

2019 HRS and Durum Overview

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NOVEMBER 12, 2019



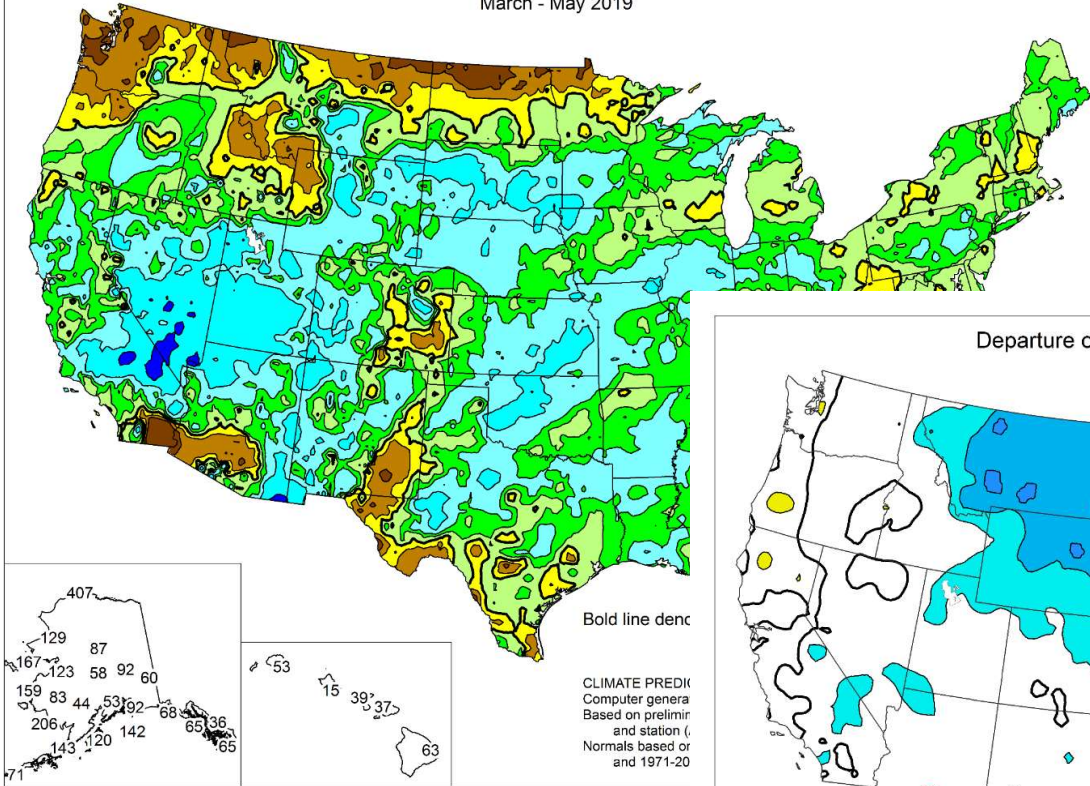
2019

CHALLENGING



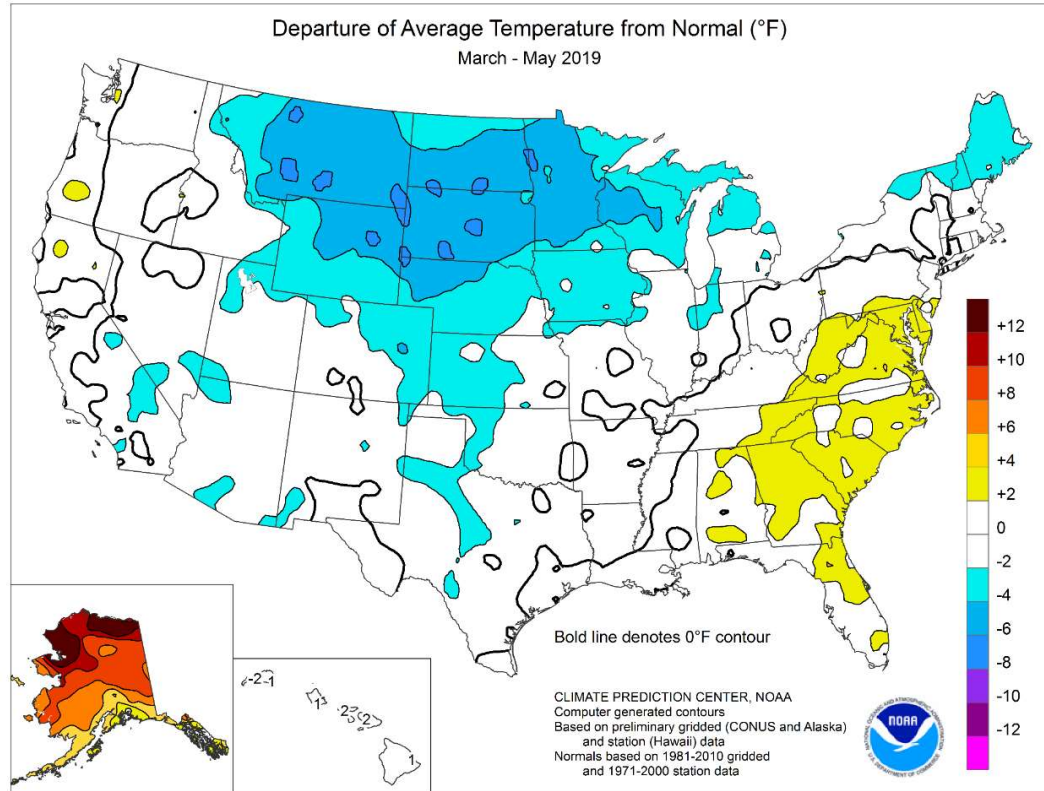
Percent of Normal Precipitation

March - May 2019

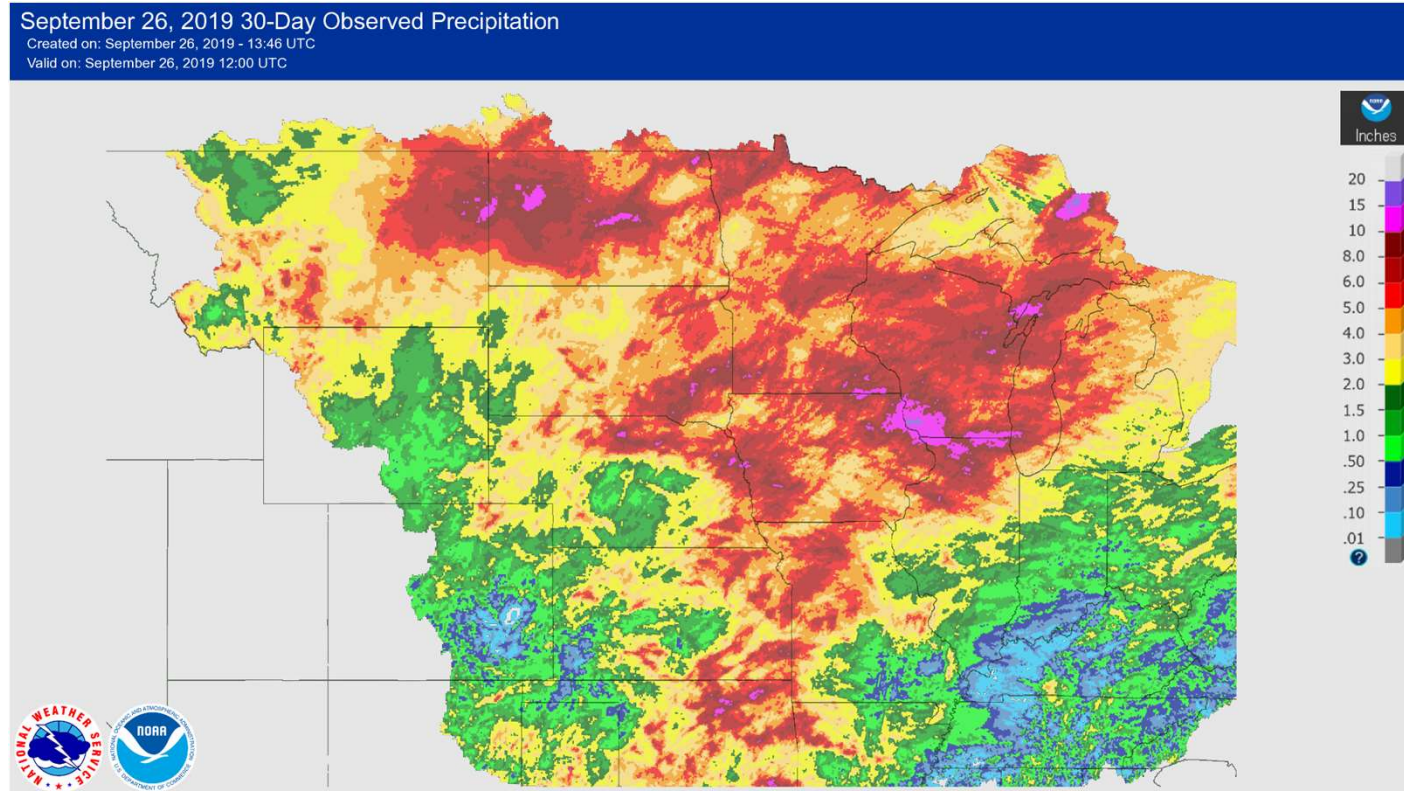


Departure of Average Temperature from Normal (°F)

March - May 2019



HRS Region – 30 Day Precipitation Totals



2019 HRS Quality

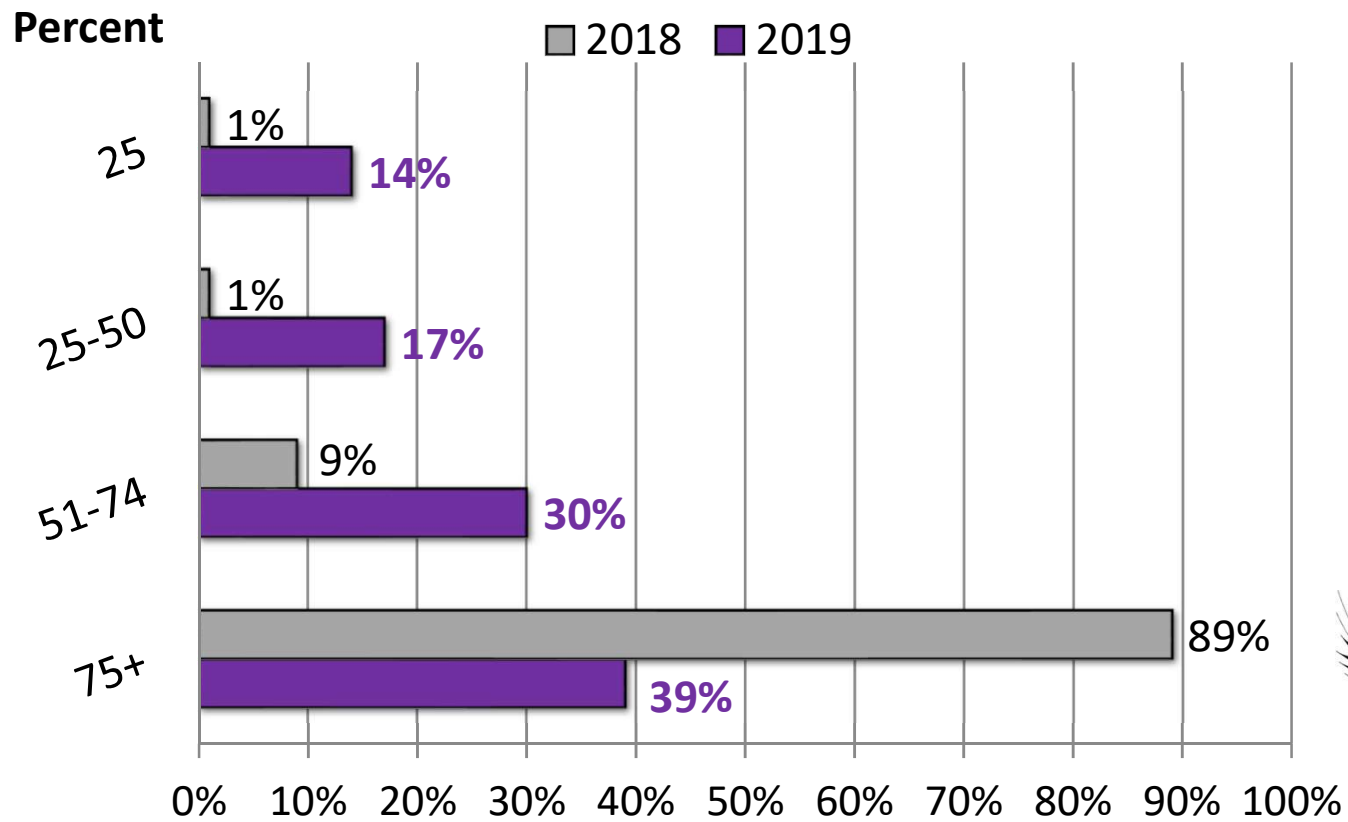
- This year's crop has more quality challenges than we've seen in recent years, **but still a lot of good quality crop out there**, combined with higher stocks from 2018.
 - Been a few years since we've had quality issues like this and somewhat unusual for them to be so widespread
 - Challenging for producers, grain trade, and buyers
- Falling number issues were evident right at the beginning, also lower vitreous kernel content and some elevated DON levels
- High protein and grade factors
- Weaker dough strength, but higher loaf volumes
- Unharvested acres higher than average and more feed quality wheat



