2018 Durum & Hard Red Spring Production, Demand, Quality & Outlook

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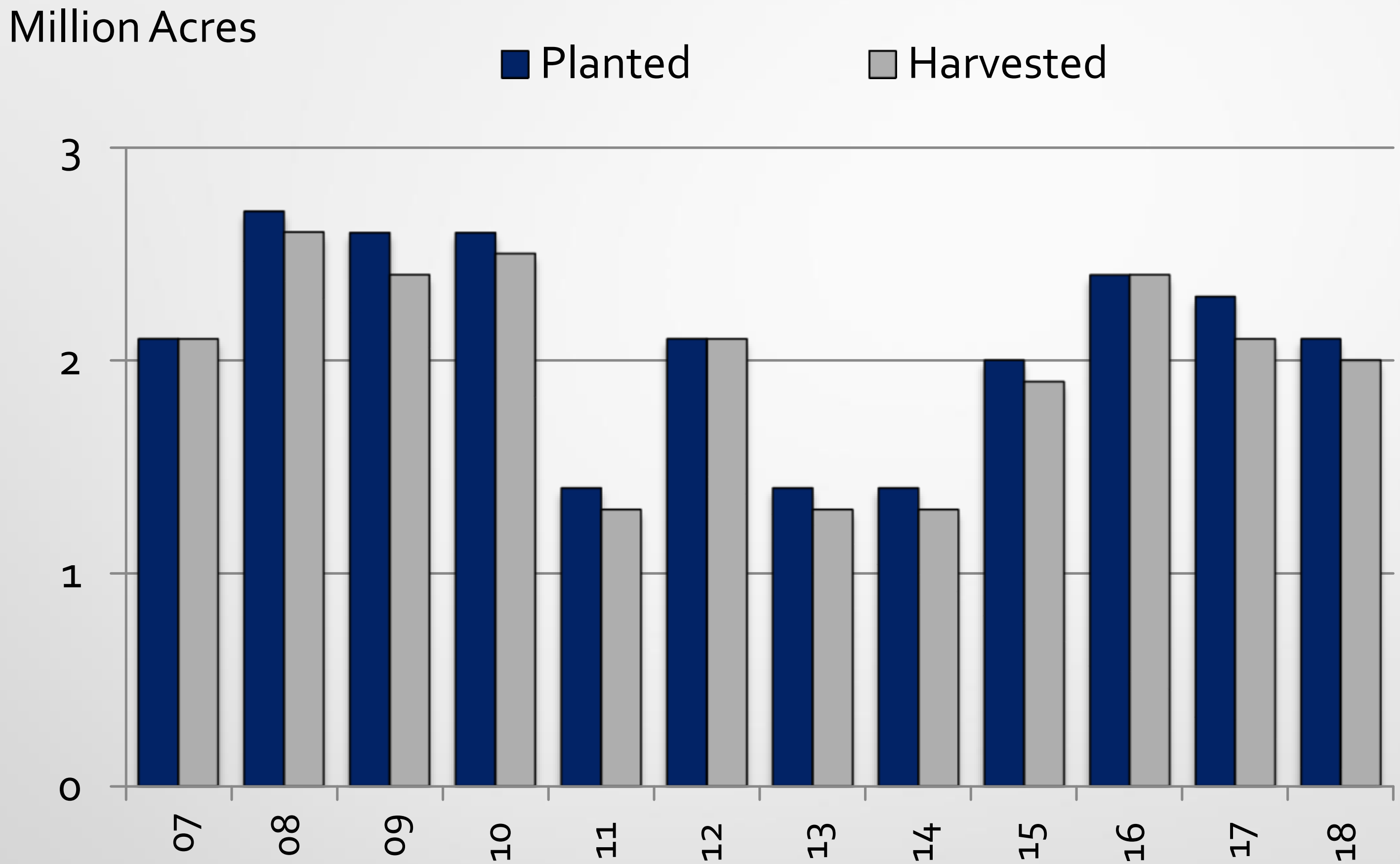
Administrator

North Dakota Wheat Commission

U.S. Durum 2018

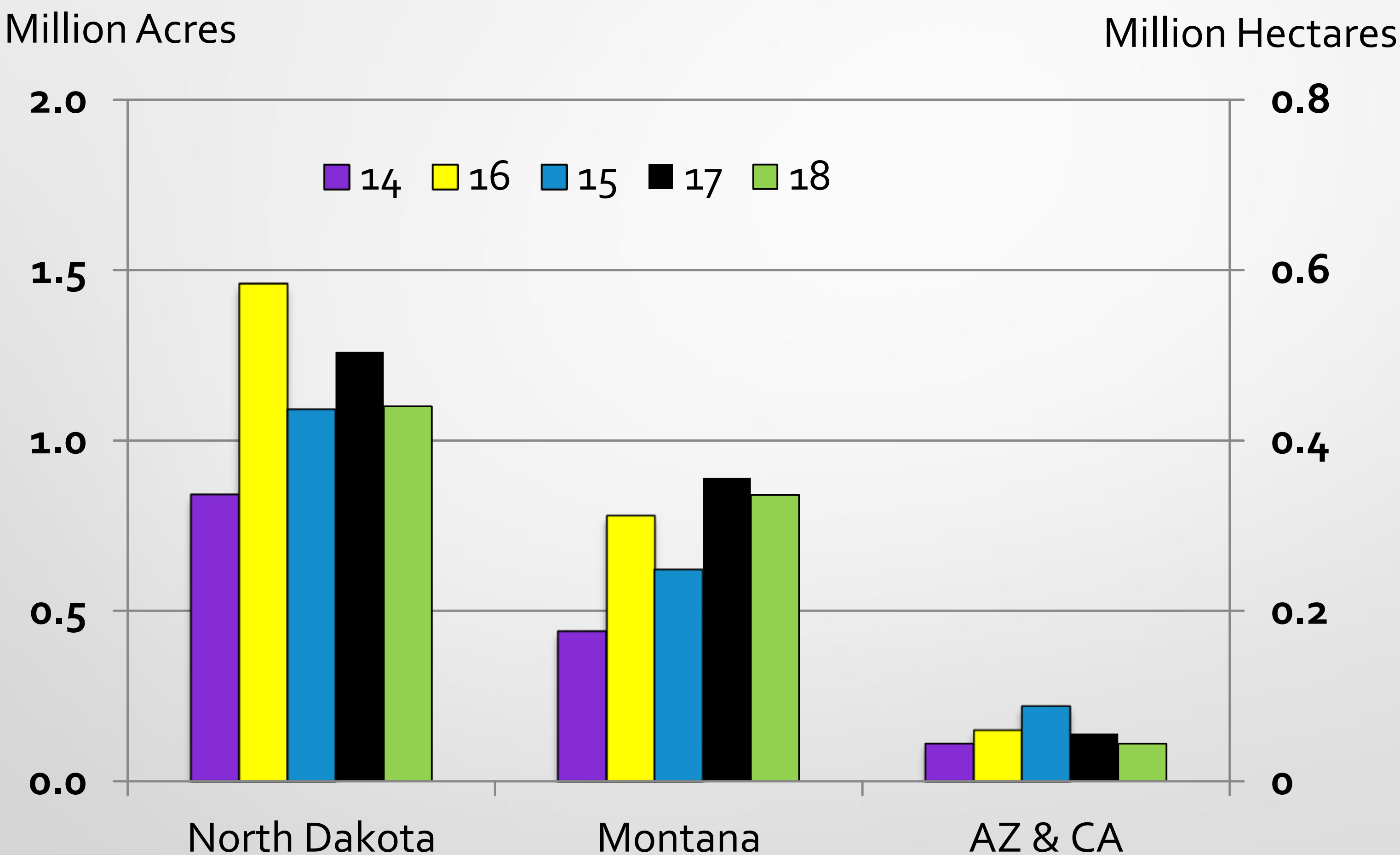
- Planted area down 10% Nationally
  - North Dakota – down 13%
  - Montana – down 6%
  - Desert Durum - down 11%
  - Lack of price incentive
- National production up 40% - yields rebound from 2017 drought
  - 77 million bushel crop, up from 55 million in 2017
- Demand
  - Domestic food use steady at 80 million bushels
  - Exports projected up 70% to 30 million bushels
  - Current sales pace up 40% – Italy, Algeria and Nigeria
- Imports – Projected steady with 2017 – Approx. 30 million bushels of durum and 20 million bushels of semolina/pasta

U.S. DURUM WHEAT PLANTINGS & HARVESTED AREA



Source: USDA Small Grains Summary

U.S. DURUM WHEAT PLANTINGS BY STATE

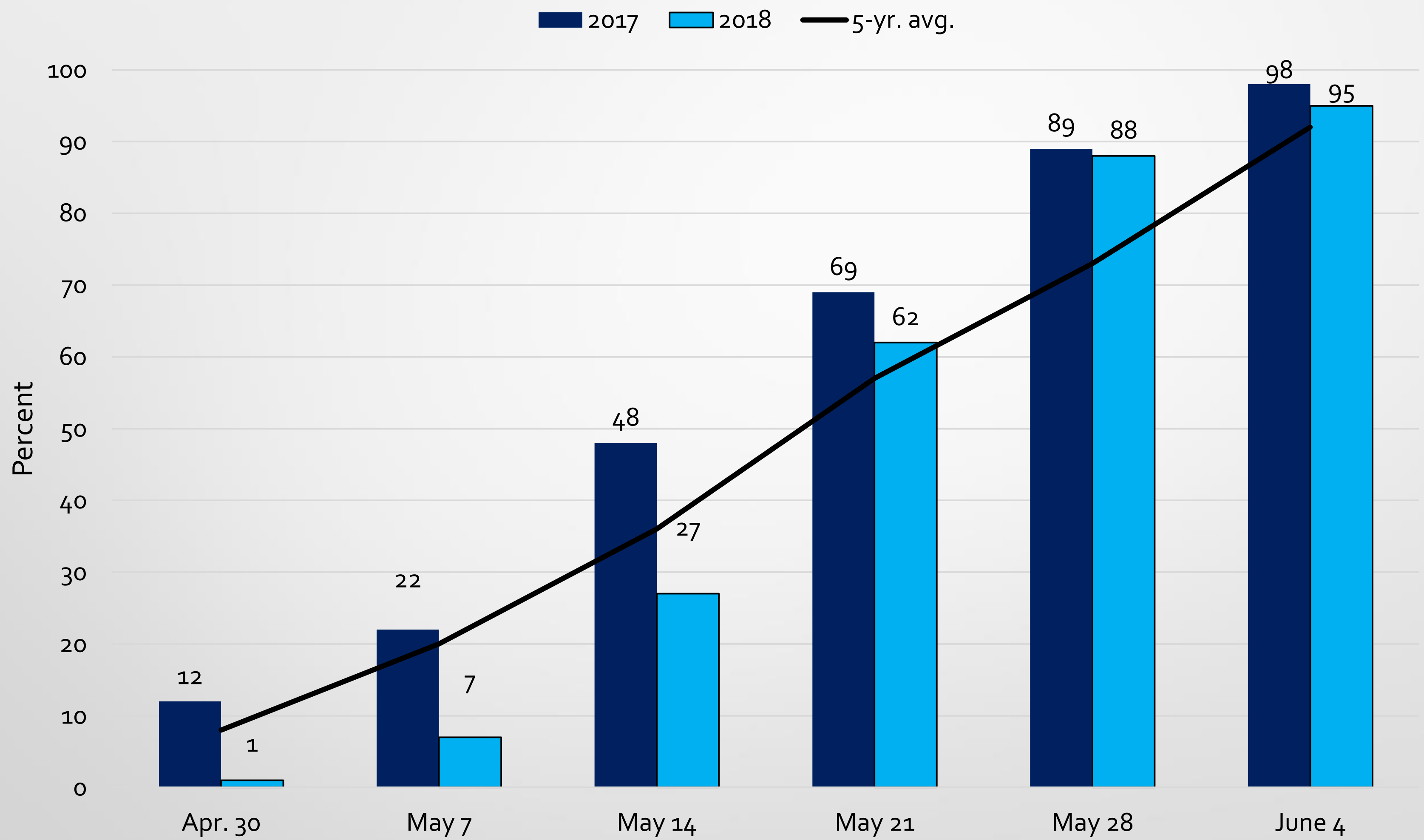


Source: USDA Small Grains Summary

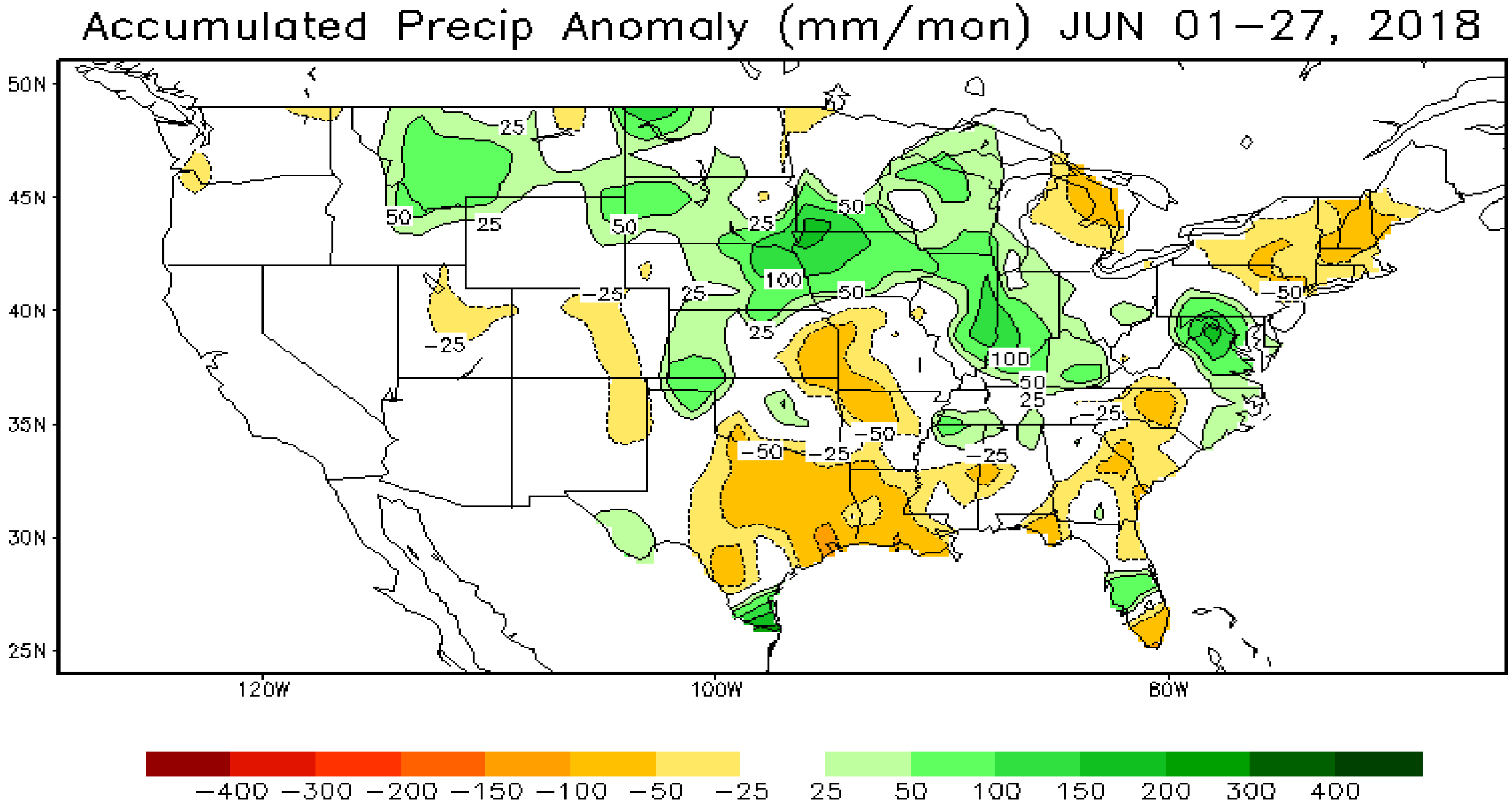
U.S. Northern Durum 2018

- Planting season began late and initial progress slow due to cool soil temps and some late snow but hot, dry conditions in May allowed planting to accelerate rapidly and most of the crop planted by early June
- June rains and growing conditions were near ideal, pushing the crop to above average yield prospects by mid growing season with little disease pressure
- Low subsoil moisture was still a concern in the region, but crops finished well and reached maturity in excellent condition
- Great harvest conditions for most areas
- Excellent grading crop with improved vitreous levels and little to no DON

