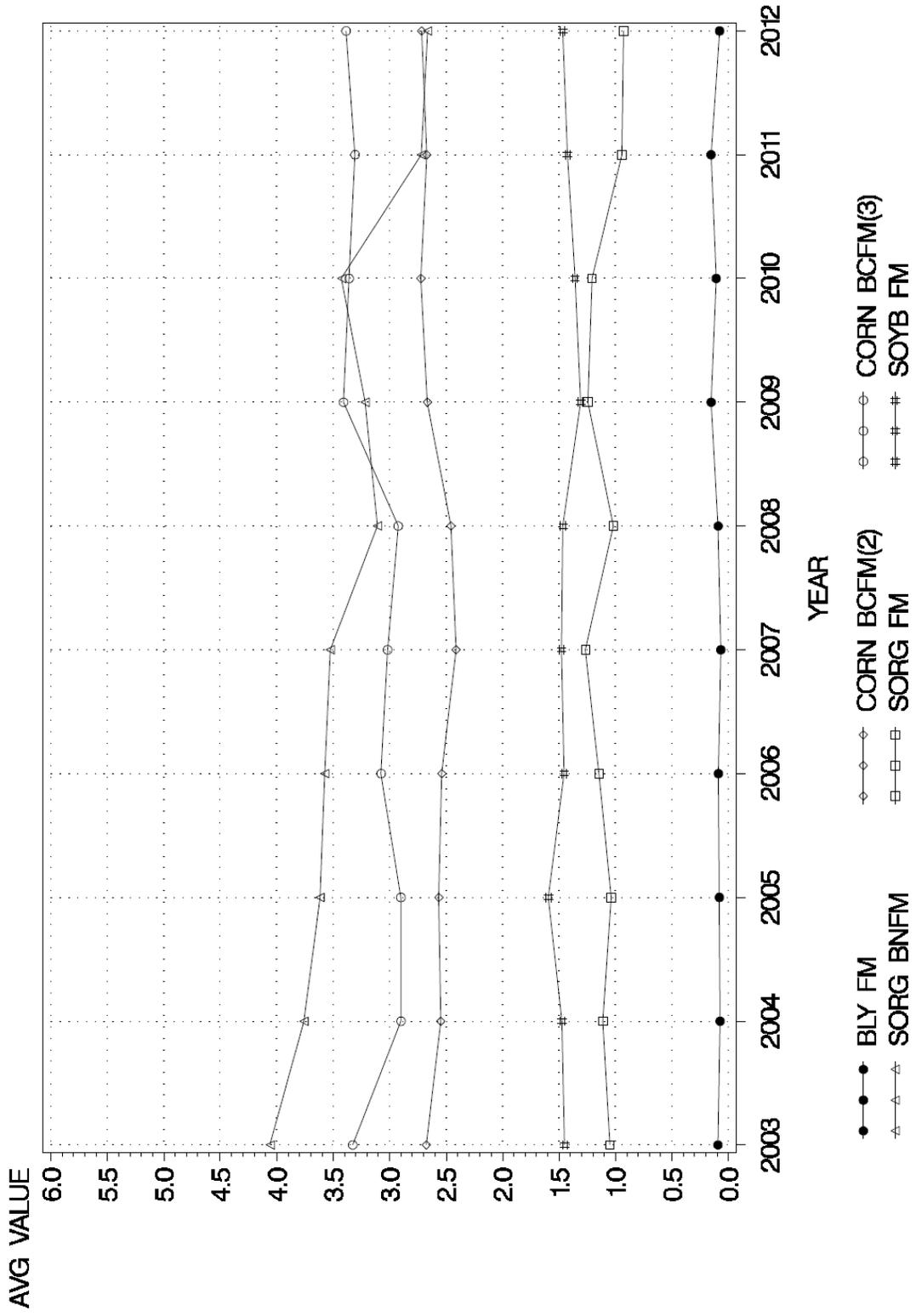


U.S. SOYBEANS EXPORTED, 2003—2012
 AVG PROTEIN AND OIL (13% M)



U.S. GRAINS EXPORTED, 2003–2012

AVG FM BNFM BCFM



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