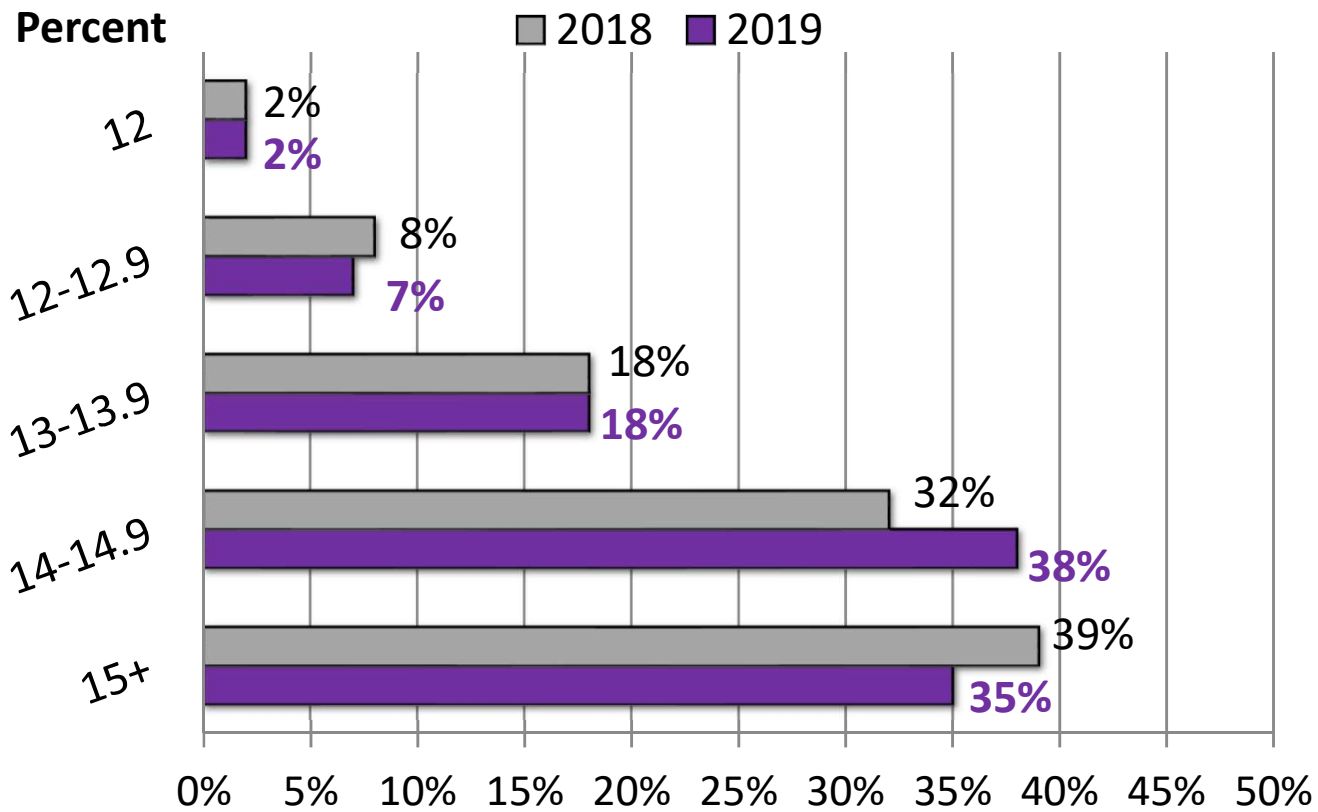
HARD RED SPRING WHEAT

QUALITY FACTORS	2019	2018	5 YR.
KERNEL DATA			
Test Weight - lb./bu.	60.7	62.2	61.7
Protein % (12% moisture)	14.5	14.5	14.1
Damage %	0.7	0.4	0.2
Falling Number (seconds)	337	399	381
Vitreous Kernels %	55	86	74
Grade	I NS	I DNS	I NS
MILLING DATA			
Flour Extraction	68.7	68.1	67.9
DOUGH & BAKE DATA			
Farino Absorption (%)	62.6	64.2	62.7
Farino Stability (min)	10.0	11.4	11.2
Loaf Volume (cm)	1019	988	963

HRS: Vitreous Kernel Content Distribution

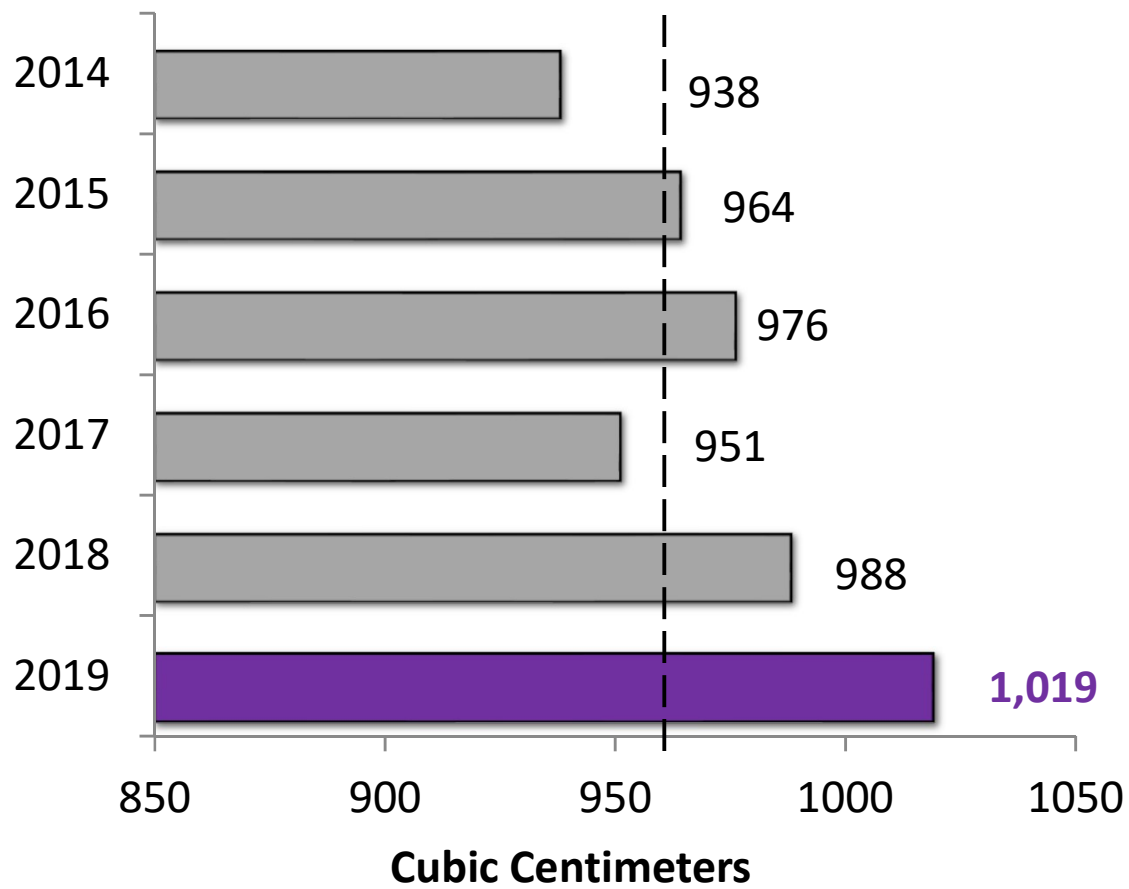


HRS: Protein Content Distribution



HRS: Loaf Volume

- - - 5 yr avg is 963 cc



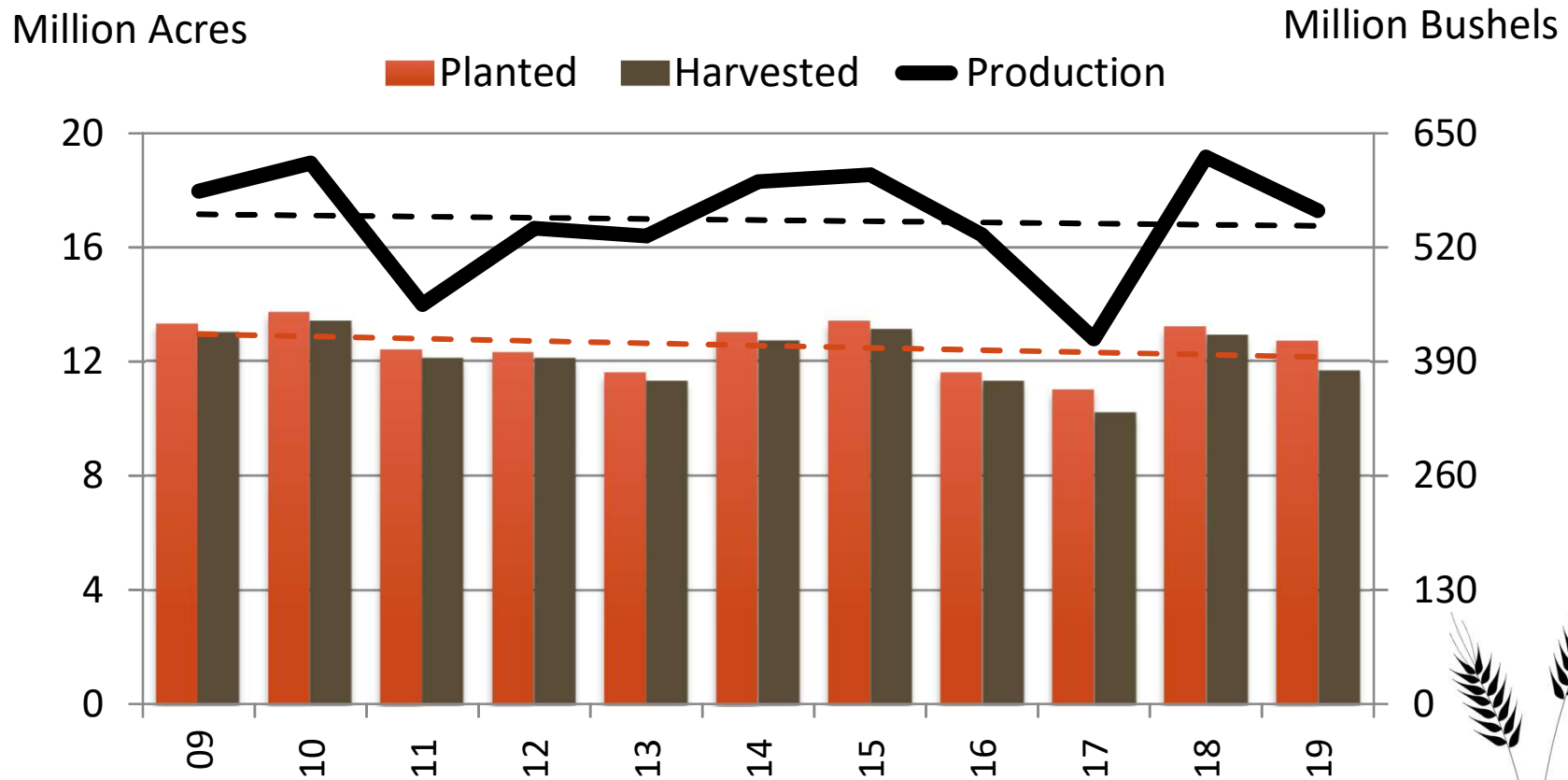
HRS Planted and Harvested Acres

(million acres)	Planted	Harvested	Harvested Ratio
U.S.	12.66	11.66	92%
Minnesota	1.45	1.40	97%
Montana	2.90	2.76	95%
North Dakota	6.70	5.95	89%
South Dakota	0.64	0.61	95%