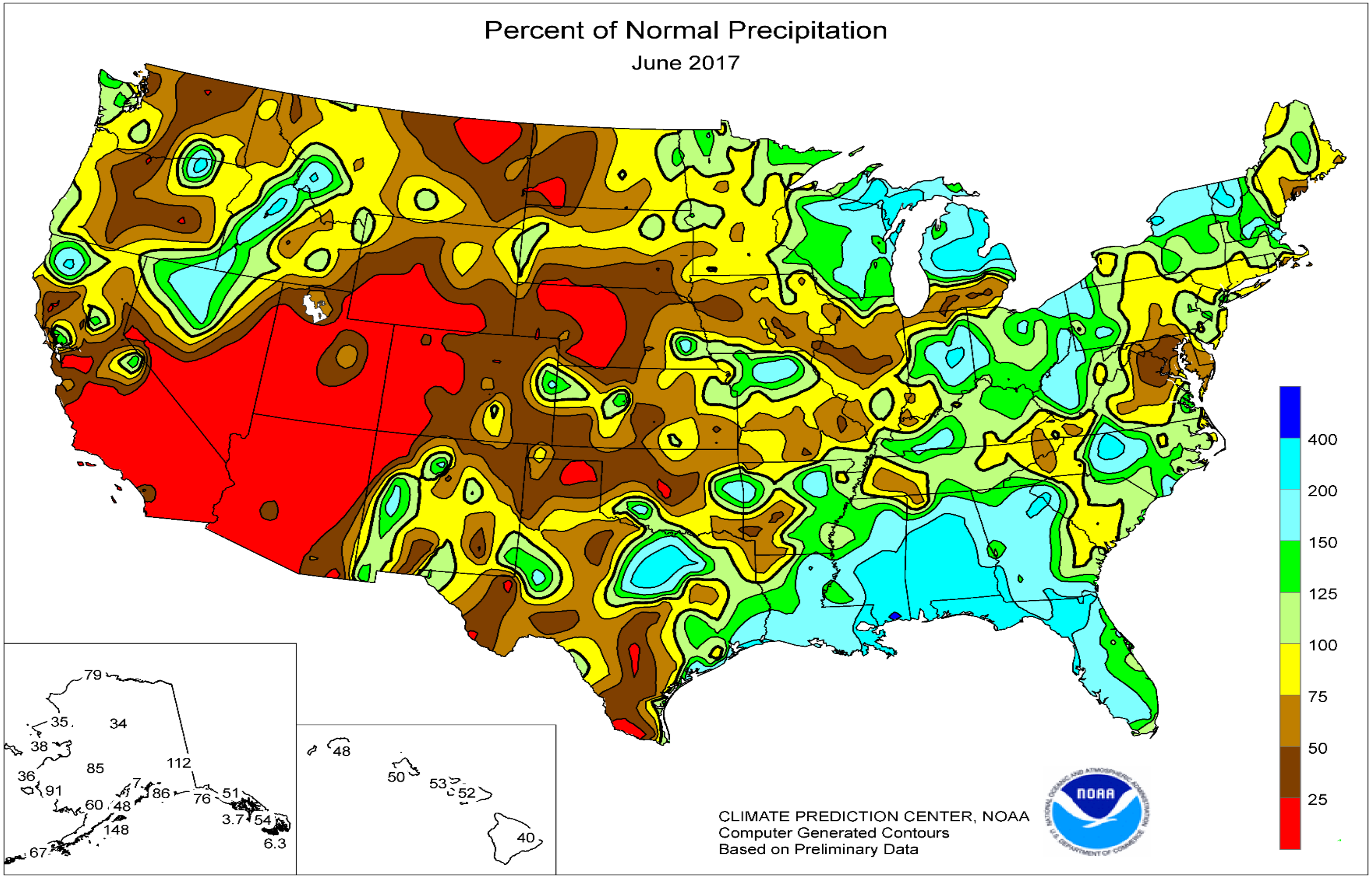
ND Durum Planting Progress



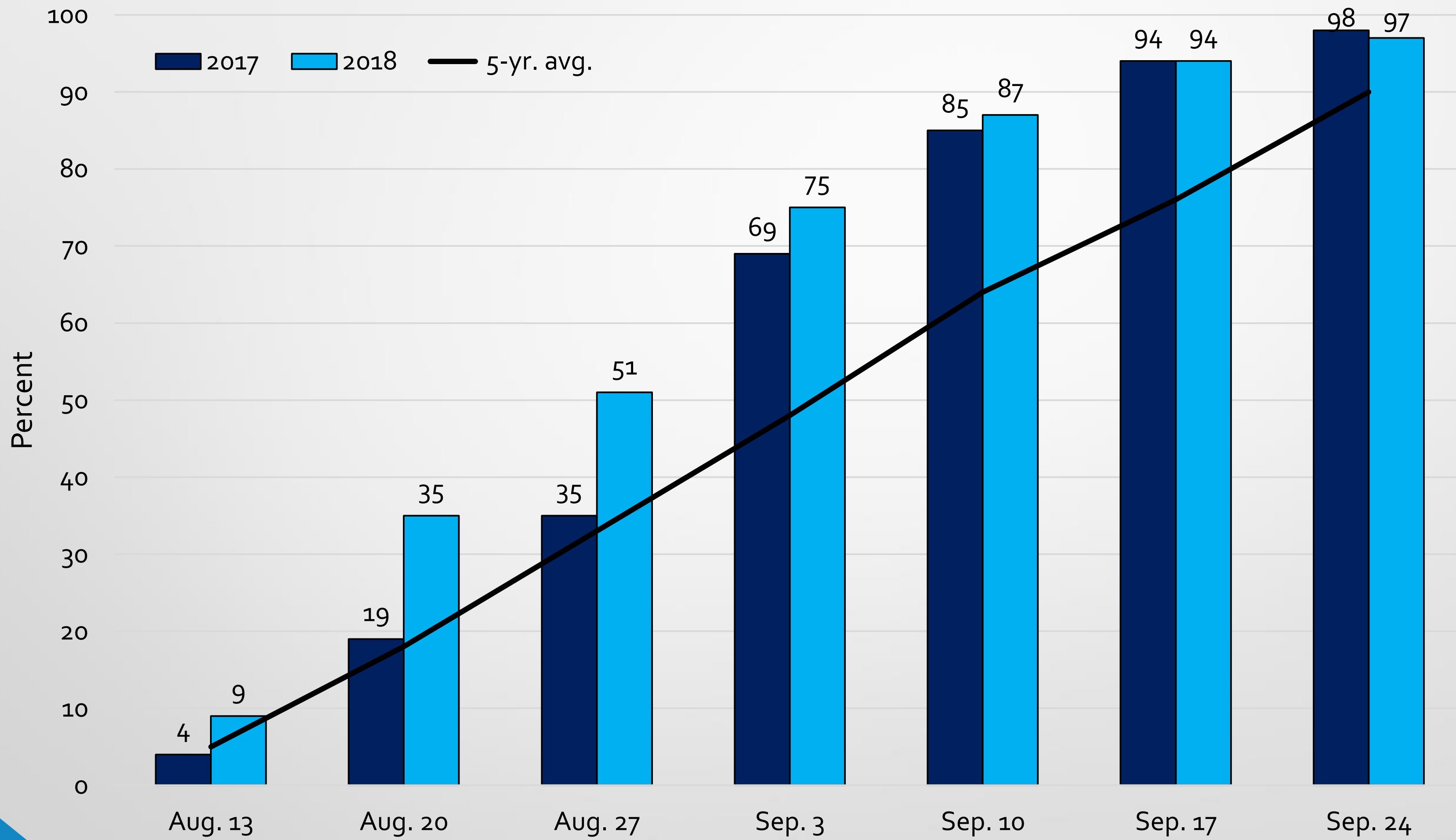
June rains were very good / timely for crops



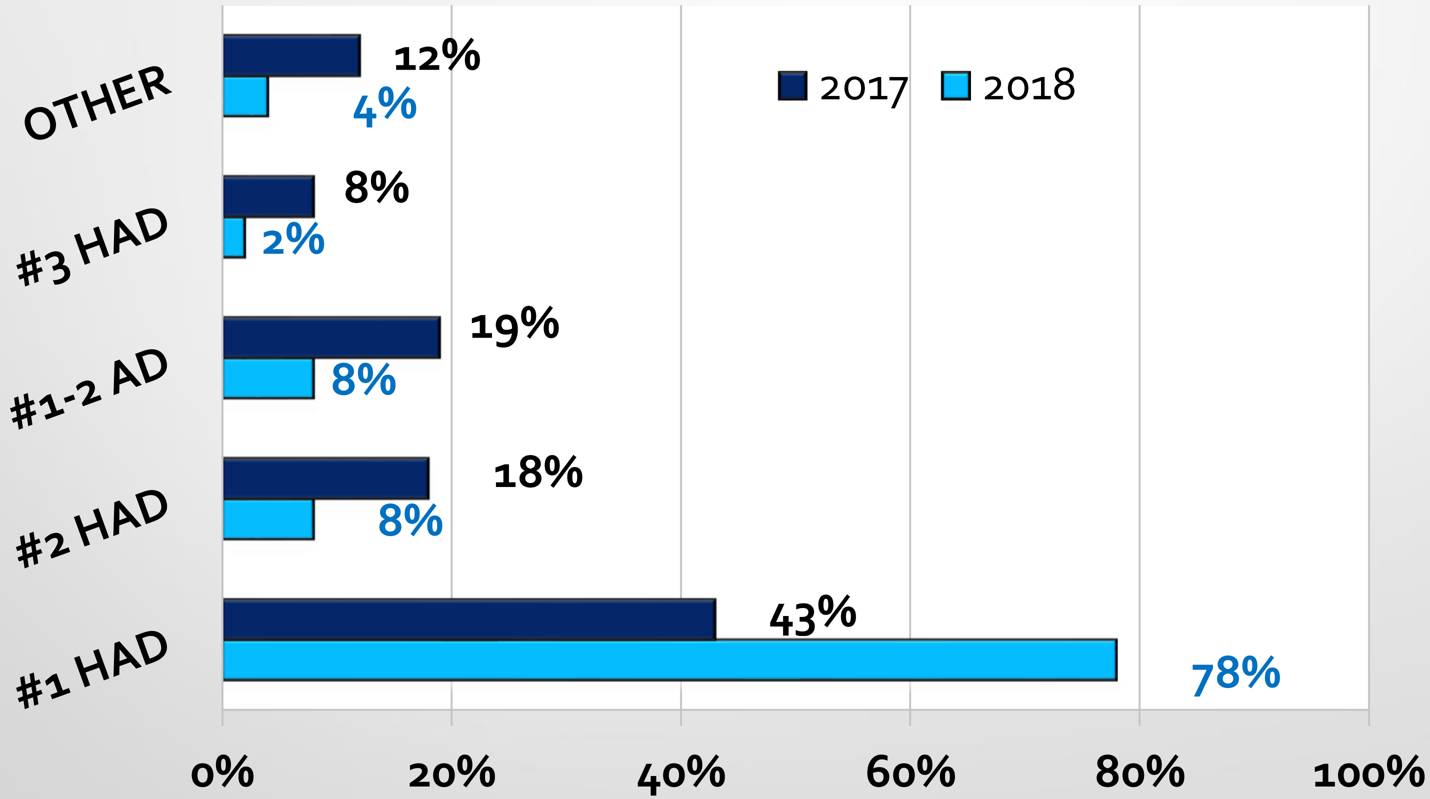
In 2017 much of region missed June rains



ND Durum Harvest Progress

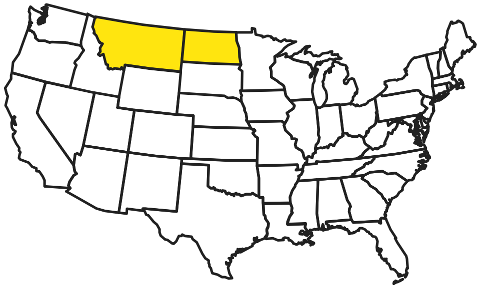


U.S. Northern Durum:
Grade Distribution

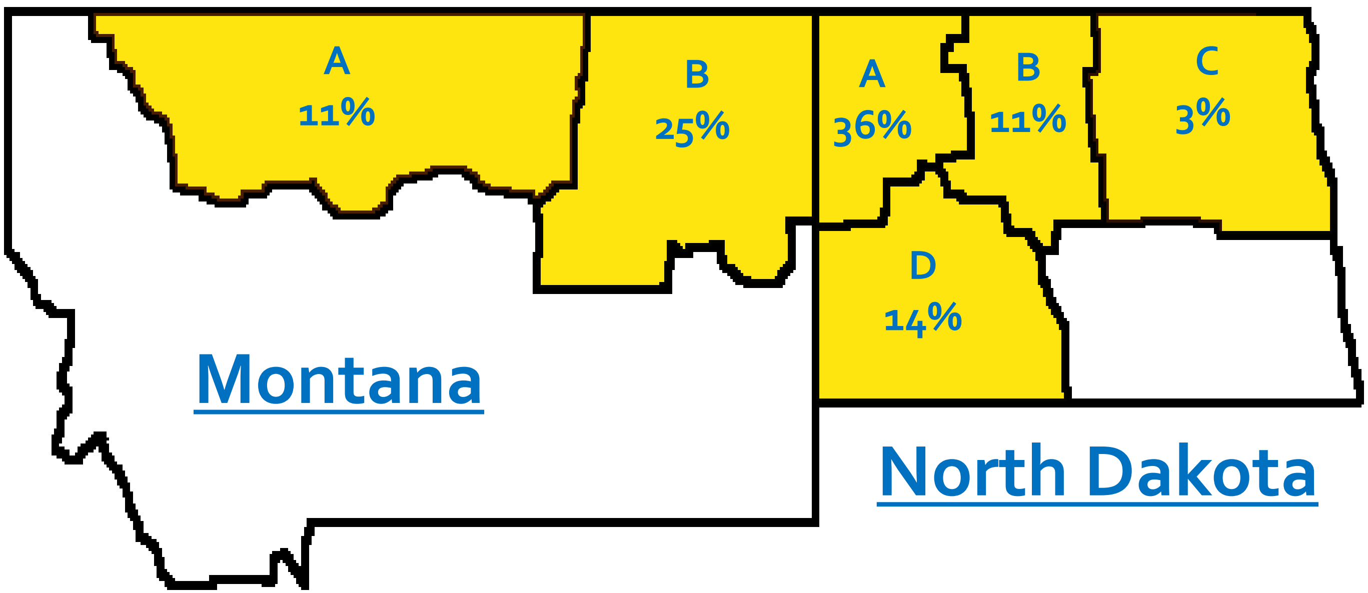


Durum Grading & Kernel Characteristics

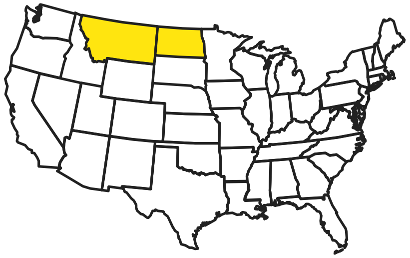
	2017	2018	5-Year Avg.
Test Weight (lbs/bu.)	**60.9**	**61.4**	60.4
1000 KWT (g)	**38.4**	**41.2**	39.9
Damage (%)	**0.1**	**0.3**	0.3
Total Defects	**1.2**	**1.0**	1.3
Vitreous Kernels (%)	**88**	**90**	86
Protein (12% moisture)	**14.5**	**14.5**	13.6
Falling Number (seconds)	**380**	**425**	374
DON	**<0.5**	**<0.5**	1.0