Average harvested ratio is 97%



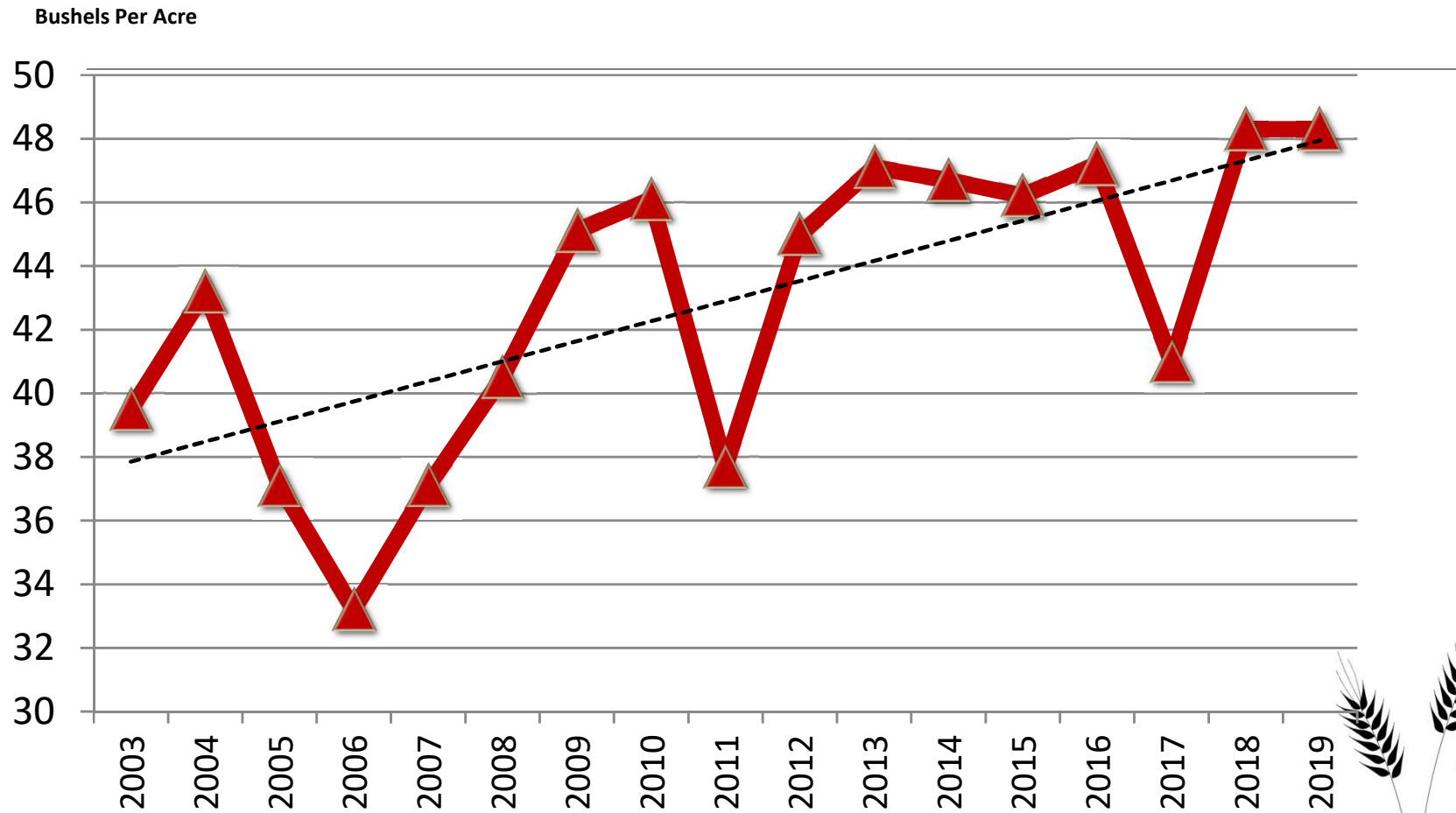
U.S. SPRING WHEAT PLANTINGS & PRODUCTION



* Typically includes 30-60 million bushels of white spring wheat.

Source: USDA November
Xldata/HRS/Acres

HISTORICAL U.S. HRS YIELDS



U.S. HARD RED SPRING SUPPLY & DEMAND

Million Bushels

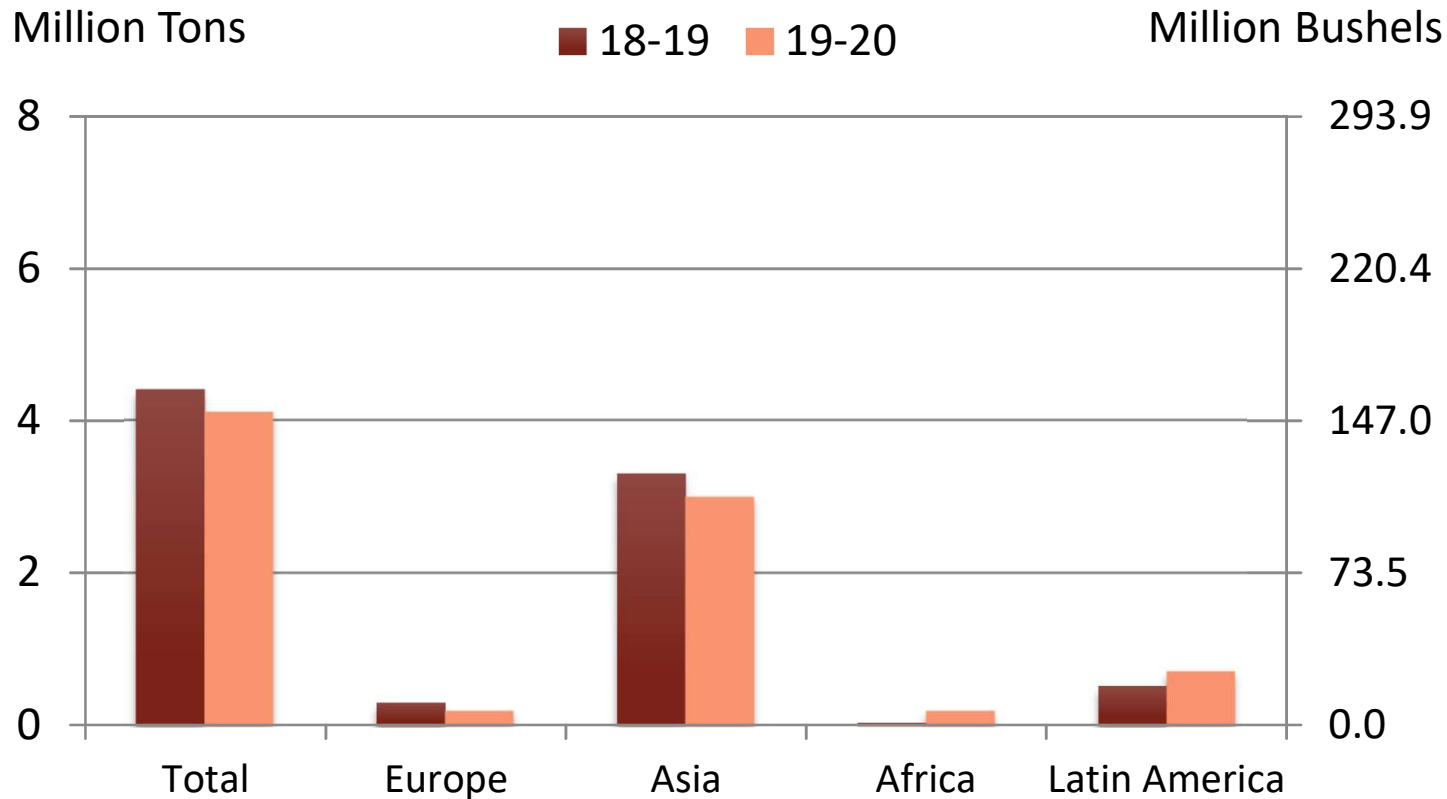
	15-16	16-17	17-18	18-19	Proj 19-20	Change
Beg Stocks	212	272	235	191	263	+38%
Production	568	491	384	587	522	-11%
Imports	48	42	88	68	55	-19%
Tot Supply	828	805	707	846	840	+1%
Dom Use	304	249	288	324	306	-5%
Exports	252	321	228	259	255	-2%
Tot Use	556	570	516	583	561	-4%
End Stocks	272	235	191	263	279	+6%
S/U Ratio	49%	41%	37%	45%	50%	



Source: USDA November 2019
Xldata/HRS/S&D

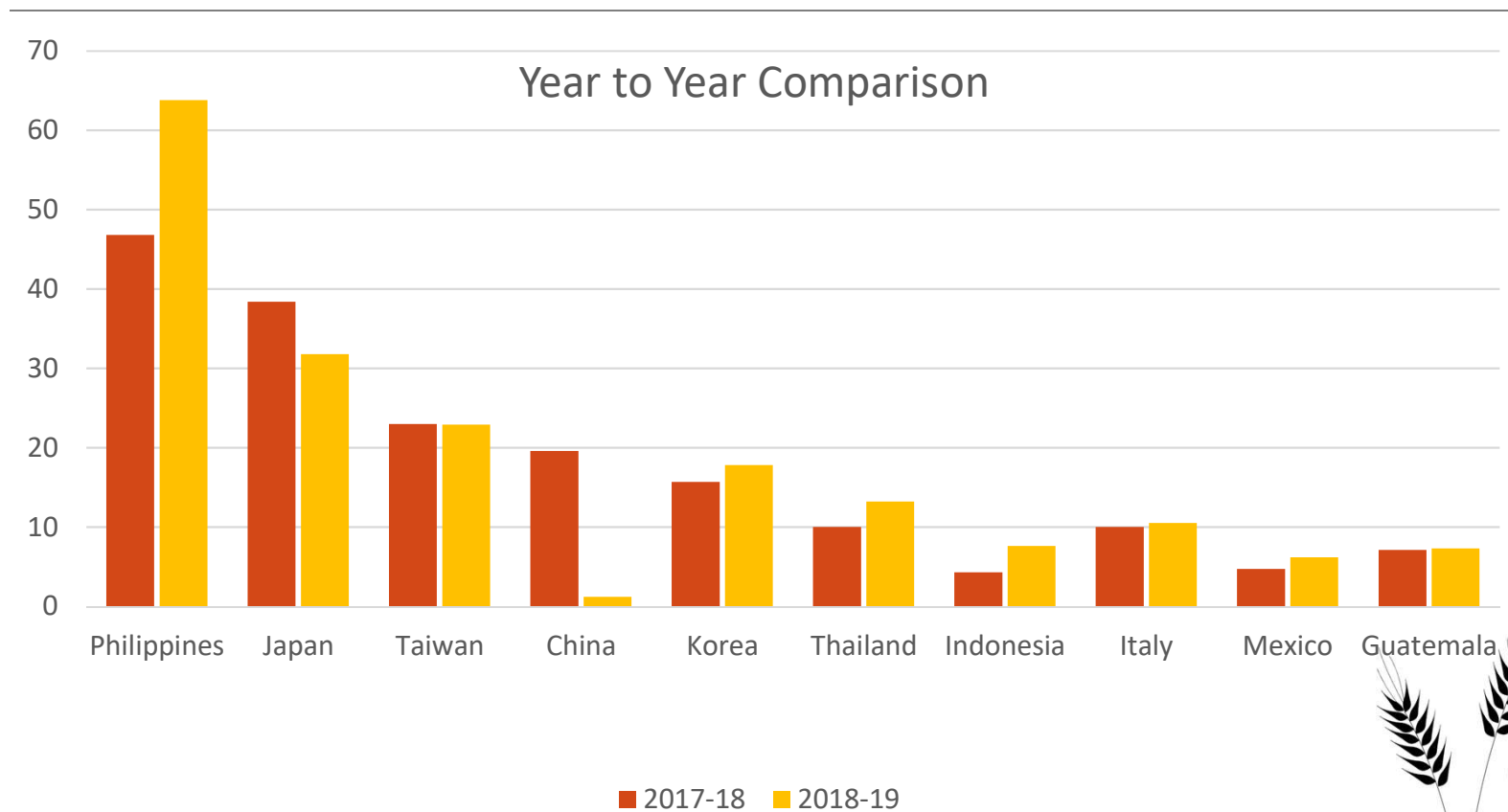
EXPORT PACE – U.S. HRS WHEAT

(Shipment and sales as of October 31, 2019)



11/7/19

Top Ten HRS Markets (5 year avg.)



U. S. FUTURES TRENDS

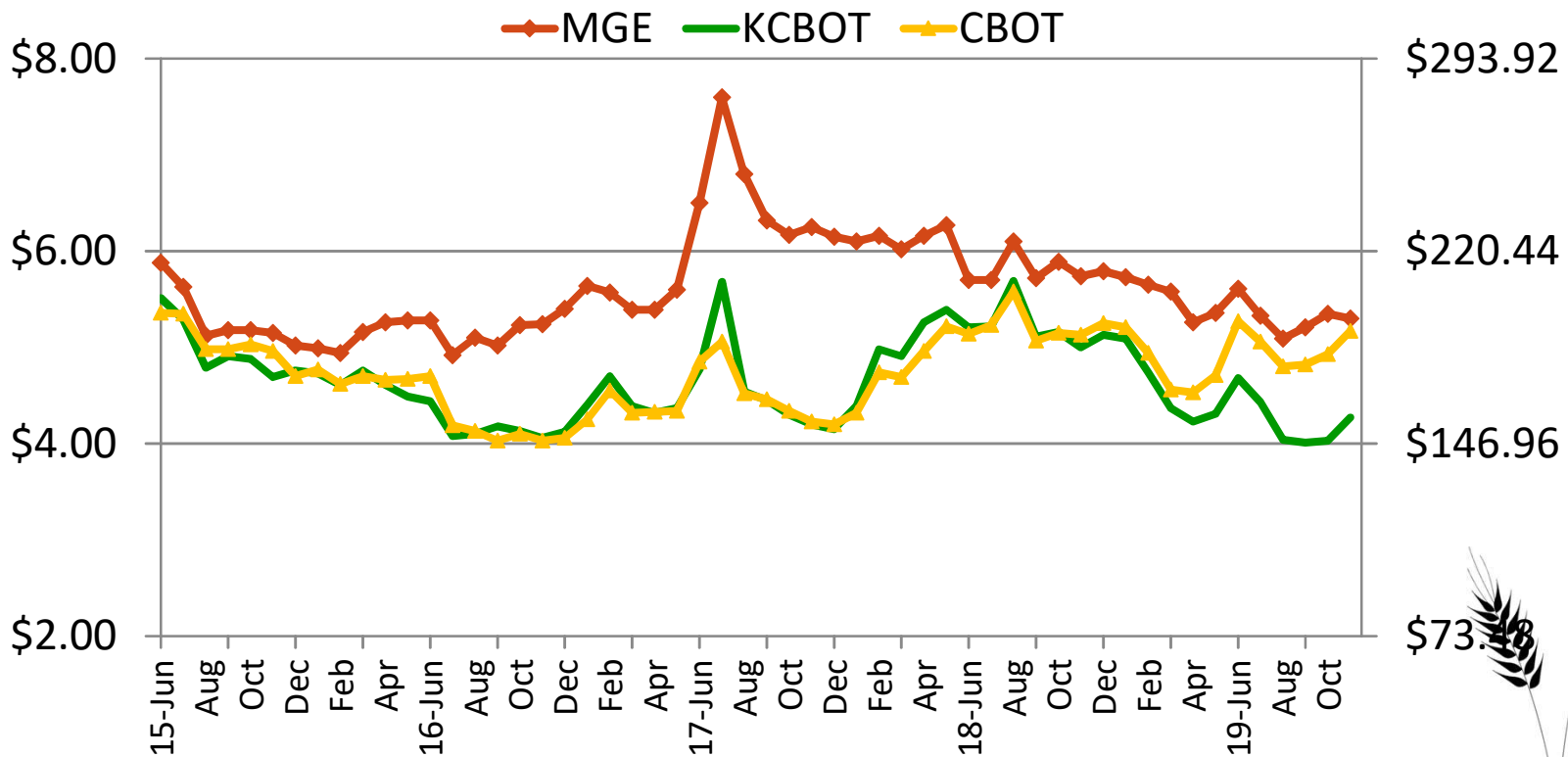
Minneapolis – Hard Red Spring

Kansas City – Hard Red Winter

Chicago – Soft Red Winter – World prices

\$ per Bushel

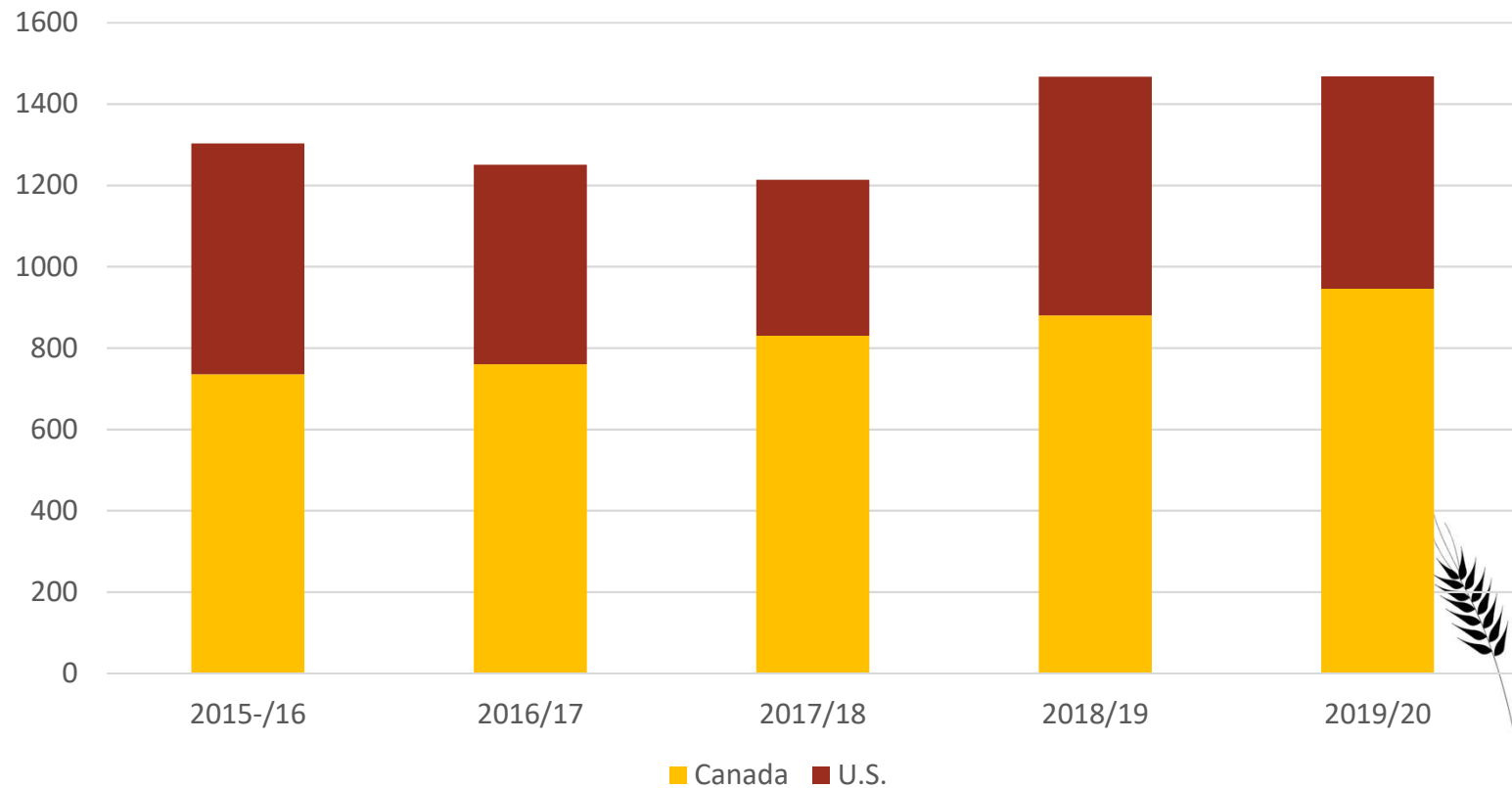
\$ per Ton



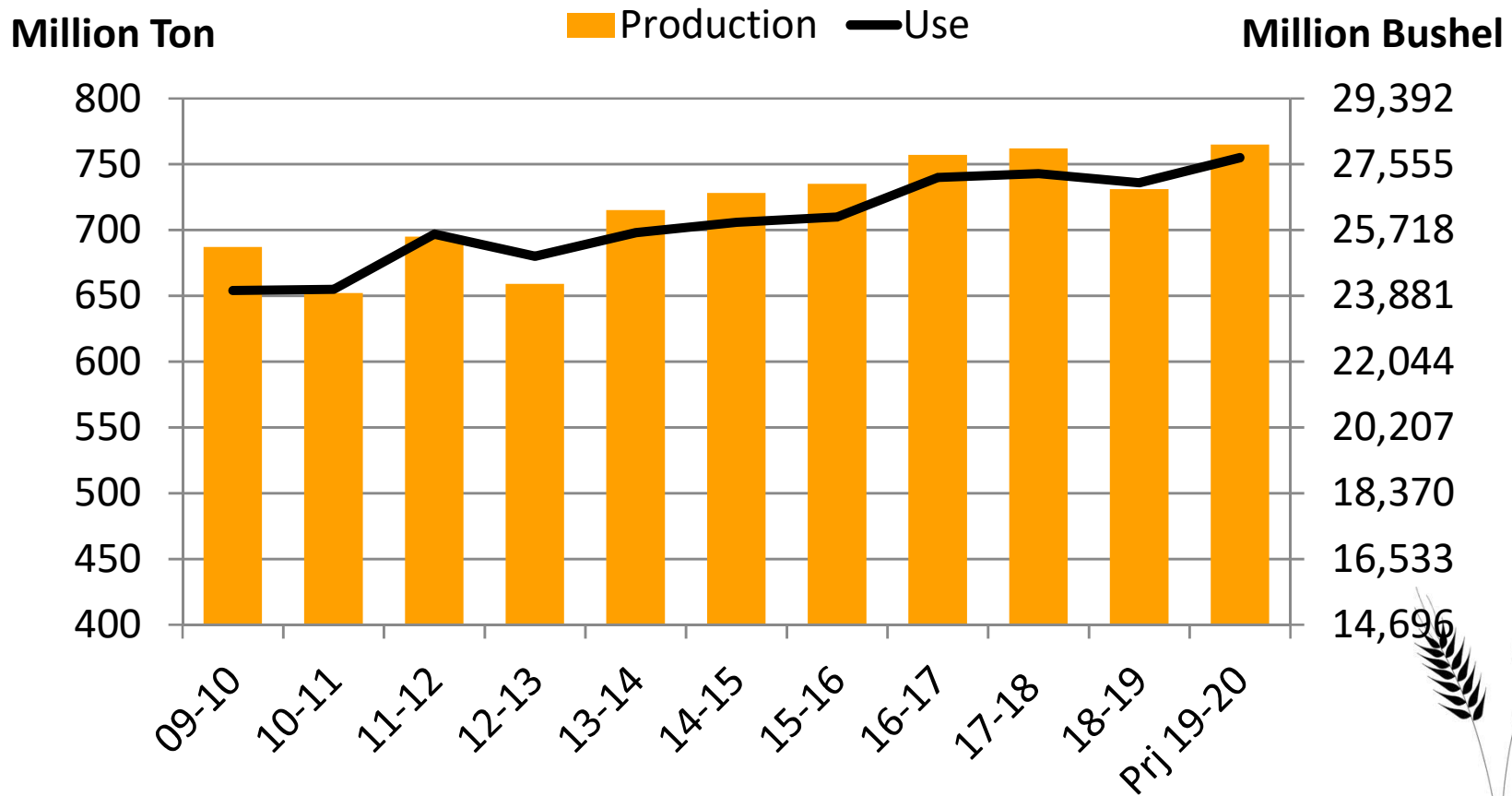
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North American Spring Wheat Production