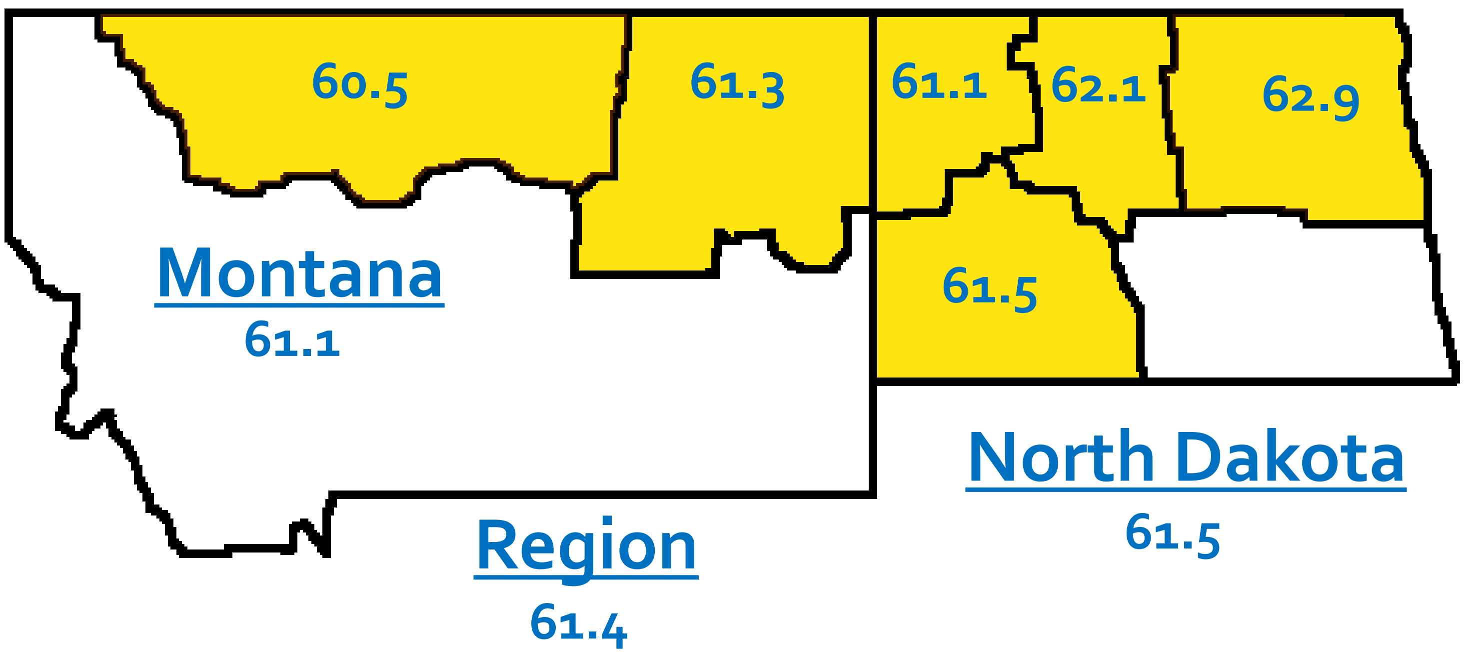
Regional Production by Crop Reporting Area



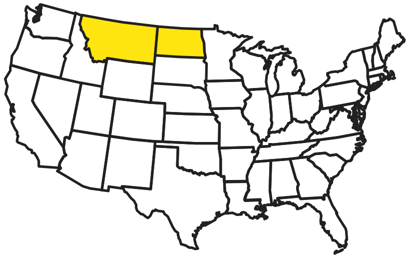
U.S. WHEAT ASSOCIATES

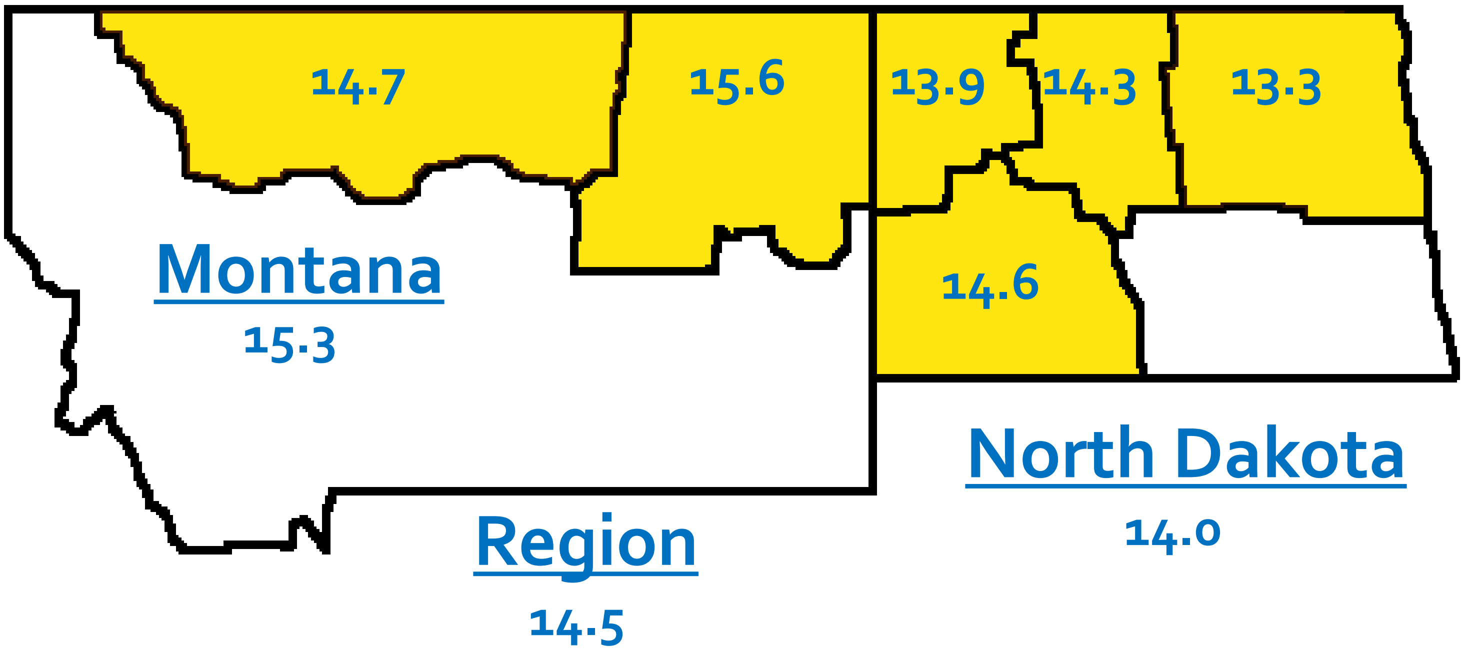


Northern Durum TW by Region (lb/bu)

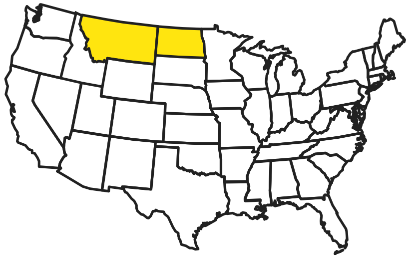


Northern Durum Protein by Region (%, 12%m.b.)

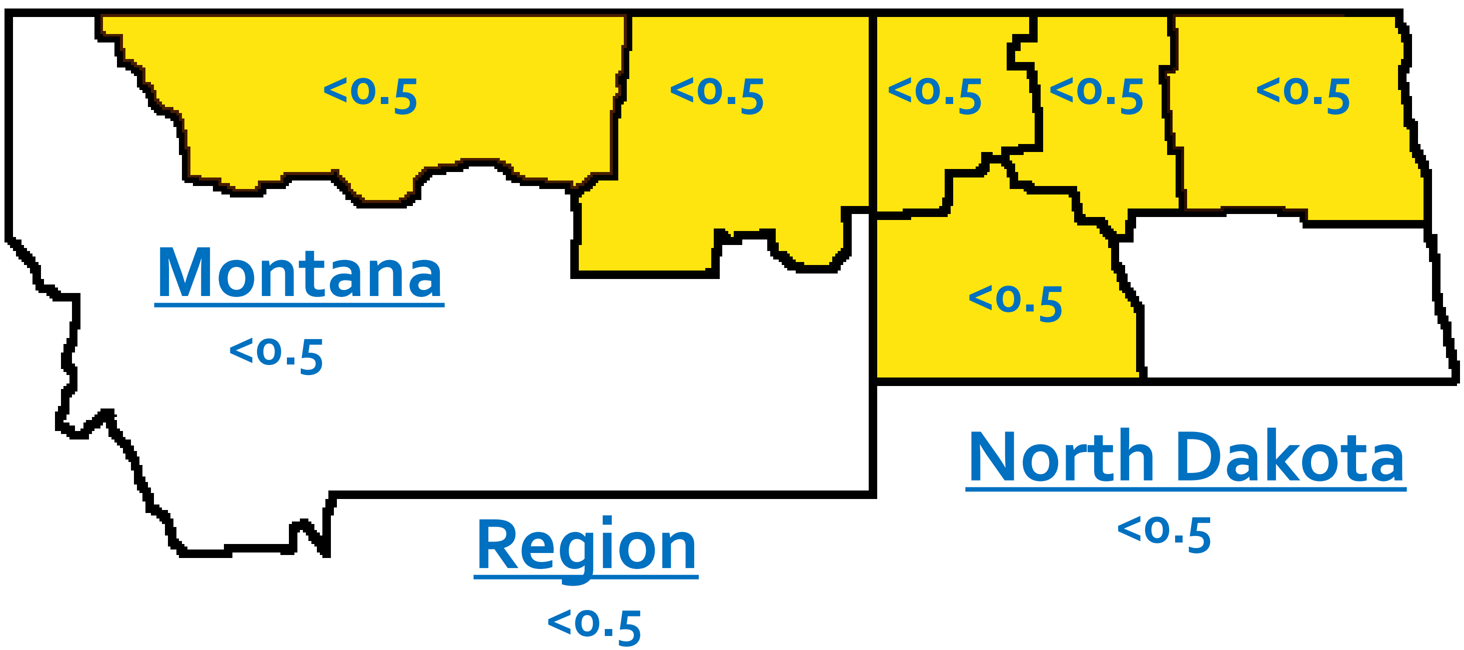


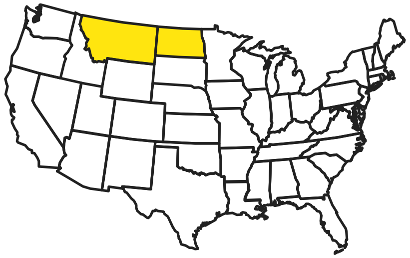


U.S. WHEAT ASSOCIATES

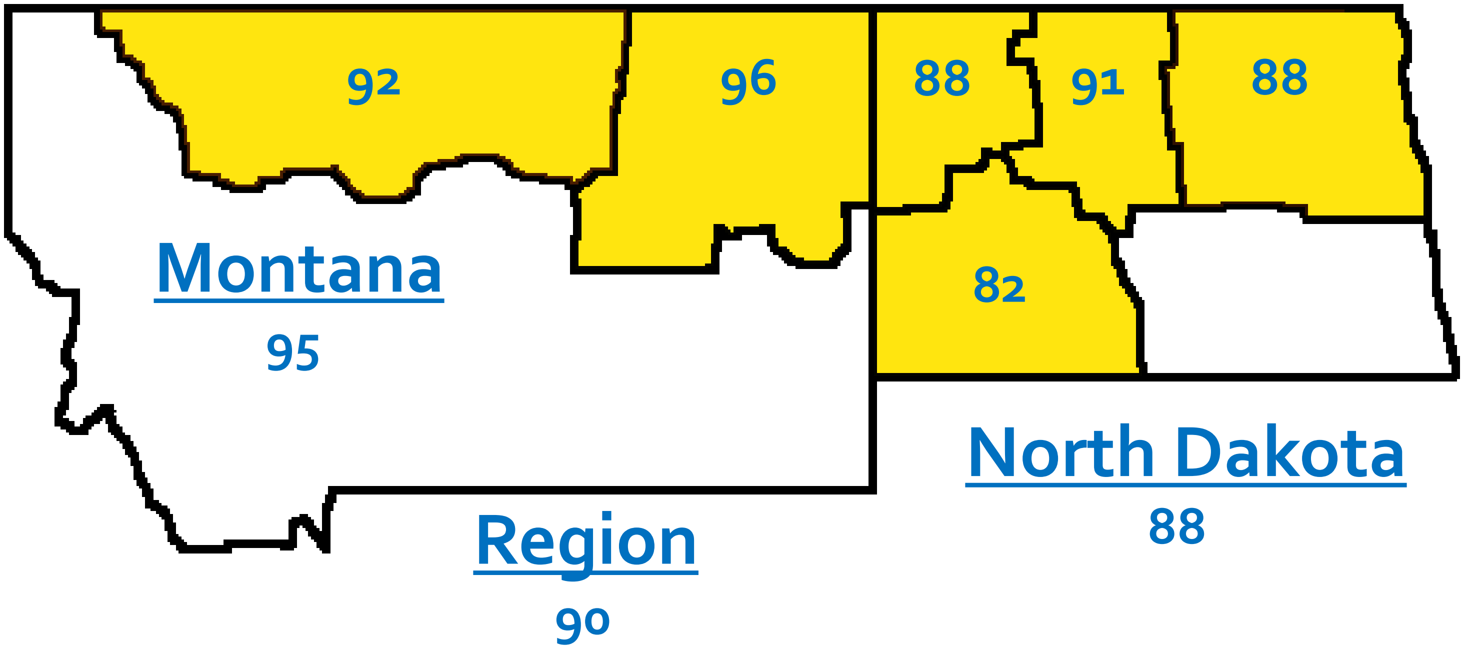


Northern Durum DON by Region (ppm)