Million bushels



World Wheat Production and Use

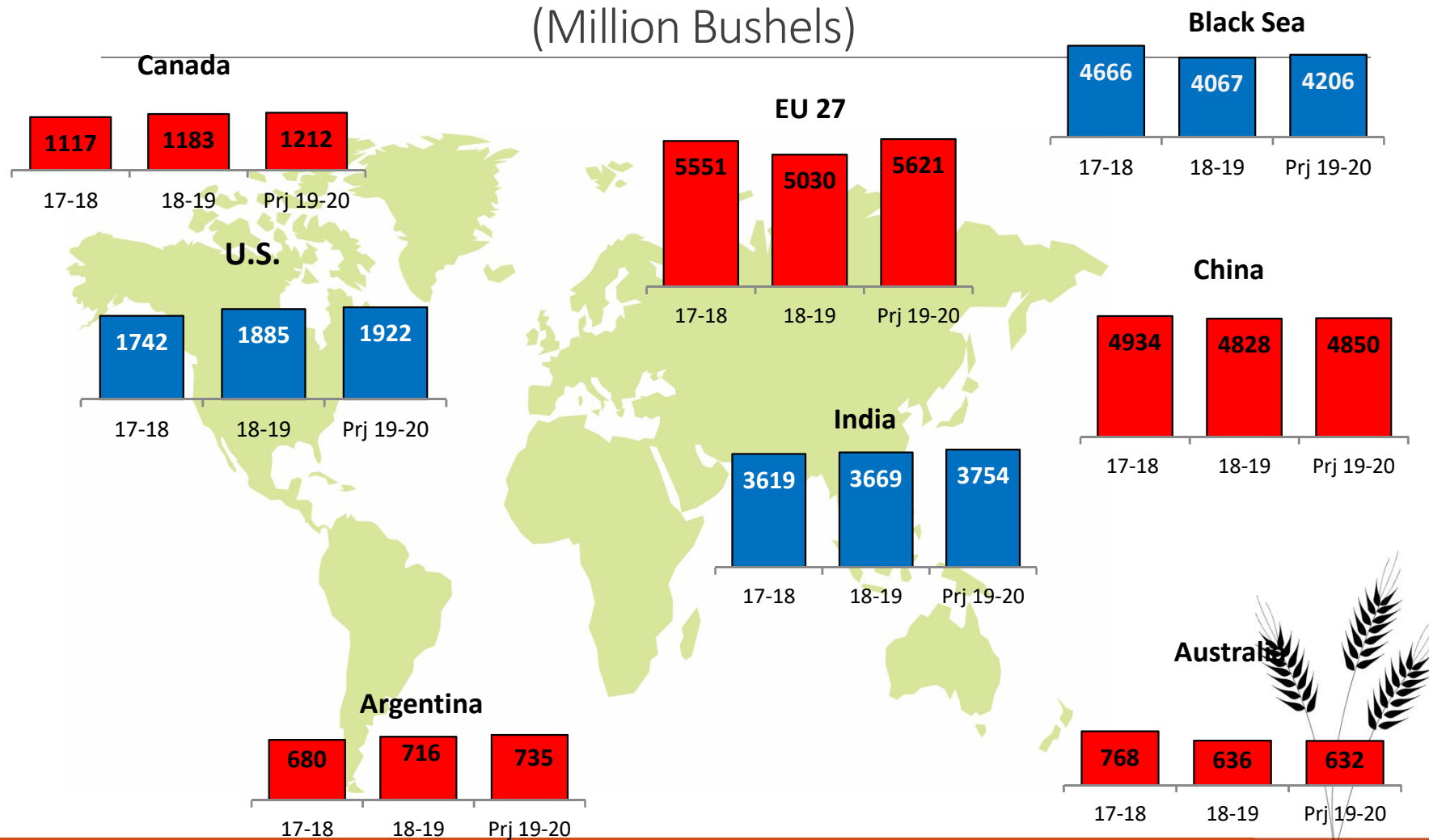


USDA October 2019

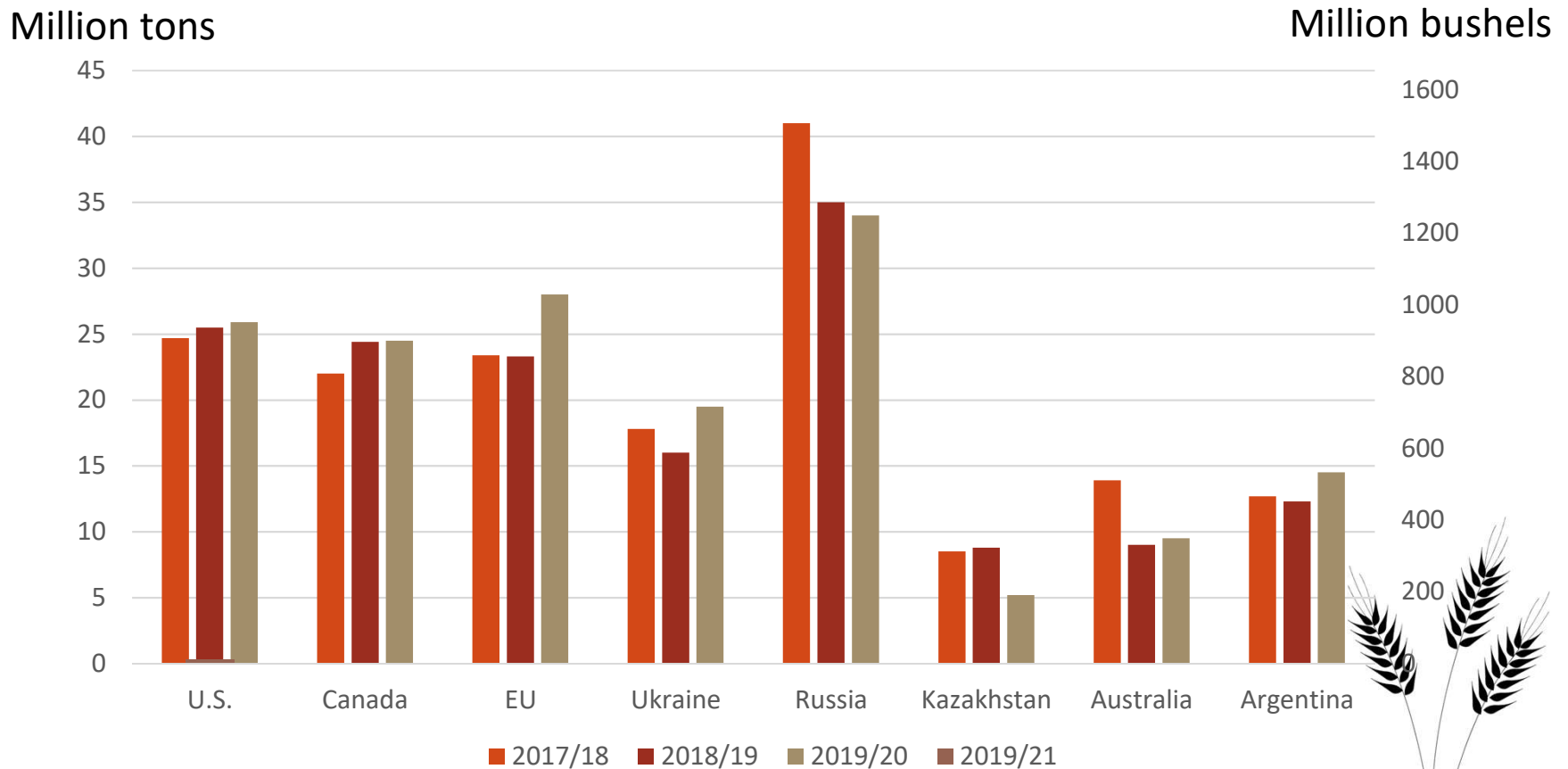
xldata/world/all/prod & use

WORLD WHEAT PRODUCTION – MAP

(Million Bushels)