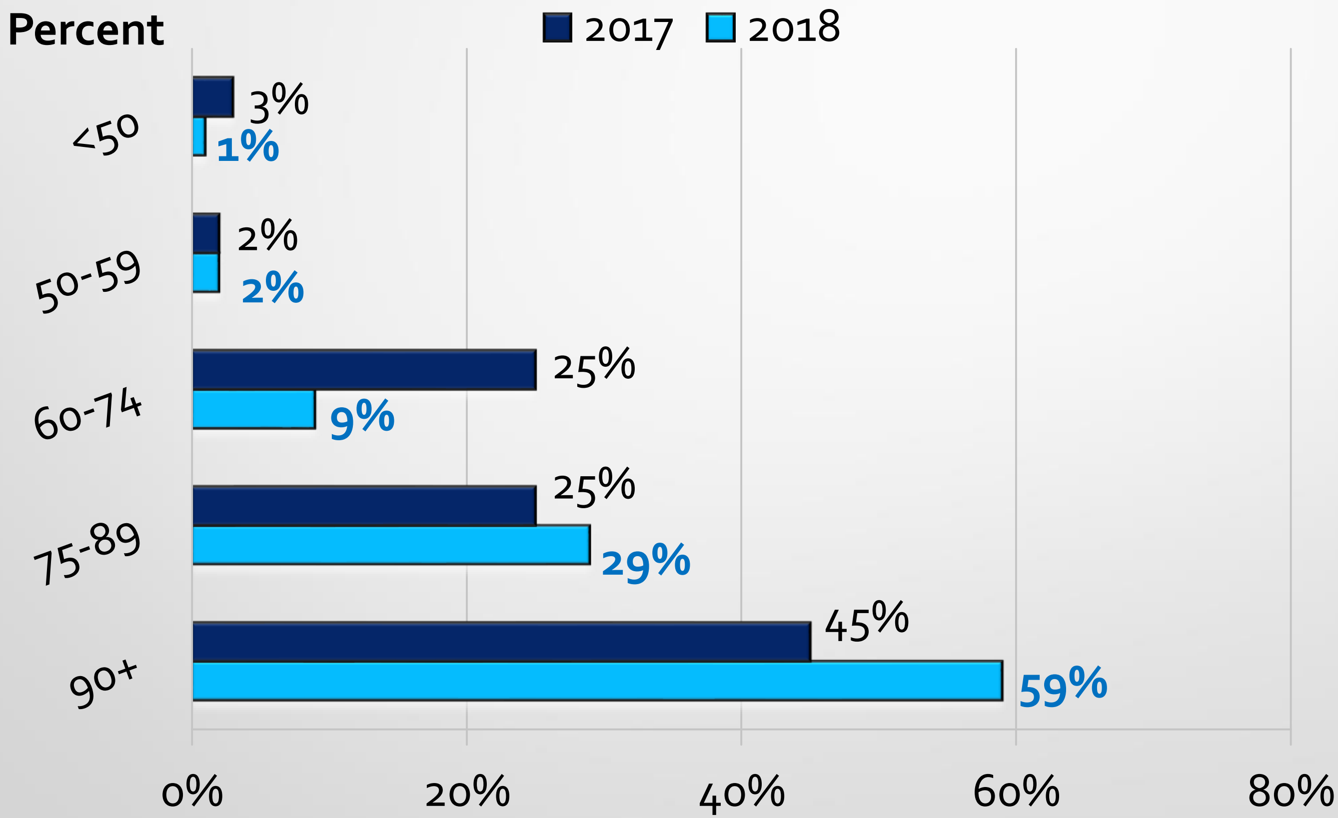


Northern Durum Vitreous Kernel by Region (%)

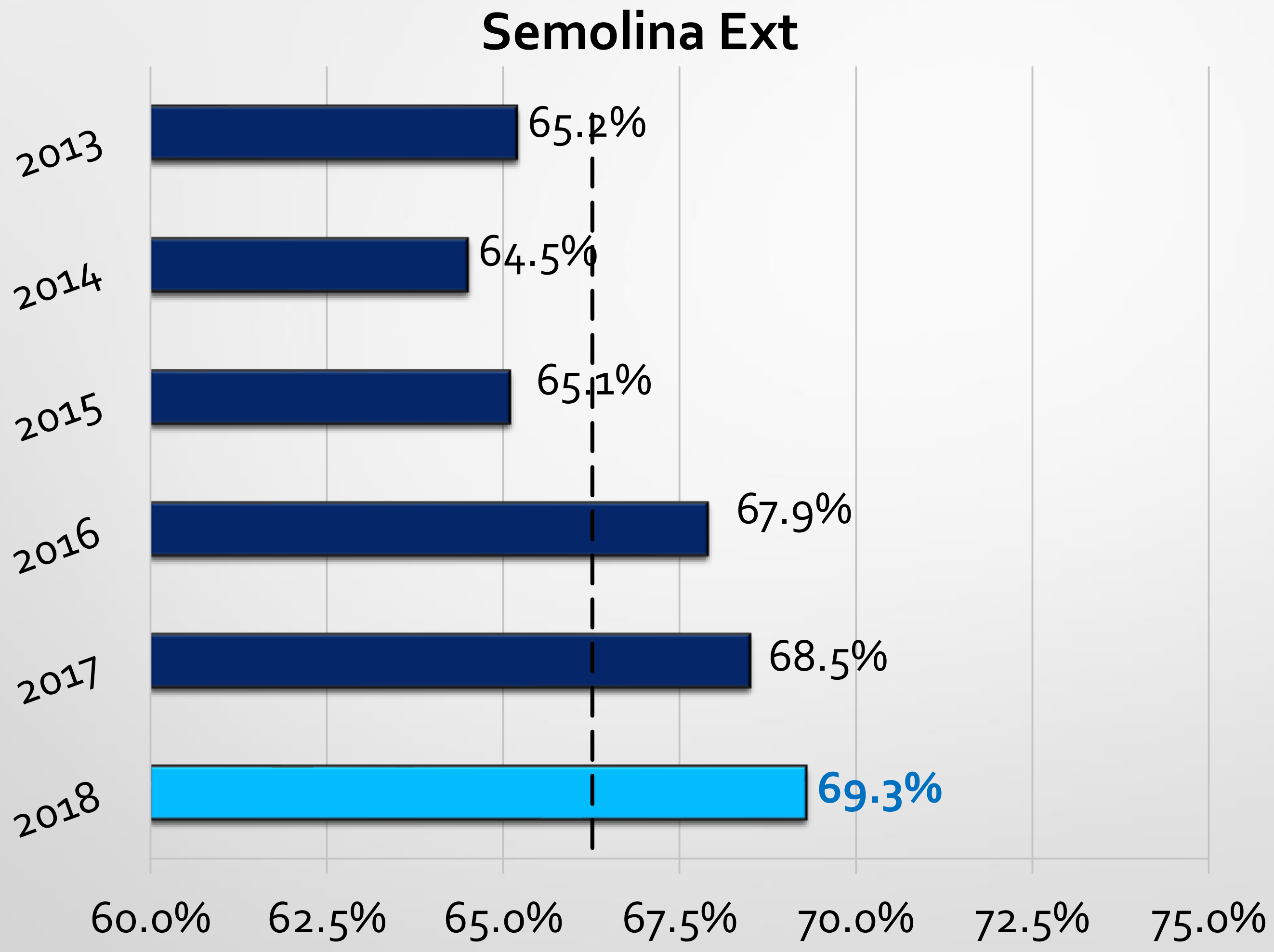


U.S. WHEAT ASSOCIATES

U.S. Northern Durum:
Vitreous Kernel Content Distribution

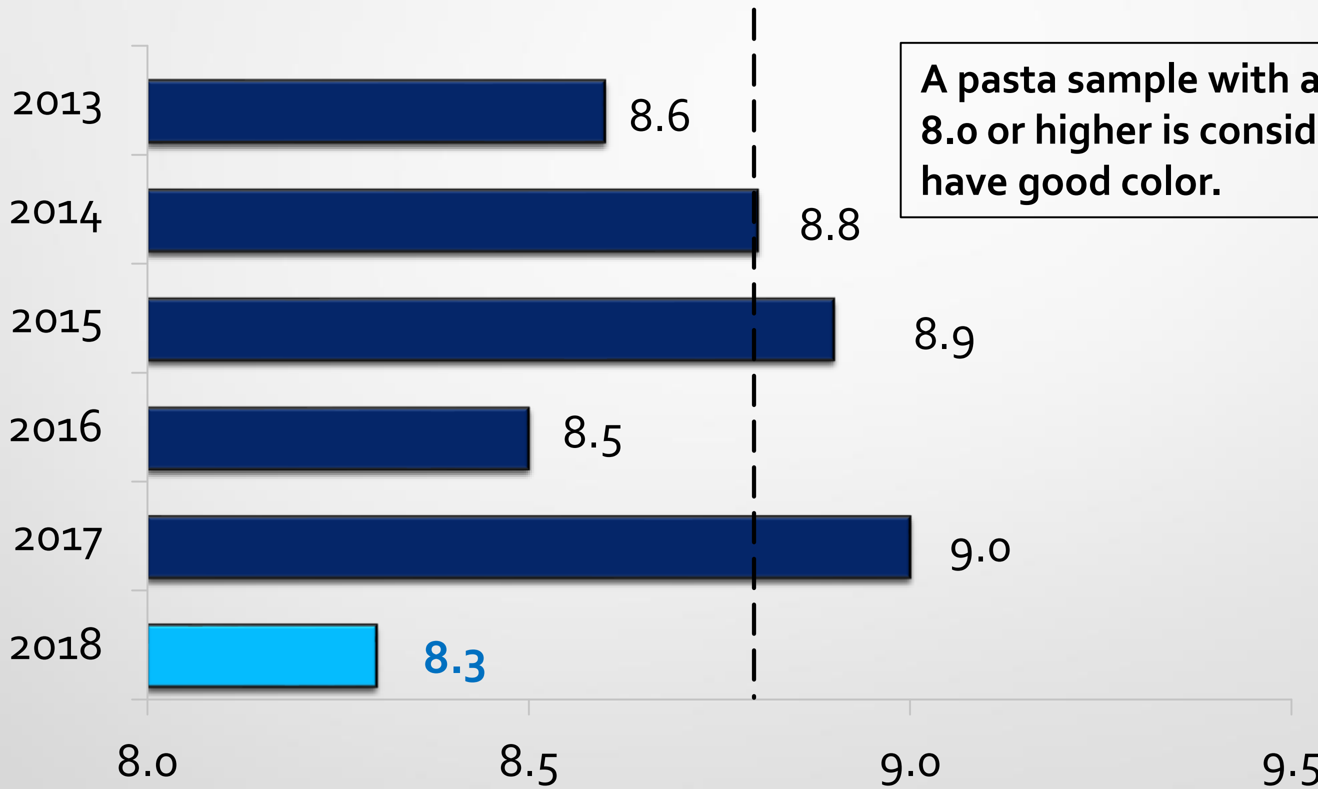


U.S. Northern Durum: Semolina Extraction

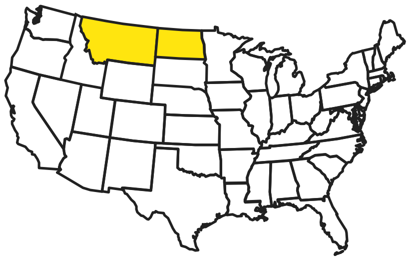


U.S. Northern Durum: Pasta Color Score

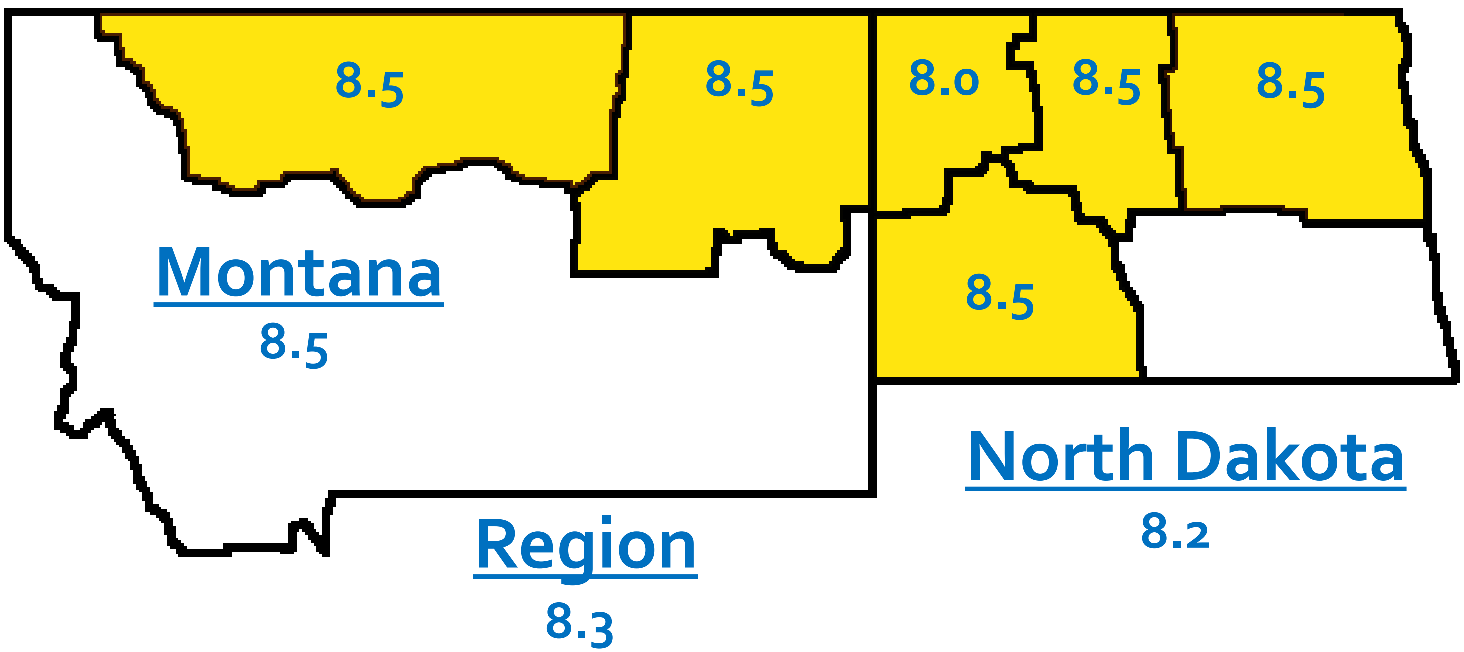
- - - 5 yr avg is 8.8



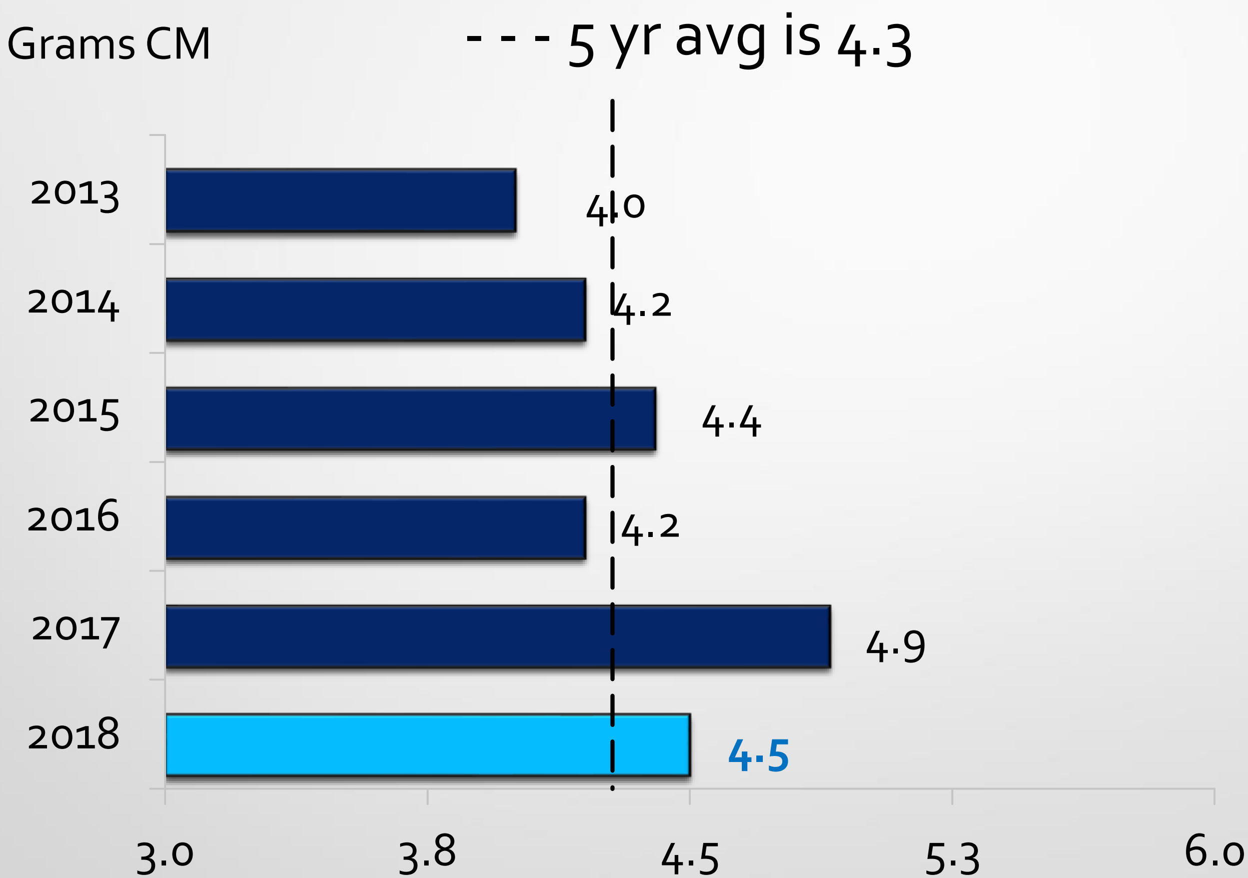
A pasta sample with a score of 8.0 or higher is considered to have good color.

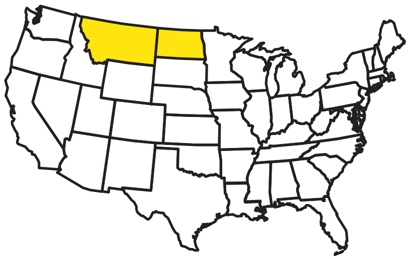


Northern Durum Pasta Color Score by Region (scale 1-12)

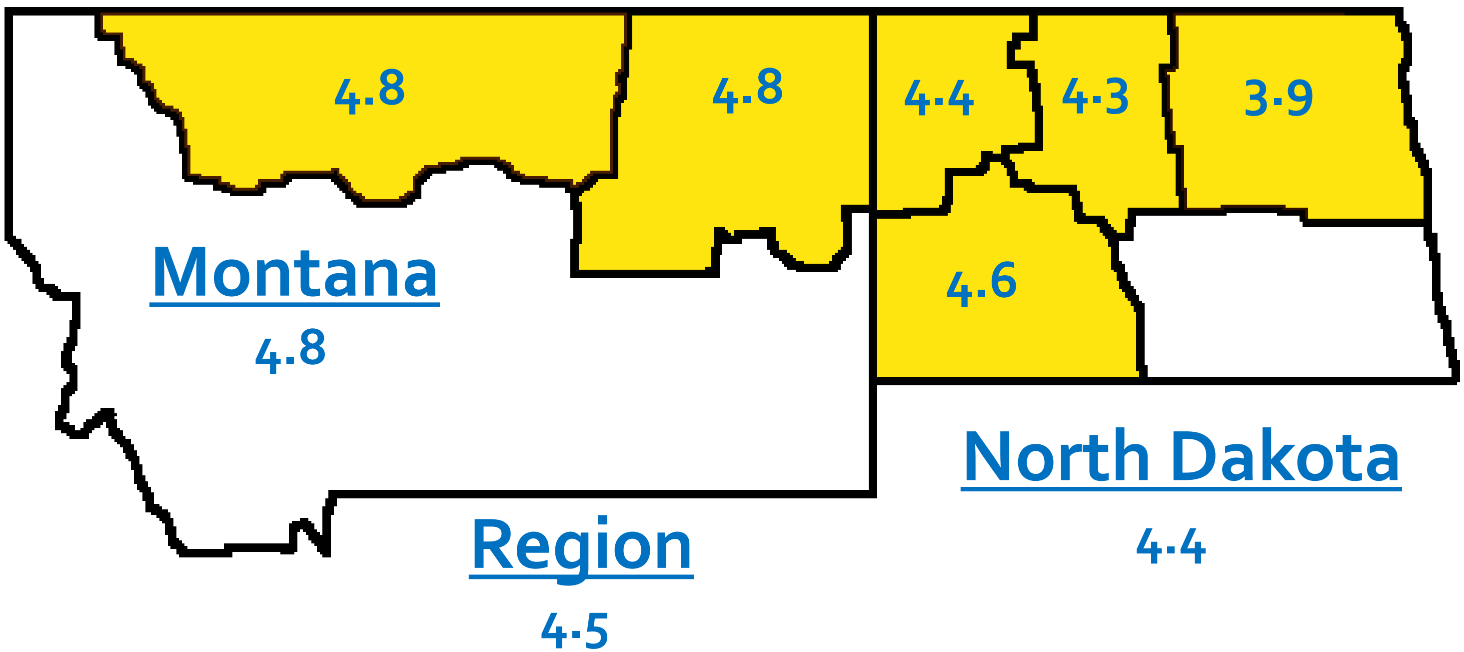


U.S. Northern Durum: Pasta Cooked Firmness





Northern Durum Pasta Cooked Firmness by Region (g cm)



U.S. DURUM SUPPLY & DEMAND

Million Bushels

	15-16	16-17	17-18	Proj 18-19	Change
Beg Stocks	26	28	36	**35**	**-3%**
Production	84	104	55	**77**	**+40%**
Imports	34	30	51	**50**	**-2%**
Tot Supply	144	162	142	**162**	**+14%**
Dom Use	86	101	90	**88**	**-2%**
Exports	30	24	18	**30**	**+67%**
Tot Use	116	126	107	**118**	**+10%**
End Stocks	28	36	35	**44**	**+26%**
S/U Ratio	24%	29%	33%	**37%**	

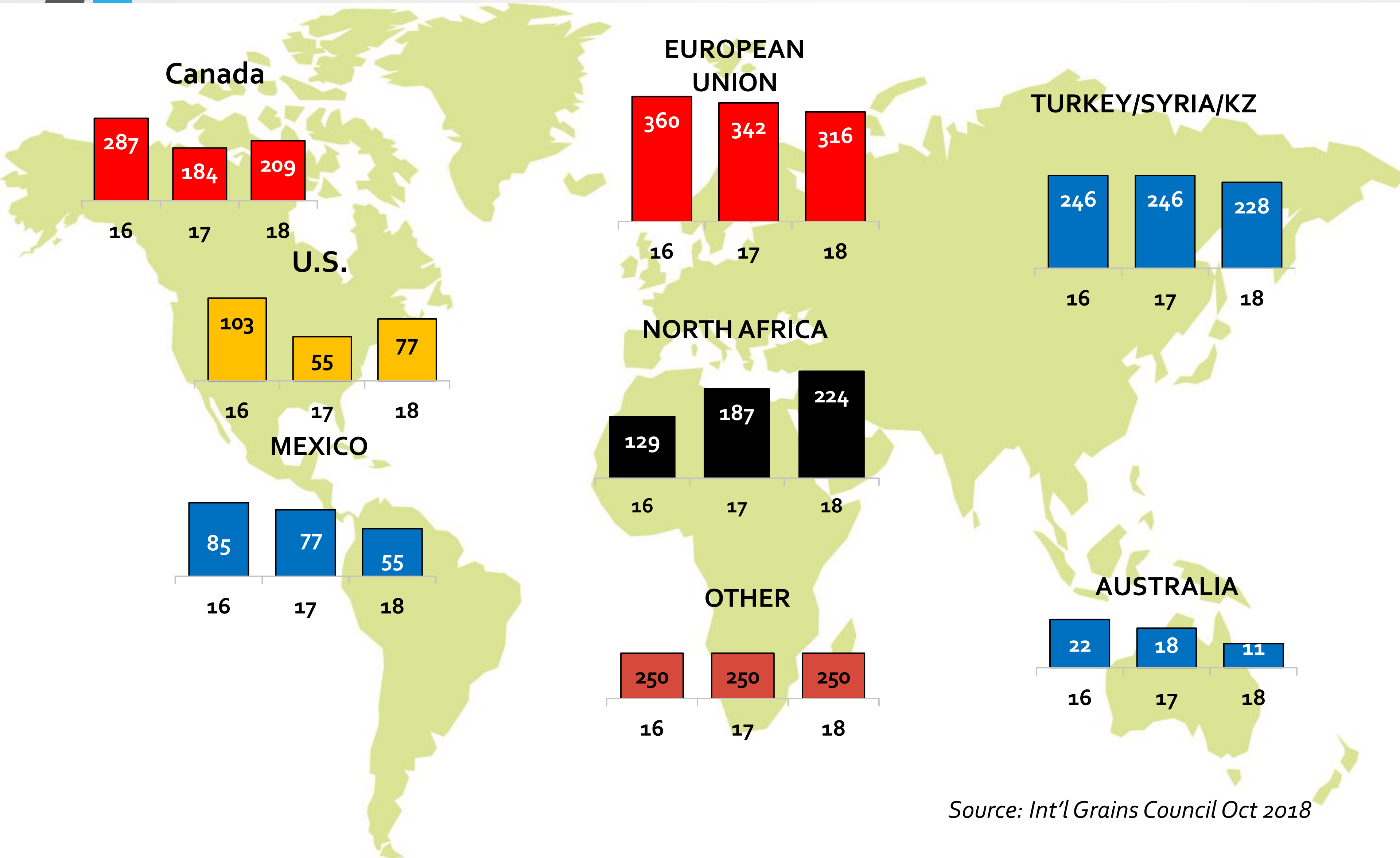
Source: USDA Oct 2018

2018 World Durum Situation

- Generally tranquil market situation
- Price discount to bread wheat classes
- World production similar to a year ago
- Another large crop in North Africa
- Lower than anticipated production in EU with some quality shortfalls
- Canadian crop – higher production than 2017, but quality not as high in 2018 crop
- Emergence of KZ as exporter and loss of Venezuela as quality importer have had an impact on world durum trade dynamics
- Expectations for some market strengthening into calendar year 2019

WORLD DURUM PRODUCTION

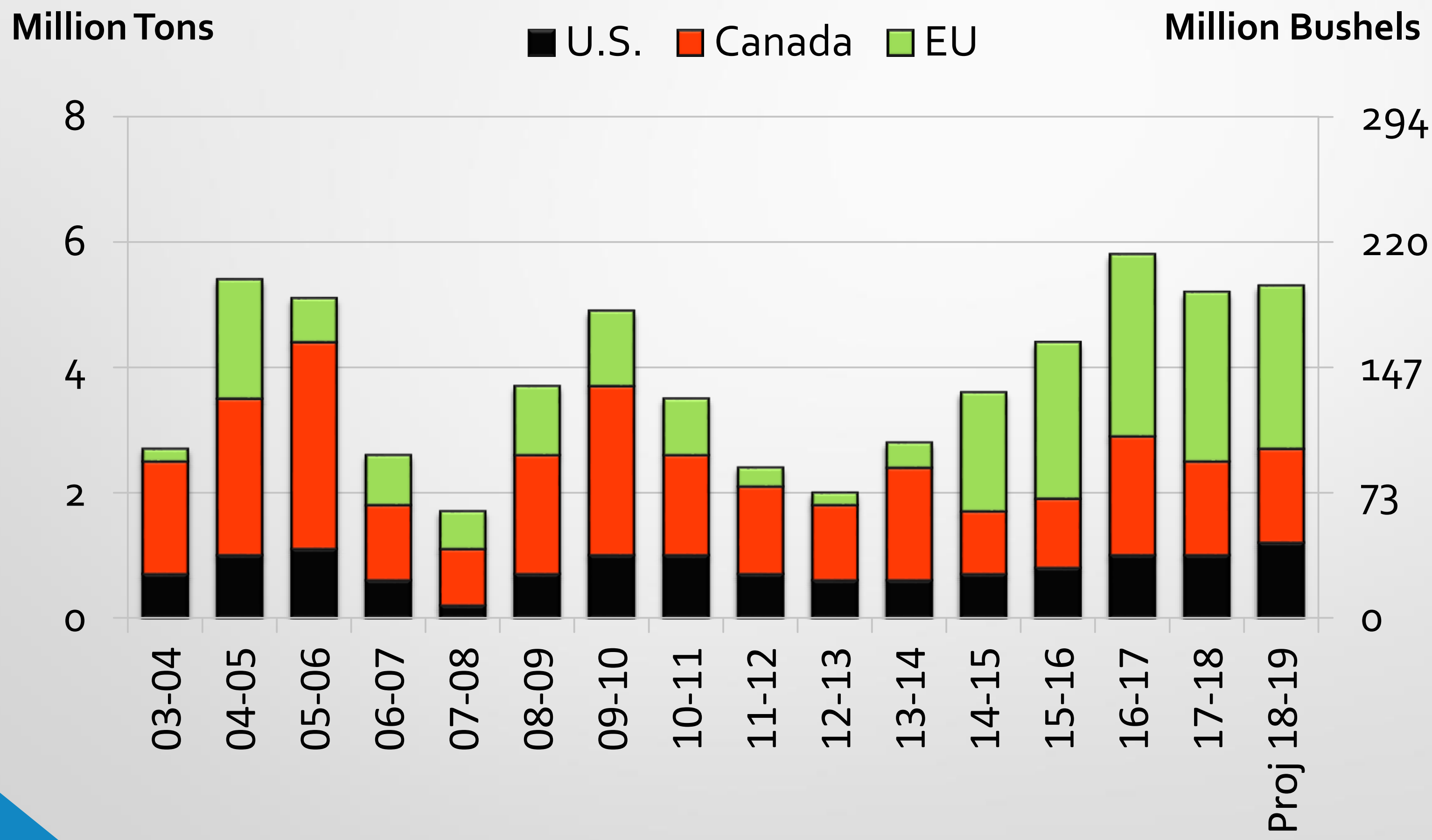
(Million Bushels)