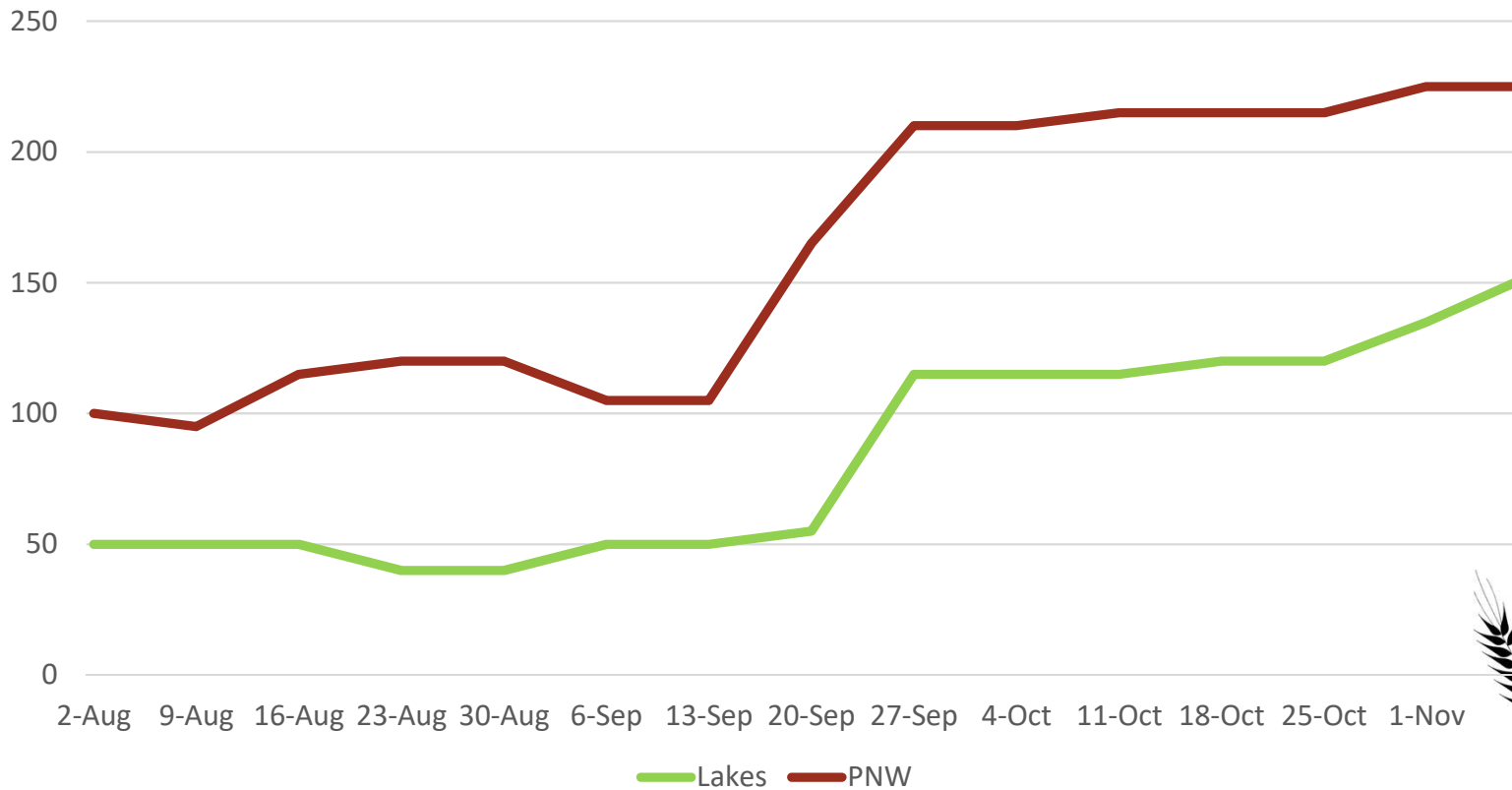


Wheat Exports Amongst Major Exporters

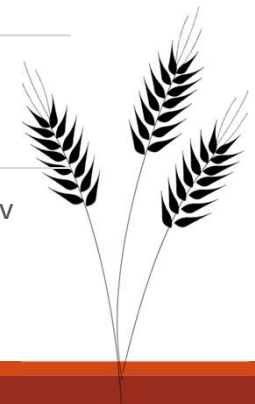


Lakes and PNW Export Basis

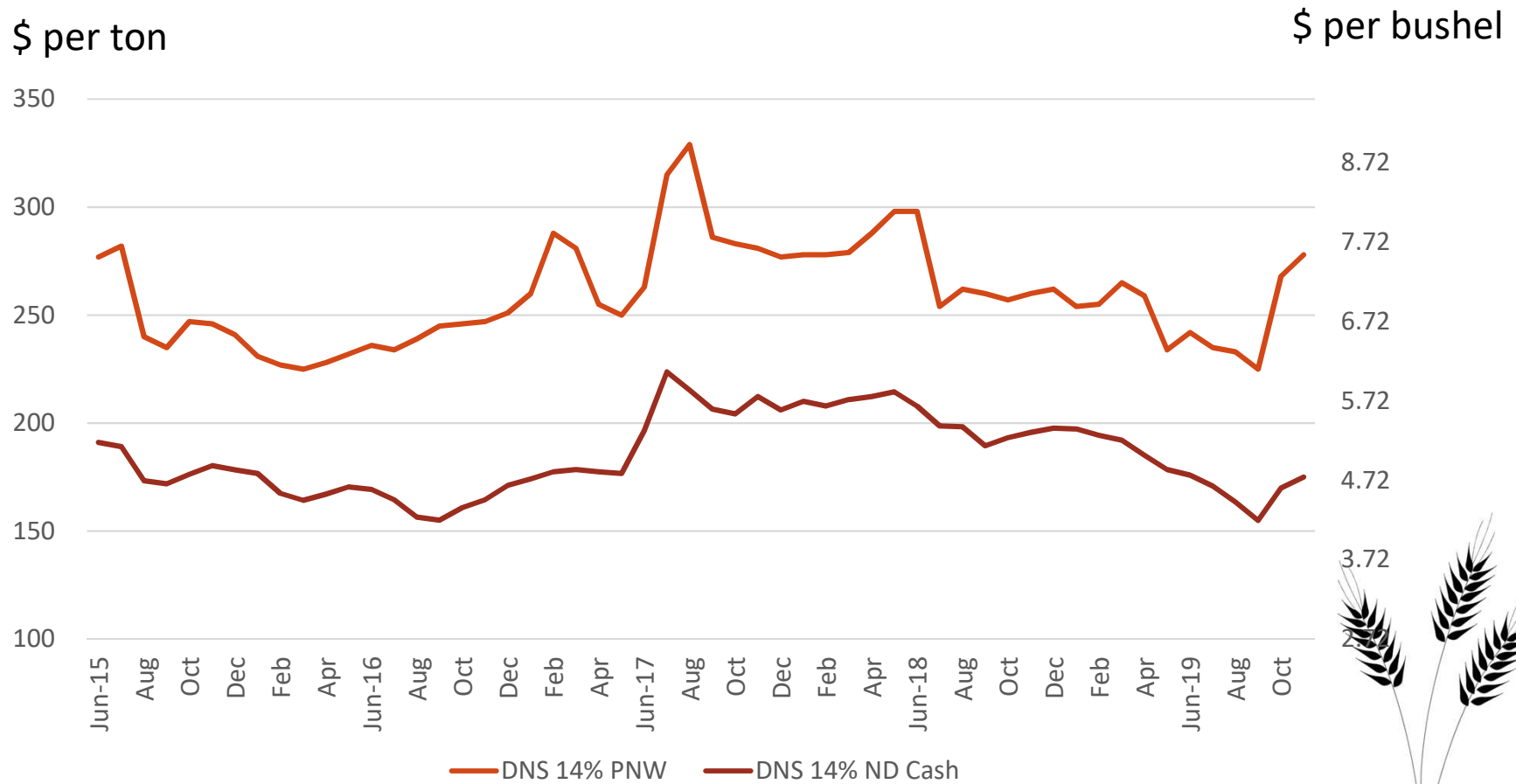
Cents per bushel



Source: USW Price Report



Comparison of HRS Prices



HRS Summary

- Overall world wheat supplies remain abundant, however, supplies of higher protein, higher quality are tighter
- North American spring wheat crop has good quality and adequate supply, BUT, more quality challenges than normal and customers will likely need to pay premiums for certain quality factors
 - Will still take time for market to work through crop
- Futures prices remain relatively stable for now due to overall large supplies, but basis will likely continue to be strong
- Still a lot of uncertainty – quality in North America and also concerns about crops in Australia and Argentina



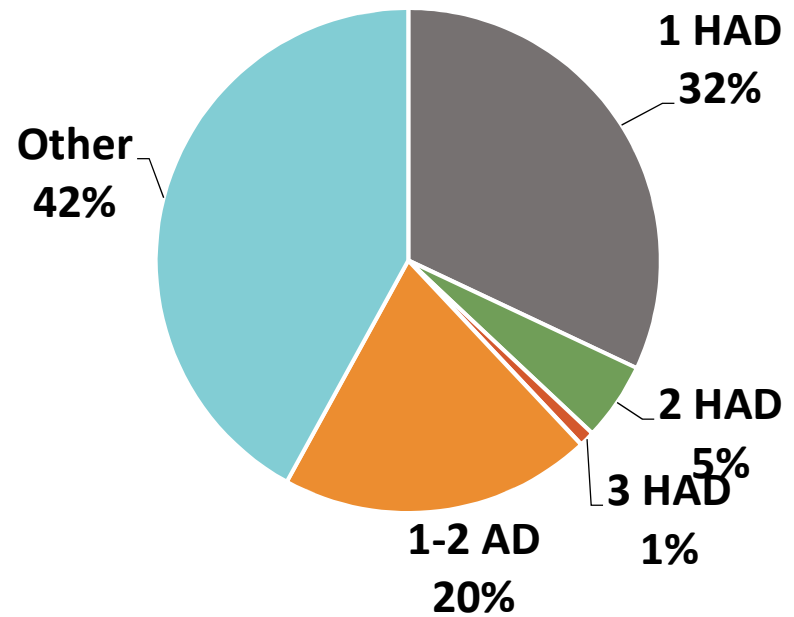
AVERAGE QUALITY FACTORS FOR U.S.
NORTHERN GROWN DURUM WHEAT

QUALITY FACTORS	2019	2018	5YR.
KERNEL DATA			
Test Weight - lb./bu.	61.1	61.4	60.5
Protein % (12% moisture)	13.9	14.5	13.9
Damage %	2.3	0.3	0.4
Falling Number (seconds)	345	425	384
Vitreous Kernels %	64	90	87
Grade	2 AD	1 HAD	1 HAD
SEMOLINA DATA			
Semolina Extraction (%)	57.5	69.3	67.1
Gluten Index (%)	67	57	60
Mixogram (1-8)	6.4	5.3	5.3
SPAGHETTI PROCESSING DATA			
Color Score (1-12)	7.8	8.3	8.7
Cooked Firmness (g-cm)	3.8	4.5	4.4

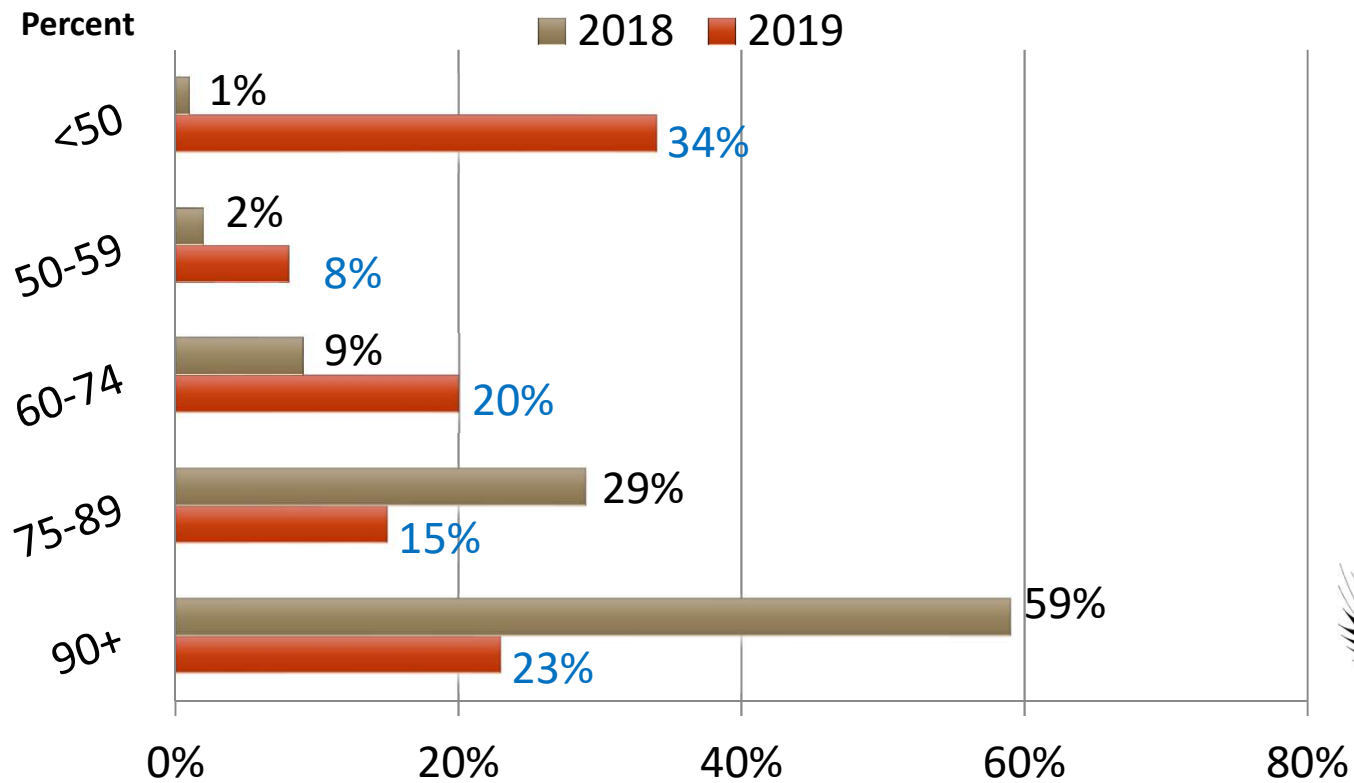
Northern Durum

Grade Distribution

2019	2018	
32%	78%	Graded #1 HAD
5%	8%	Graded #2 HAD
1%	2%	Graded #3 HAD
20%	9%	Graded #1-2 AD
42%	4%	Other