Source: Int'l Grains Council Oct 2018

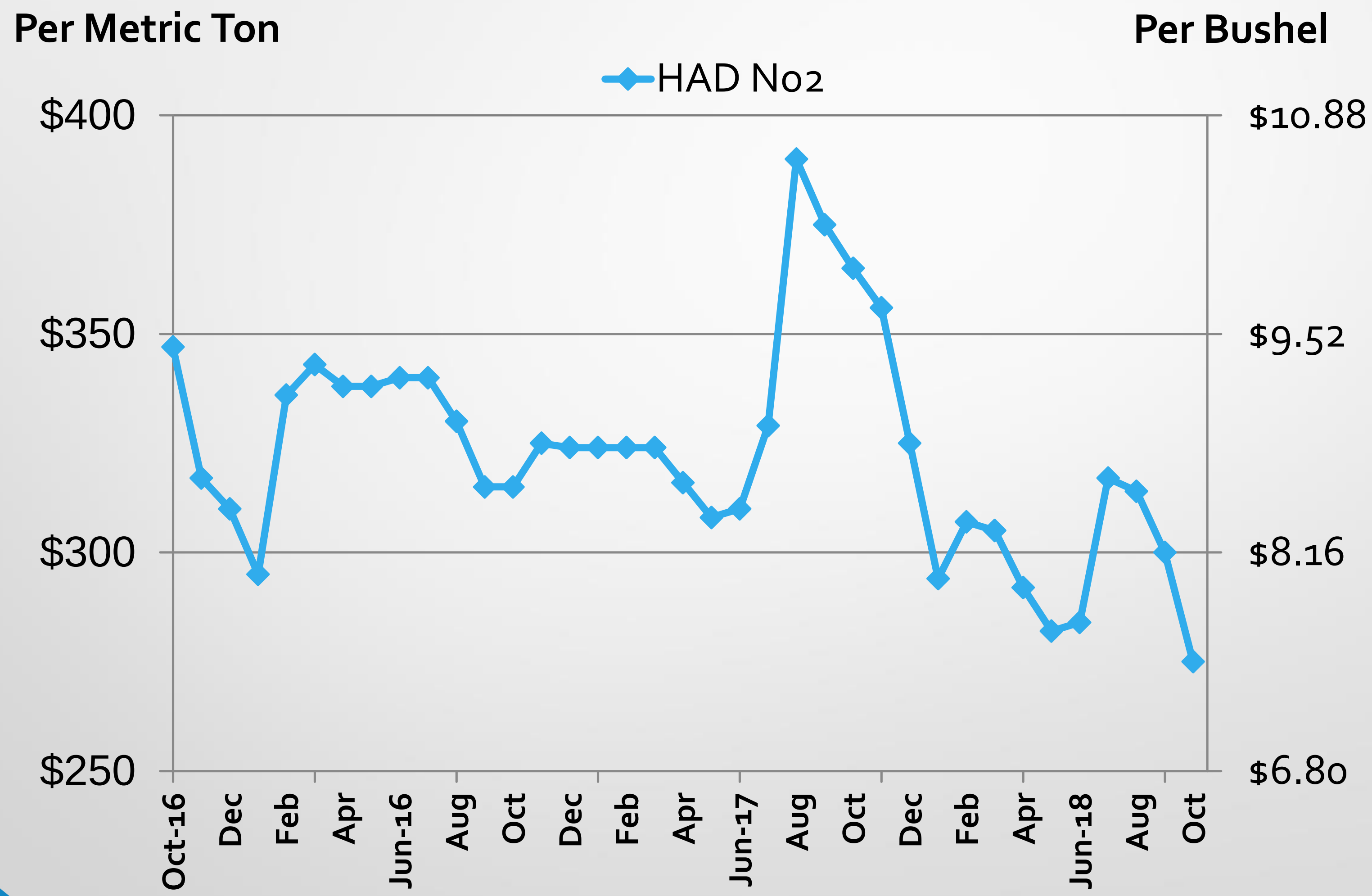
Durum Stocks – as of June 1

U.S., Canada, European Union



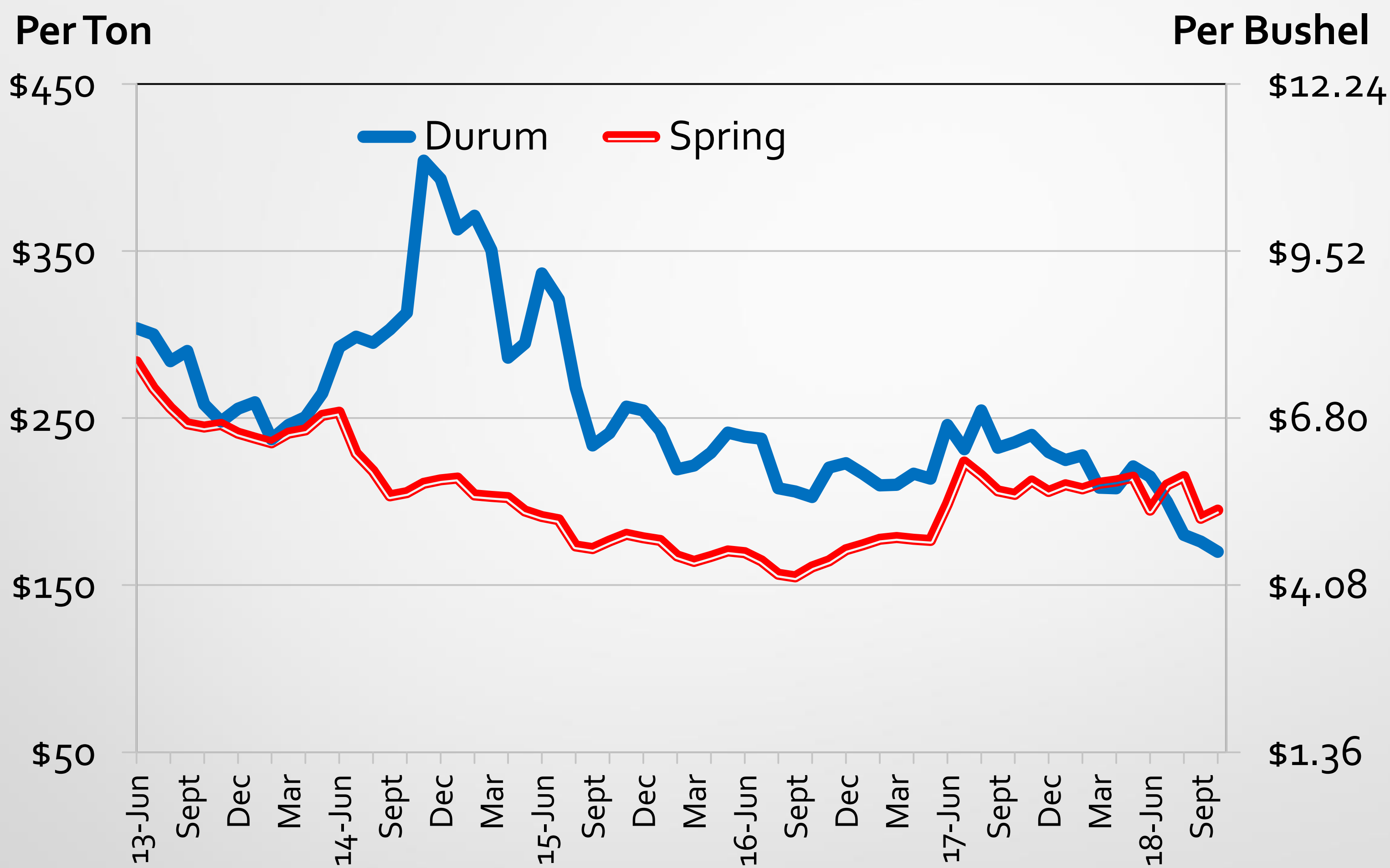
Source: Int'l Grains Council, Oct 2018

DURUM PRICE TRENDS AT GULF



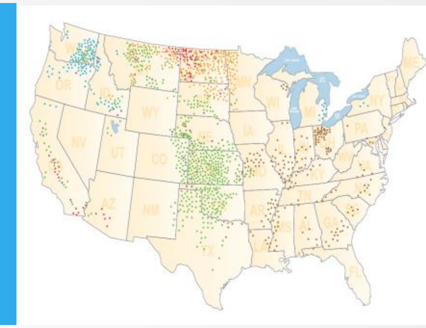
Source: US Wheat 10/10/18

U.S. AVERAGE FARM PRICES



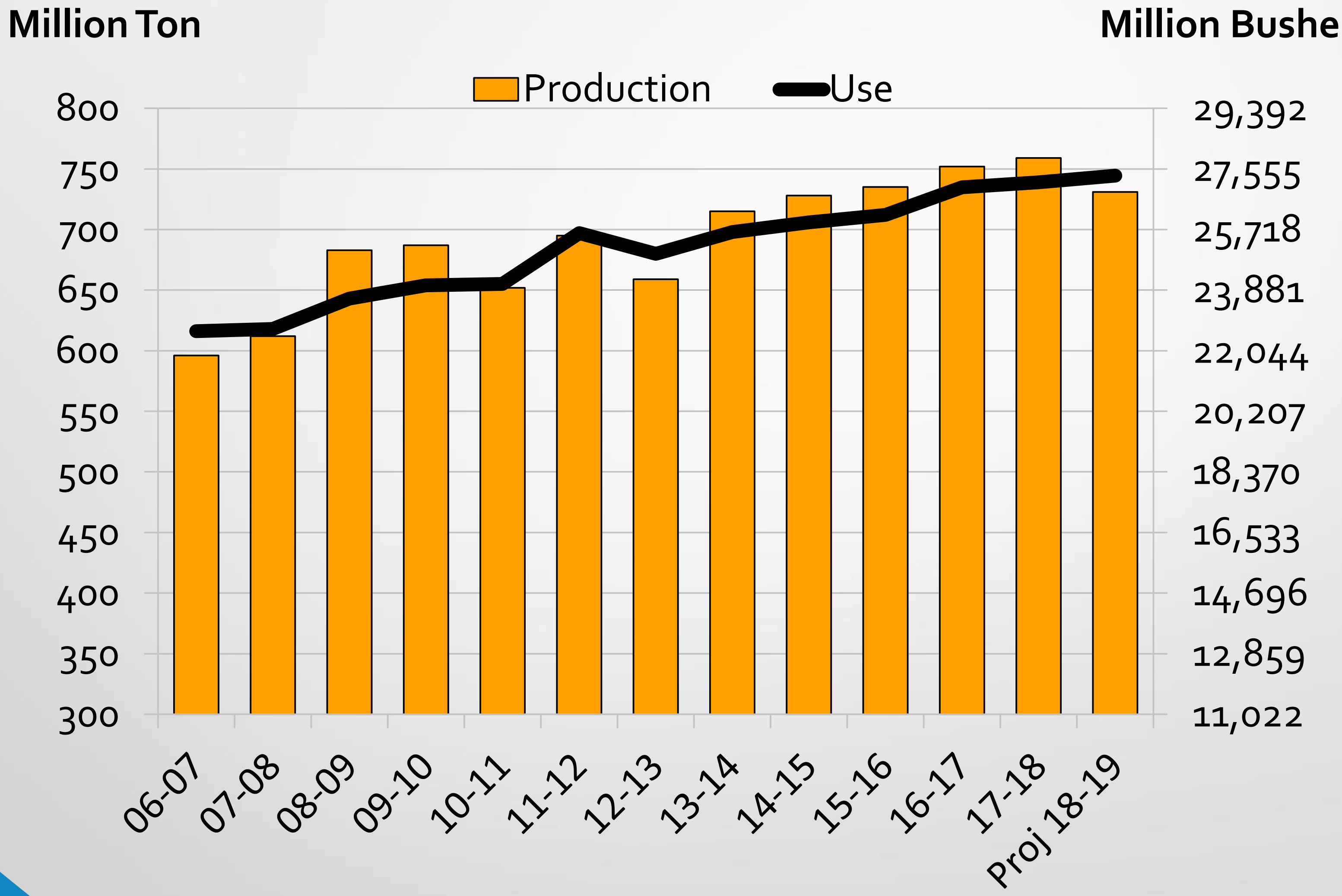
Source: USDA, Annual Price Summary
10/12/2018

2018 World / U.S. Wheat Situation



- Lowest world supplies in 3 years -- Production of 26.9 billion bu., down from 27.9 in 2017
    - Drought in Russia, the EU and Australia. Late harvest Canada
- World Use – 27.4 billion bu. -- Record high
- World Trade -- U.S., Argentina and Canada higher, Black Sea lower
- World prices higher than a year ago, but tempered late summer / early fall due to stronger than expected export pace from Black Sea
- U.S. crop slightly larger than a year ago, with big spring wheat crop more than offsetting drought in southern U.S. HRW areas
- Futures markets have shifted back to more traditional class price premiums
- Good quality in most U.S. classes with high protein in both HRW and HRS
- Exports projected higher from the U.S. but they have been slow to develop, especially for HRW.