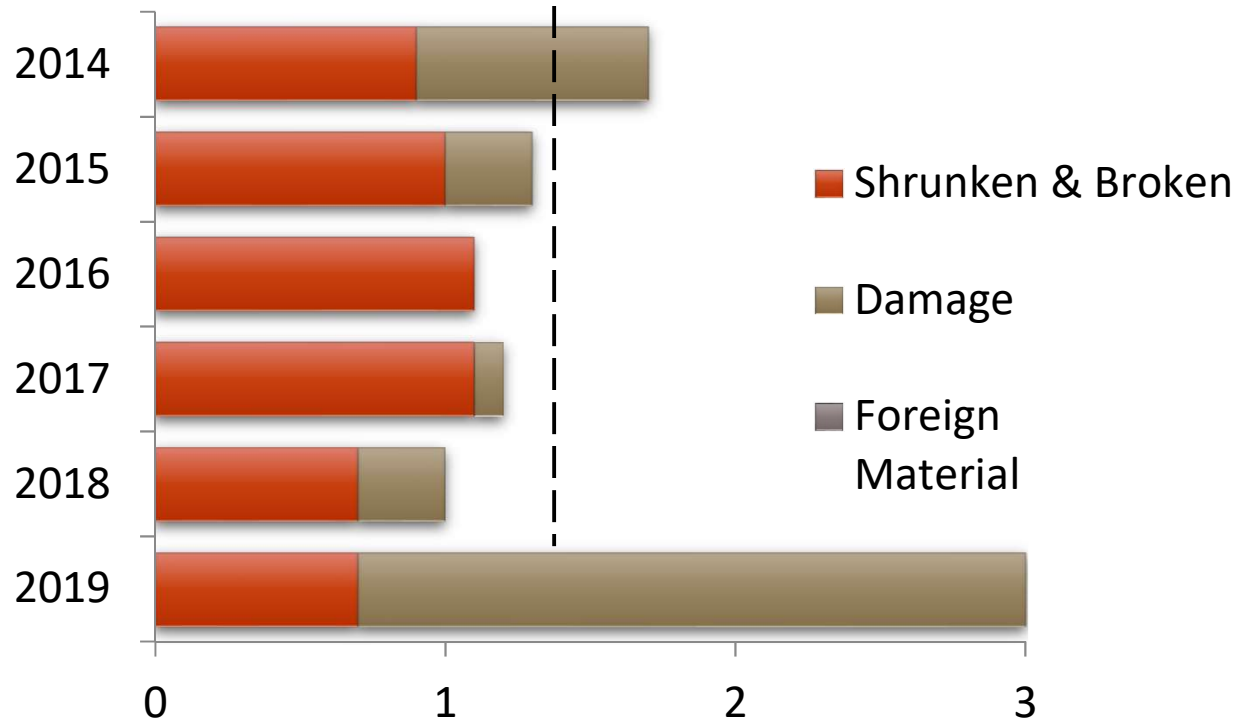


U.S. Northern Durum: Vitreous Kernel Content Distribution



U.S. Northern Durum: Total Defects

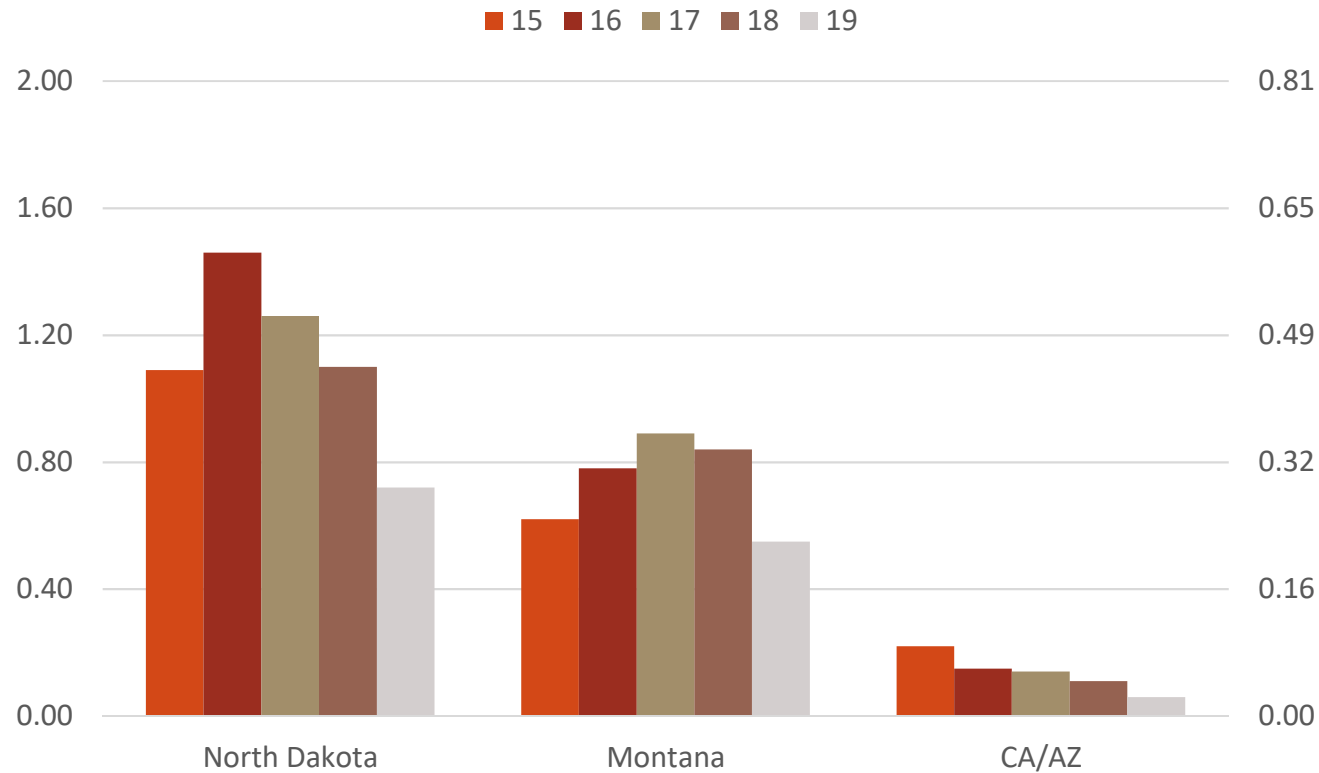
--- 5 yr avg is 1.3%



U.S. DURUM WHEAT PLANTINGS BY STATE

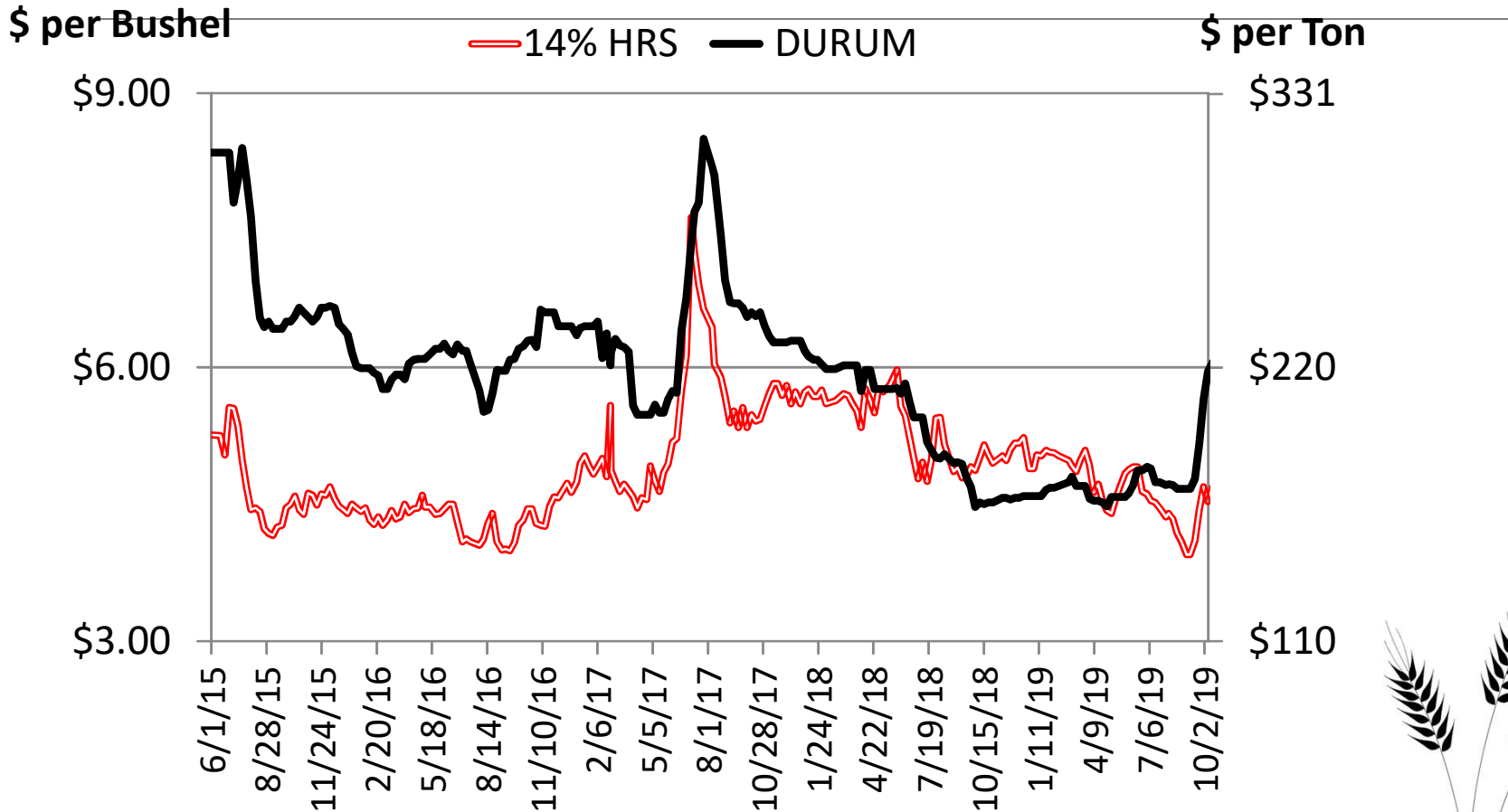
Million Acres

Million Hectares



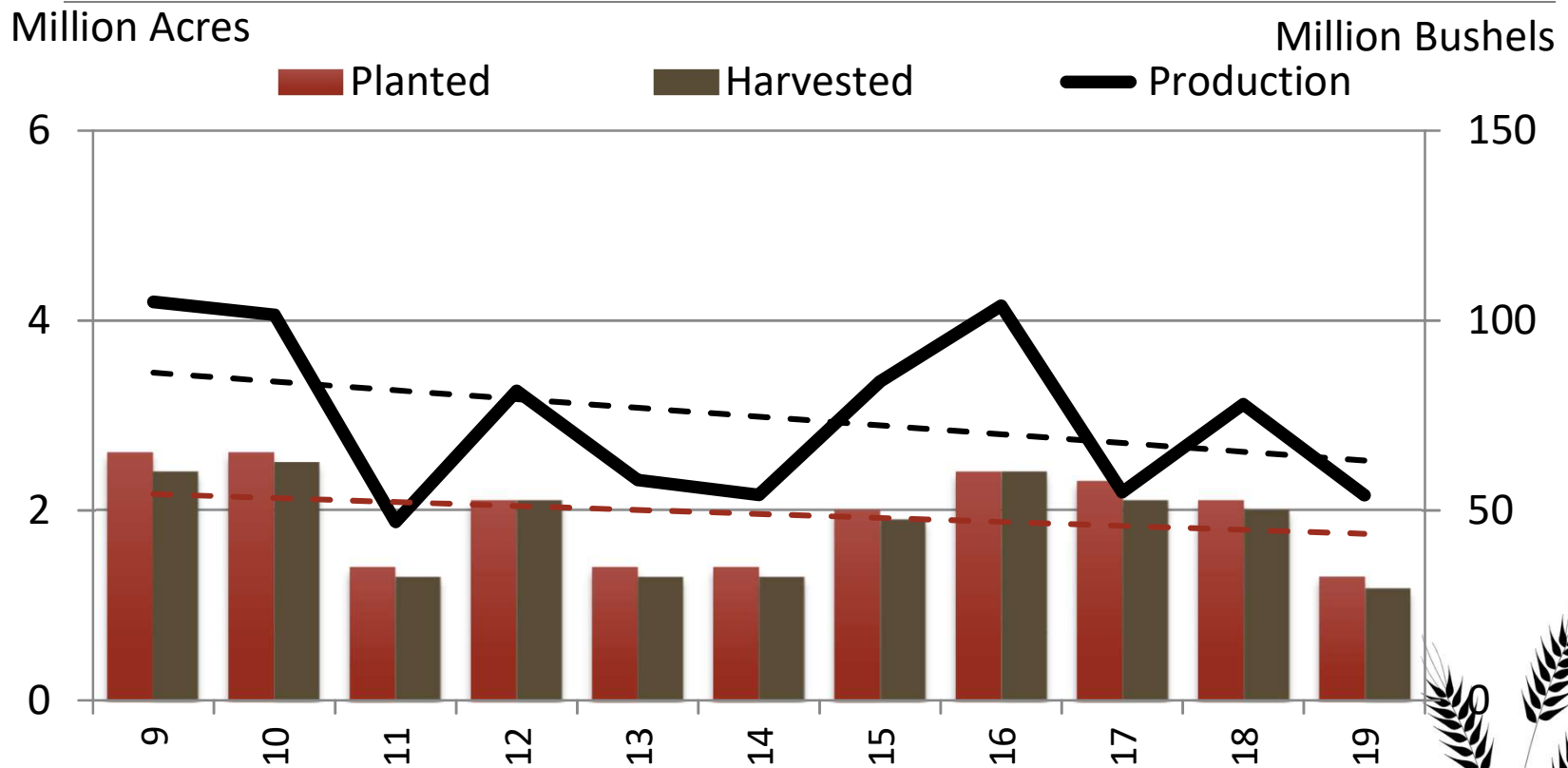
Source: USDA Small Grains Summary

Average N.D. Hard Red Spring and Durum Wheat Producer Bids



Source: AgWeek weekly prices

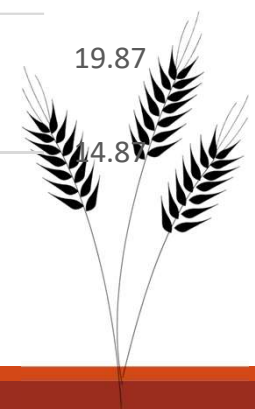
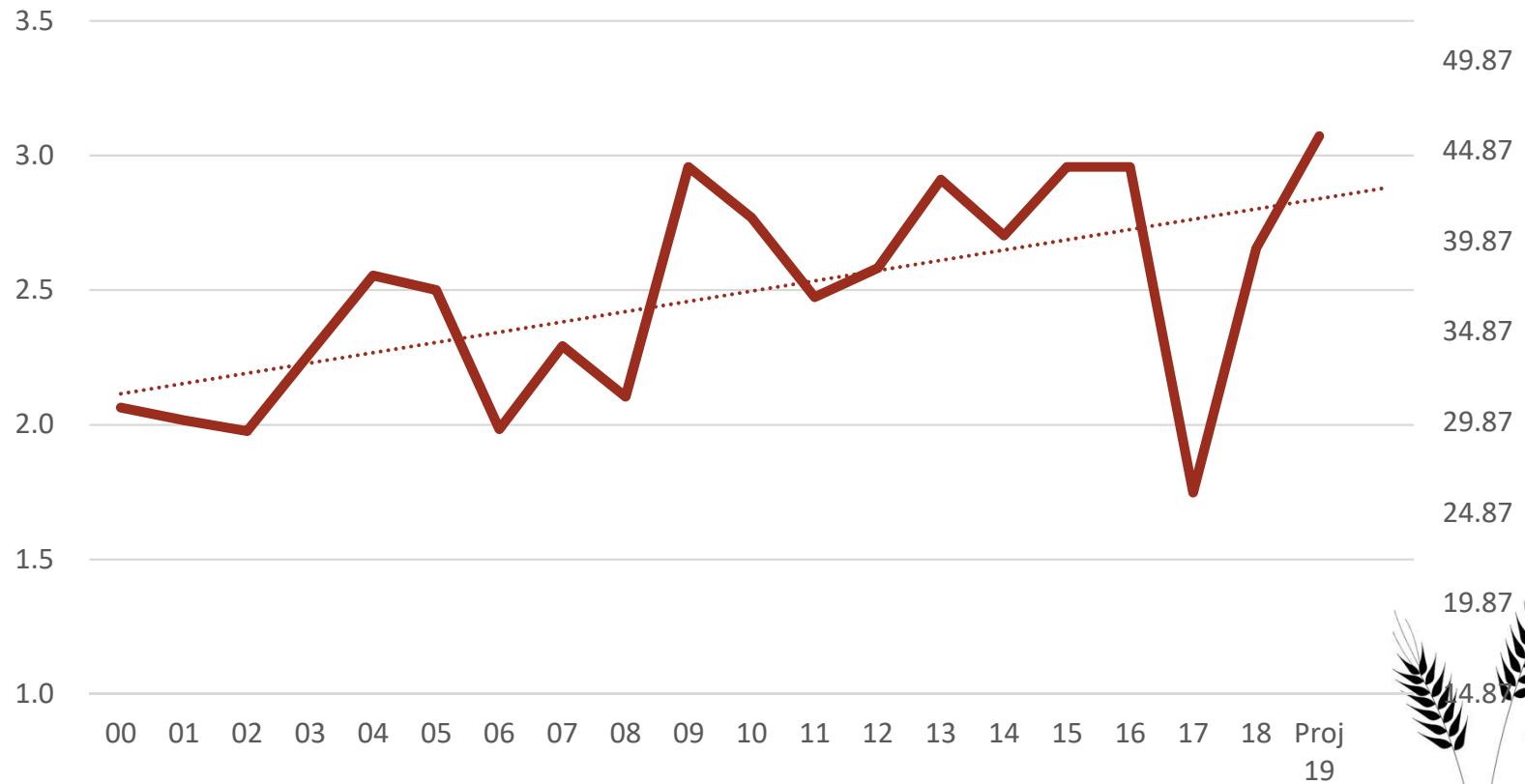
U.S. DURUM WHEAT PLANTINGS & PRODUCTION



Source: USDA Small Grains Summary
Xldata/durum/acres



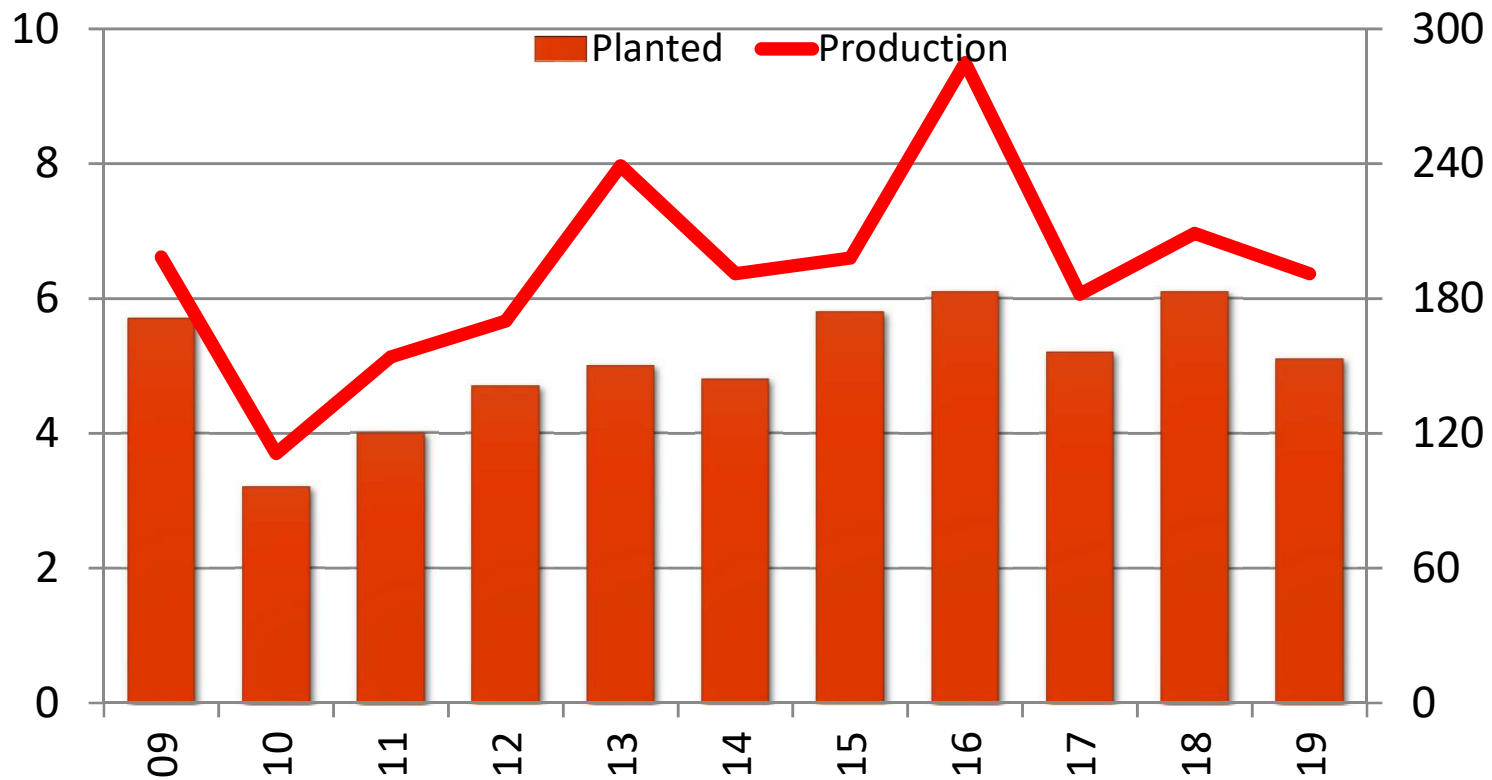
Historical U.S. Durum Yields



CANADIAN DURUM PLANTING & PRODUCTION

Million Acres

Million Bushels



Source: Stats Canada –
Xldata/canada/durum.xls



Durum Harvested and Planted Acres

(million acres)	Planted	Harvested	Harvested Ratio
U.S.	1.34	1.18	88%
Montana	0.55	0.52	94%
North Dakota	0.72	0.60	83%



U.S. DURUM SUPPLY & DEMAND

Million Bushels

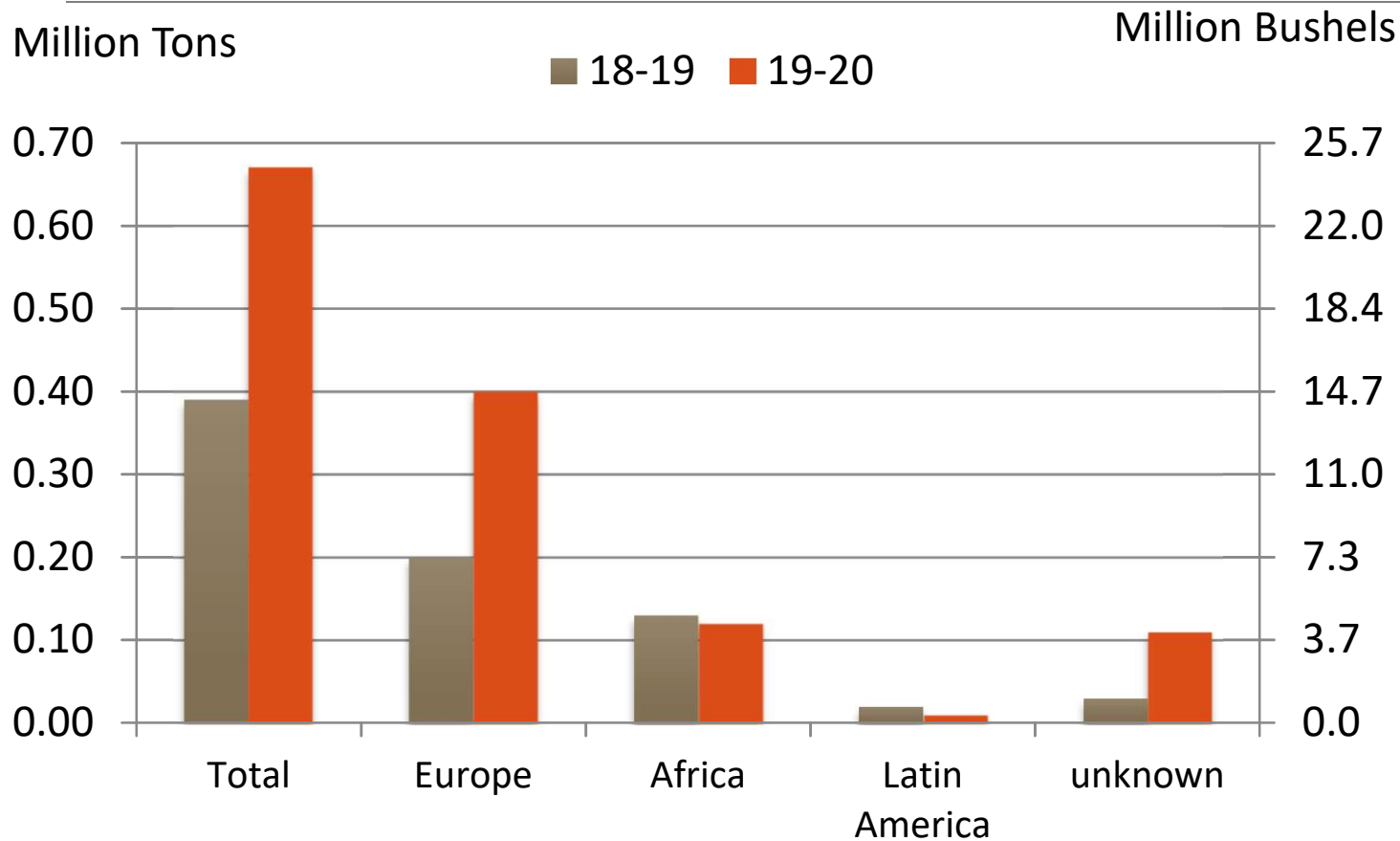
	15-16	16-17	17-18	18-19	Proj 19-20	Change
Beg Stocks	26	28	36	35	55	+57%
Production	84	104	55	77	54	-30%
Imports	34	30	51	52	50	-4%
Tot Supply	144	162	142	164	159	-3%
Dom Use	86	101	90	87	88	+1%
Exports	30	24	18	22	25	+14%
Tot Use	116	126	107	109	113	+4%
End Stocks	28	36	35	55	46	-16%
S/U Ratio	24%	29%	33%	50%	41%	



Source: USDA October 2019
Xldata/durum/S&D

EXPORT PACE – U.S. DURUM WHEAT

as of October 31, 2109



11/7/19



WORLD DURUM PRODUCTION

Million Ton

	2015	2016	2017	2018	Prj 2019	Change
EU	8.5	9.8	8.7	8.7	8.0	-8%
Canada	5.4	7.8	5.0	5.7	4.8	-16%
U.S.	2.3	2.8	1.5	2.1	1.6	-24%
Turkey	4.1	3.6	3.8	3.6	3.6	0%
Algeria	2.2	1.7	2.0	3.2	3.2	0%
Morocco	2.4	0.9	2.2	2.4	1.3	-46%
Tunisia	0.8	0.8	0.9	1.0	1.2	+20%
Others	13.1	12.8	12.3	11.4	11.7	+3%
World Total	38.8	40.2	36.4	38.1	35.4	-7%



Source: International Grains Commission October 2019
Xldata/world/all wheat/wheat/prod

Durum Summary

- Quality is the big issue this year and not just in one production region
 - North American, Europe, Kazakhstan
- Production lower in many key growing regions, while demand remains stable
 - Higher feed use this year
- Ending stocks trending lower
- Prices have increased for top milling quality wheat and will need to continue to do so to pull top quality
 - Durum with any quality issues substantially lower
 - What is the demand for various quality levels?
- Where will acres go in 2020?



QUESTIONS?