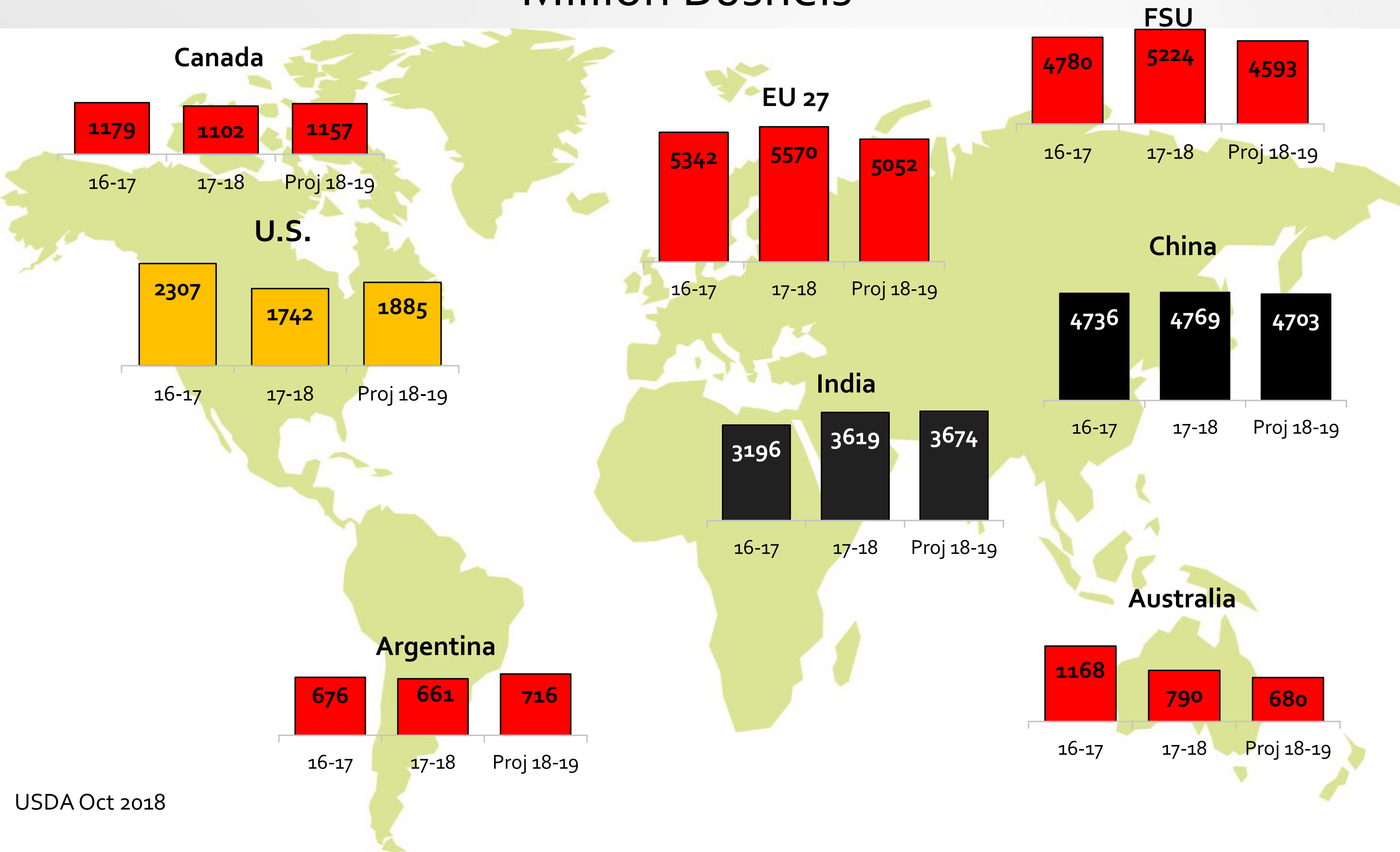
World Wheat Prod./Use



USDA Oct 2018

WORLD WHEAT PRODUCTION

Million Bushels

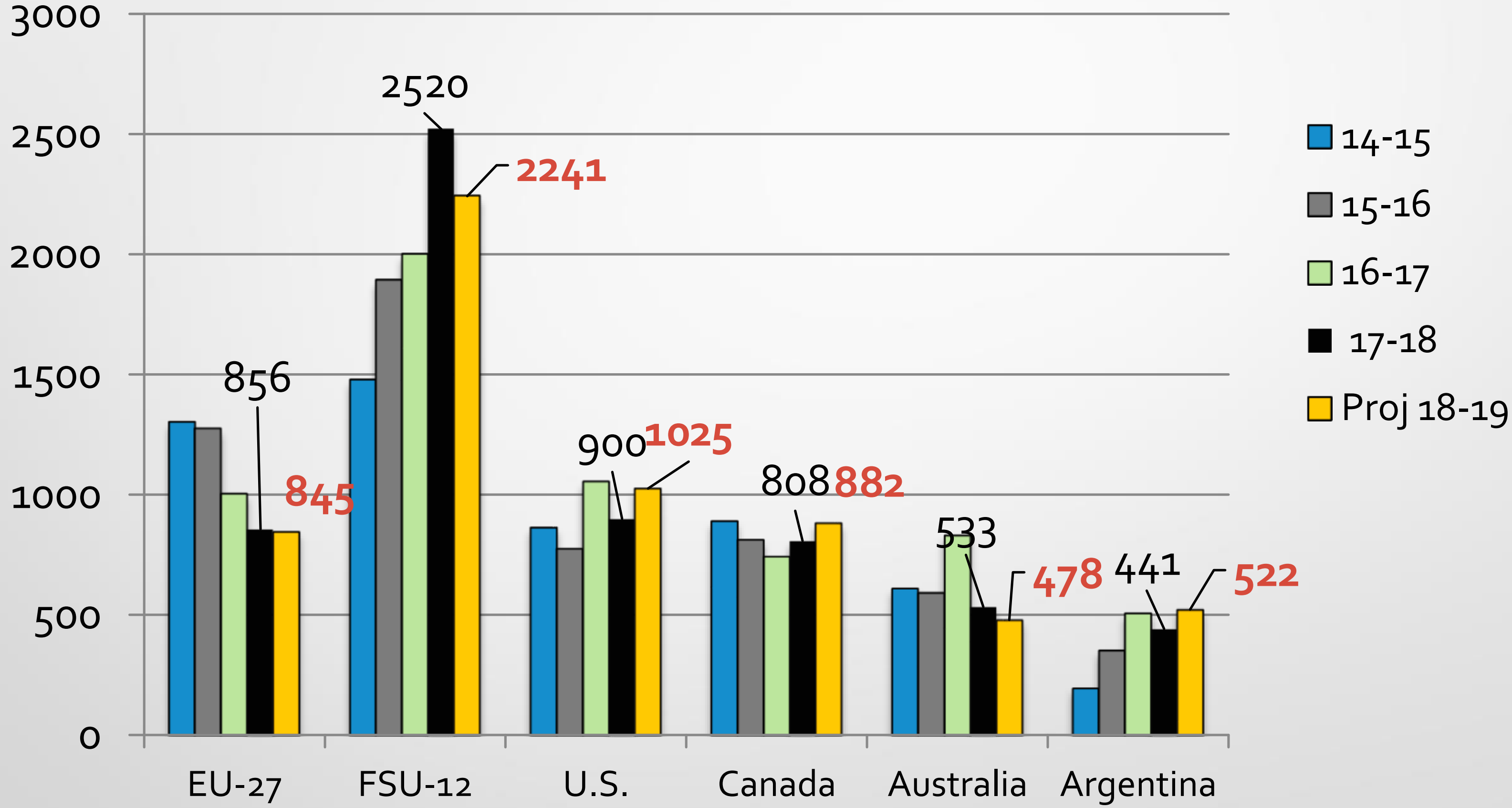


USDA Oct 2018

WHEAT EXPORTS

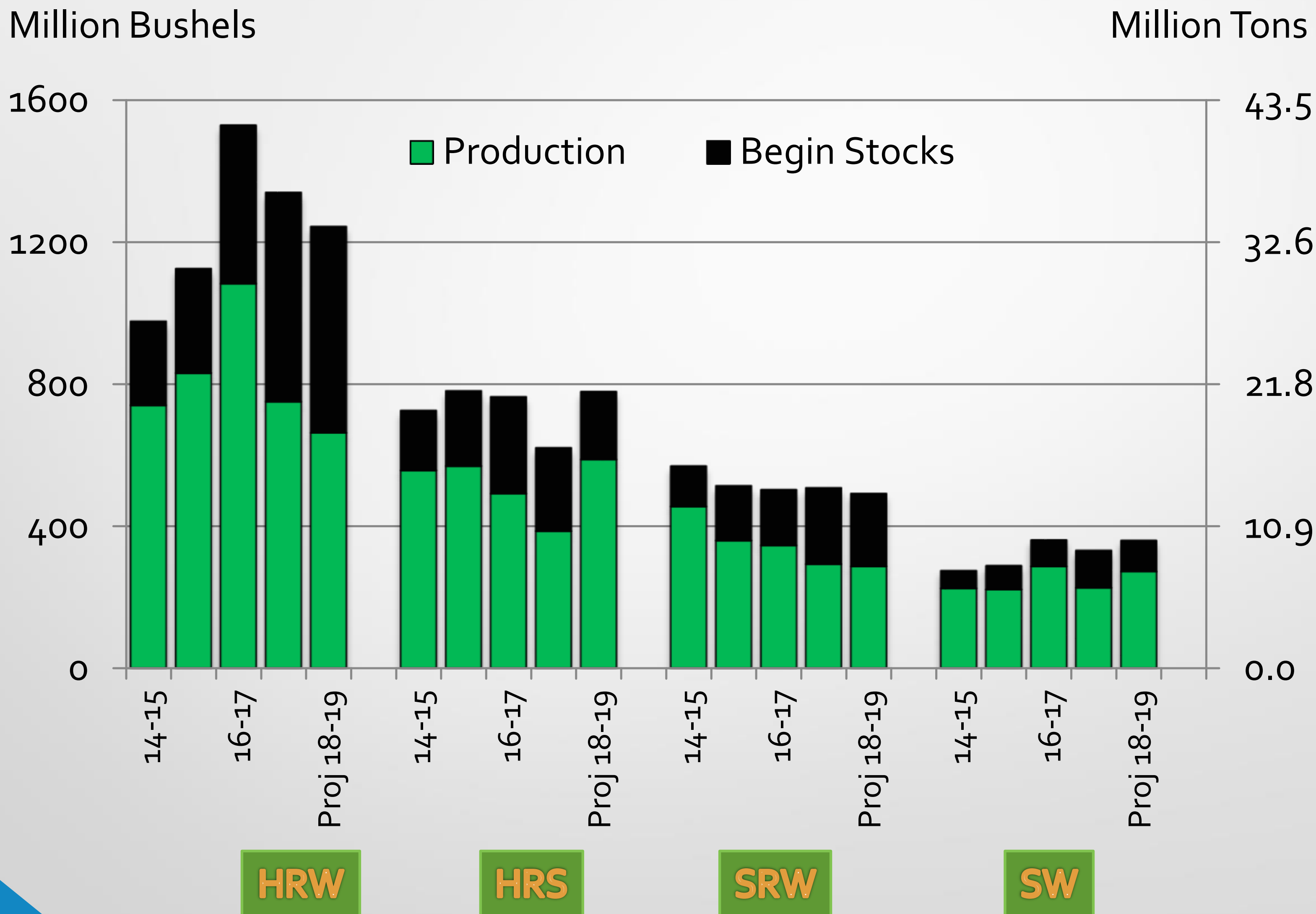
Amongst Major Exporters

Million Bushels



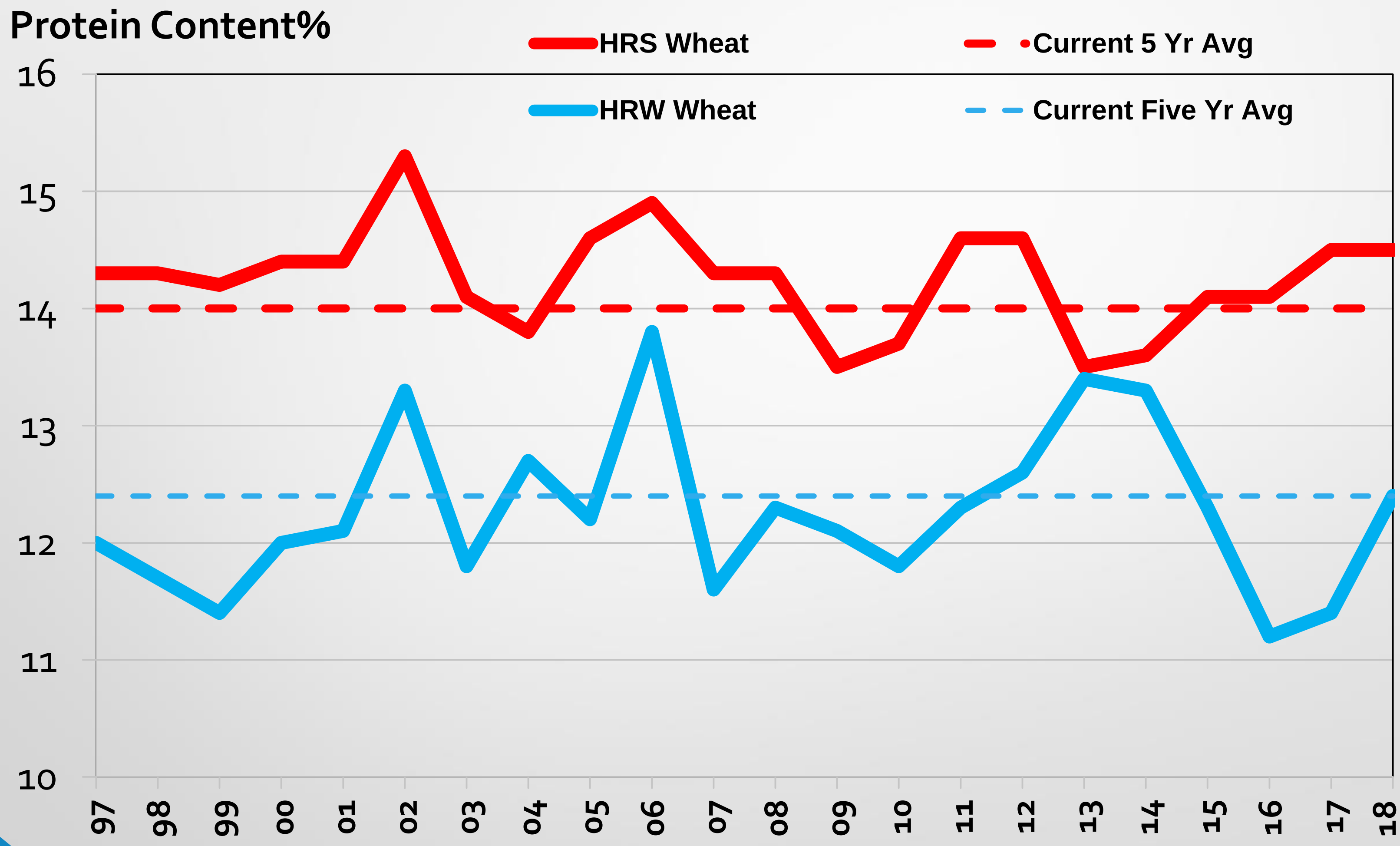
Source: USDA Oct 2018

U.S. WHEAT SUPPLY BY CLASS



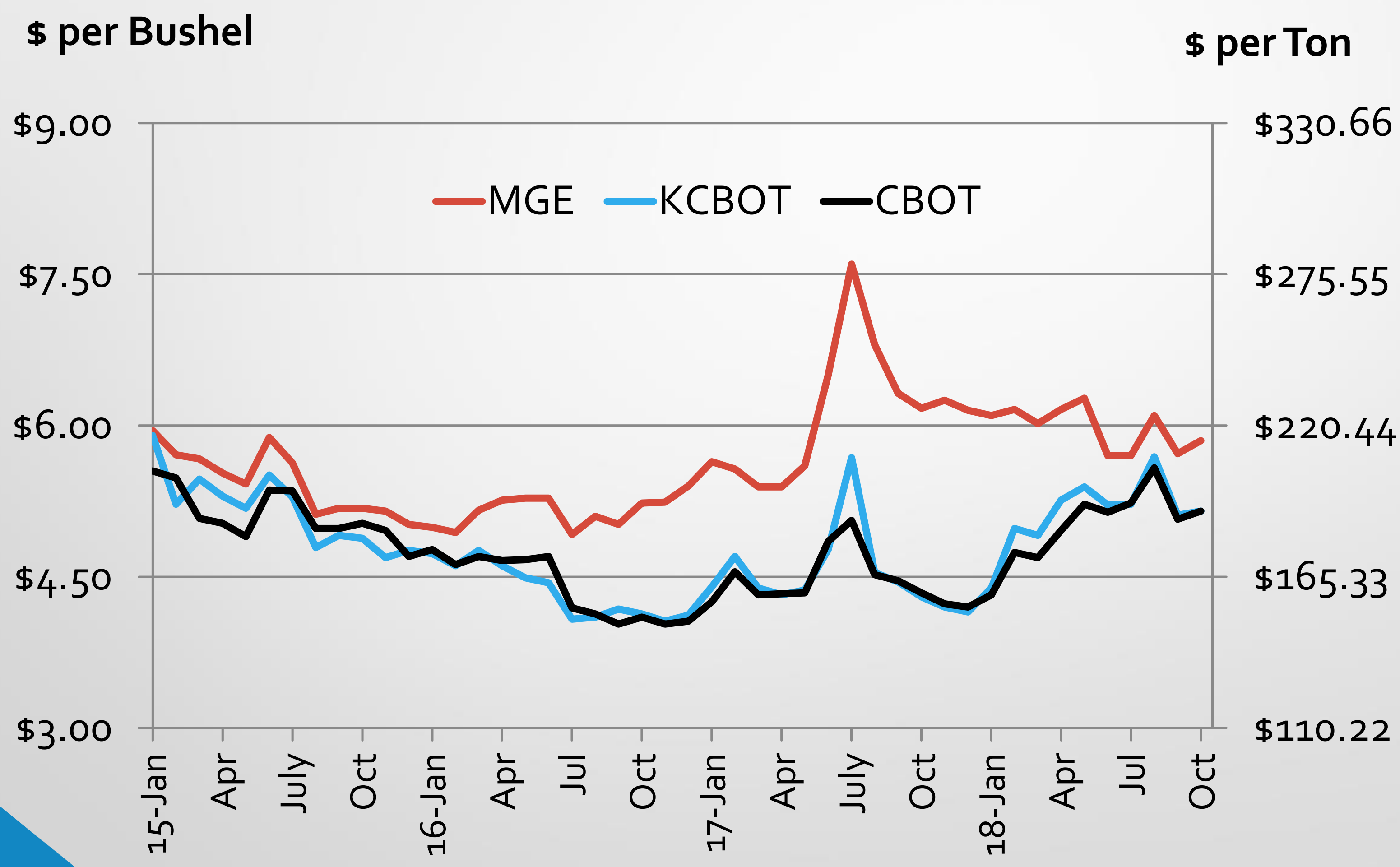
COMPARATIVE U.S. WHEAT PROTEIN

12% Moisture Basis



U. S. FUTURES TRENDS

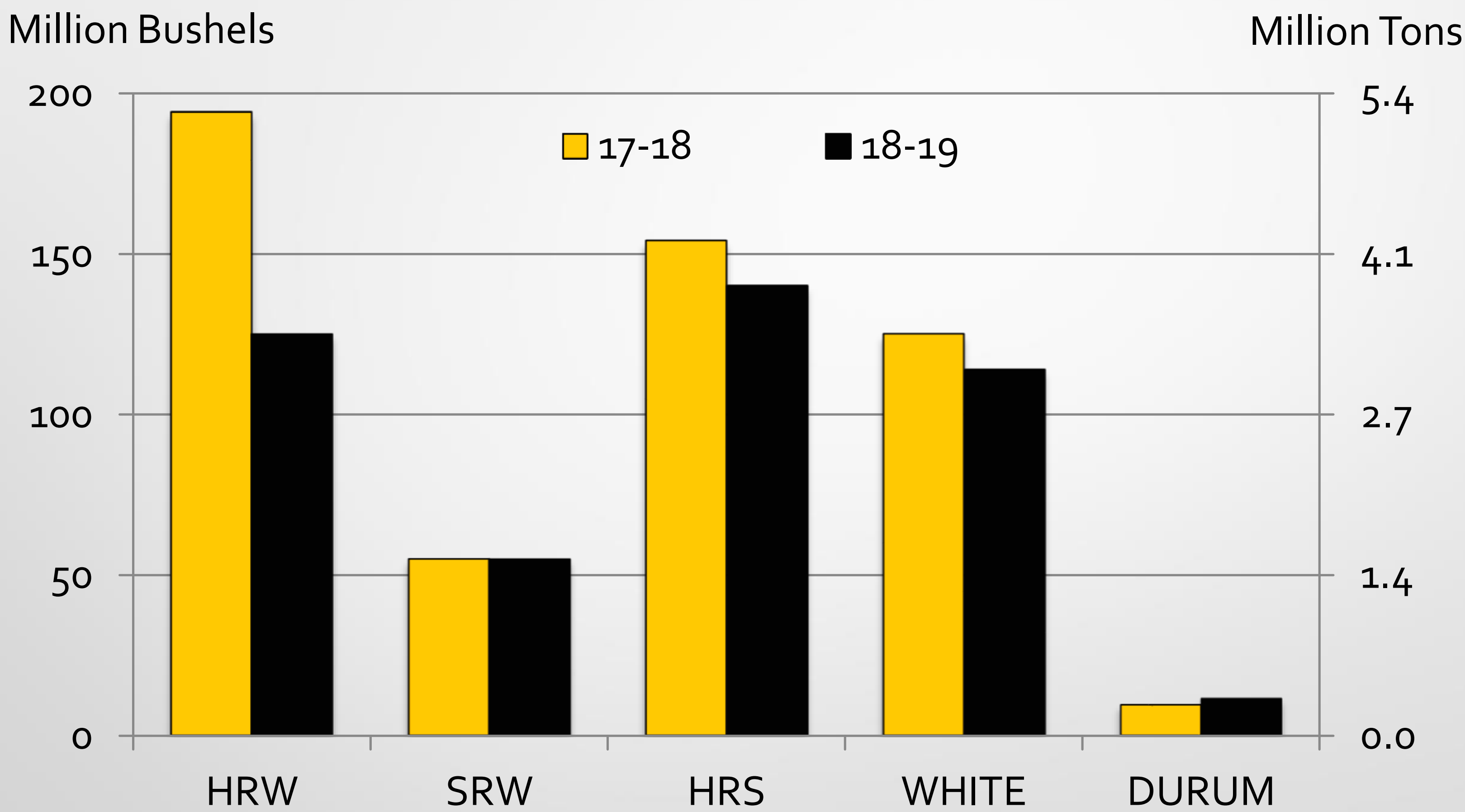
Minneapolis – Hard Red Spring
Kansas City – Hard Red Winter
Chicago – Soft Red Winter – World prices



10/11/18

EXPORT PACE FOR U.S. WHEAT

(Shipments and Sales as of Oct 11, 2018)



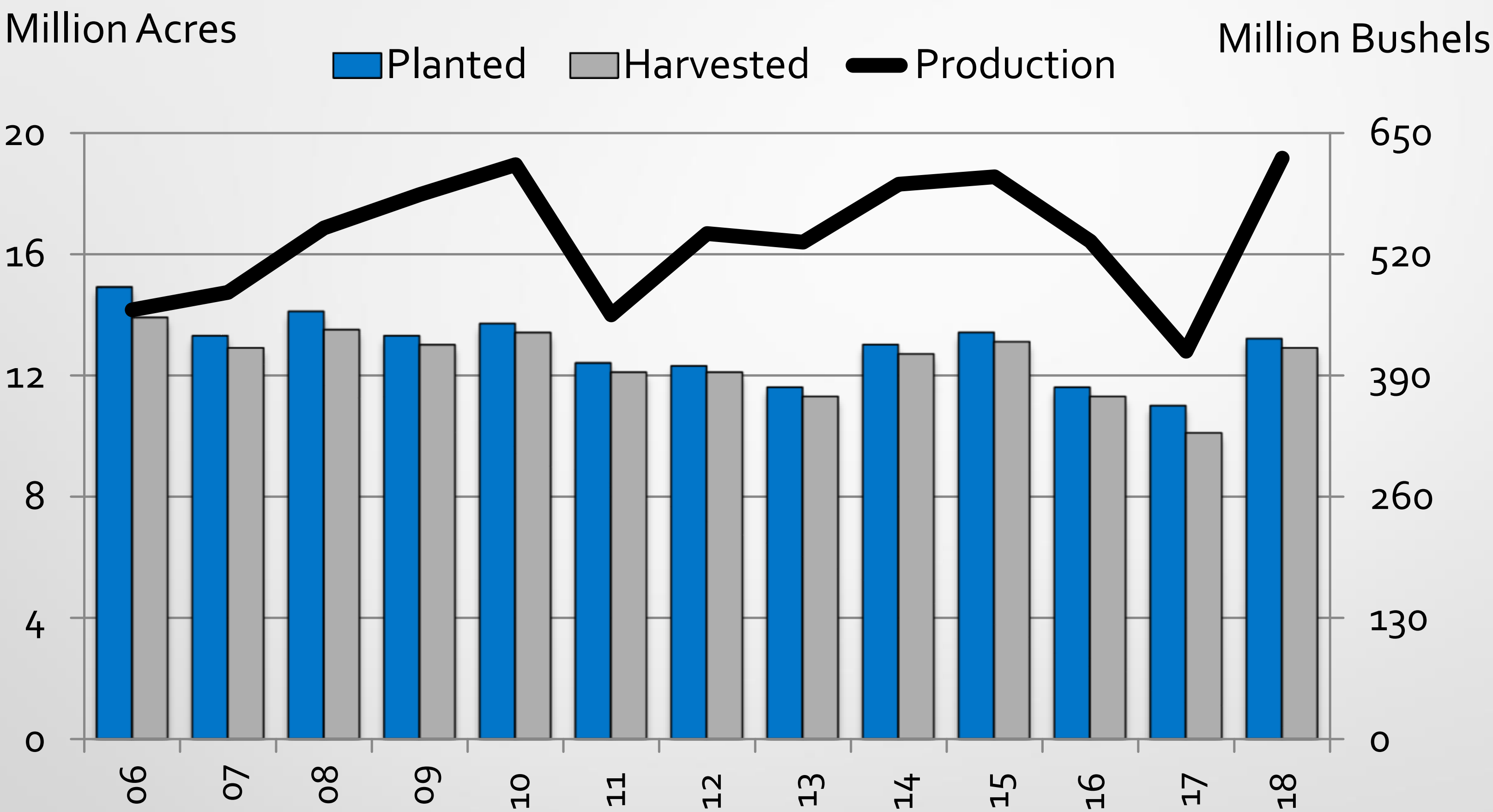
10/12/18

U.S. HARD RED SPRING WHEAT

“2018 season overview”

- Planted area up 20%
  - More positive price outlook compared to other crops at planting
- Concerns about repeat of 2017 drought early in the season, but significant shift in weather pattern in June with frequent rains boosted crop potential
- Final average yield reached a record high despite late start to planting and no subsoil moisture
- Production up 53% - largest crop in 22 years
- Demand projected up 14% with 30% higher exports
- HRS is largest export class from U.S. currently and export sales pace has accelerated in October
- Producer prices about $.70 below a year ago, but up $.30 from harvest lows

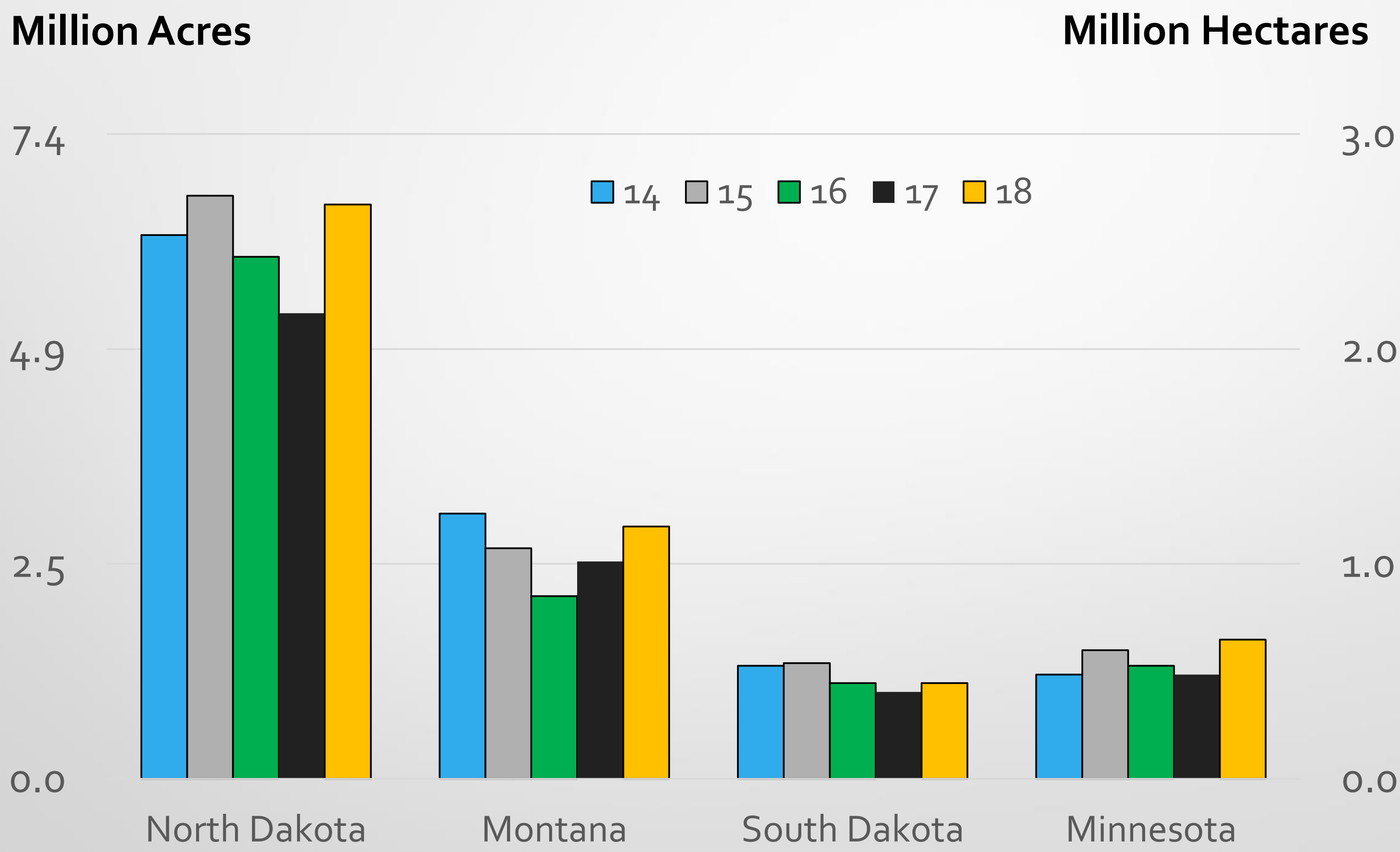
U.S. SPRING WHEAT PLANTINGS & PRODUCTION



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

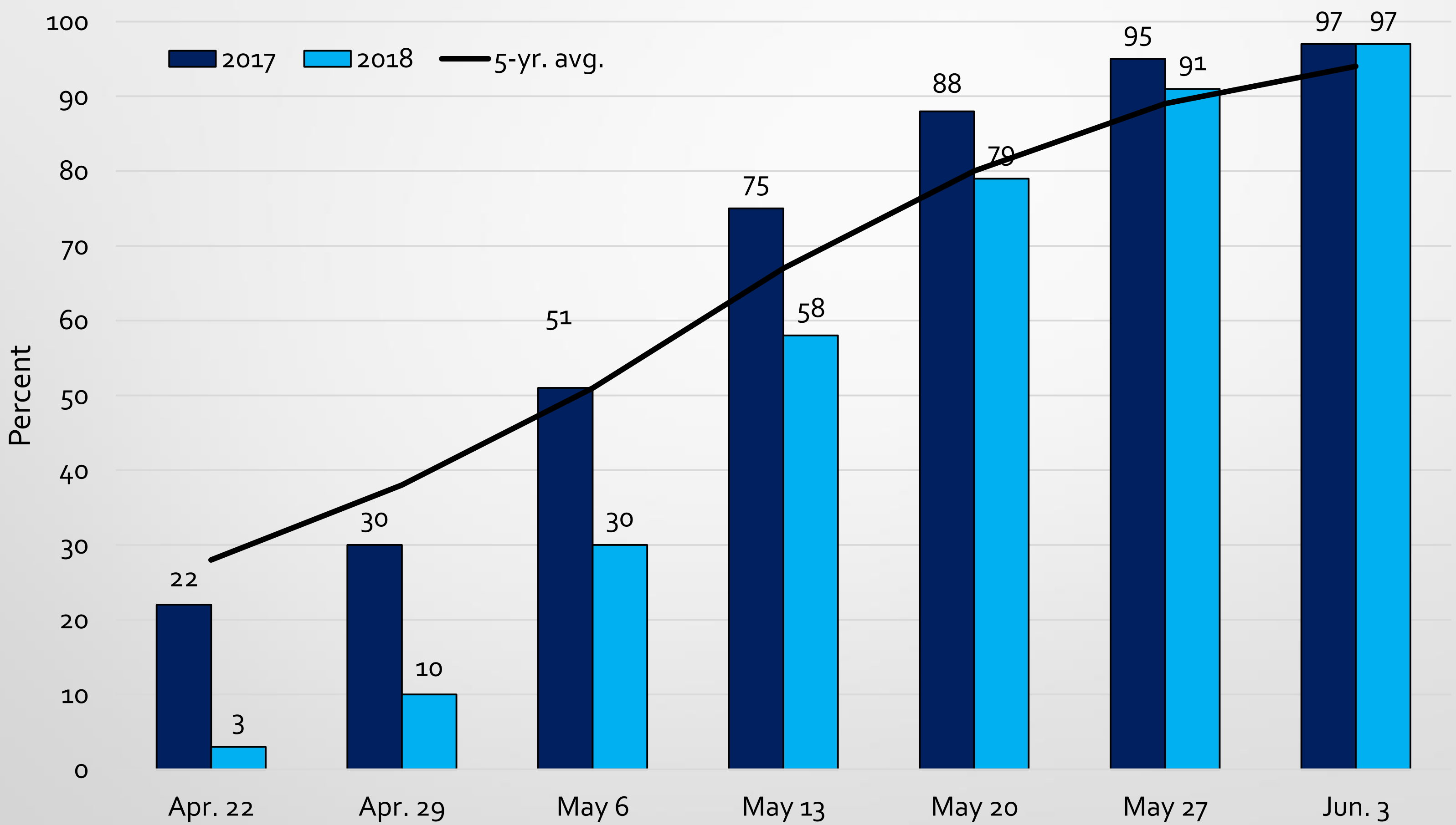
Source: USDA Small Grains Summary

U.S. SPRING WHEAT PLANTINGS BY STATE

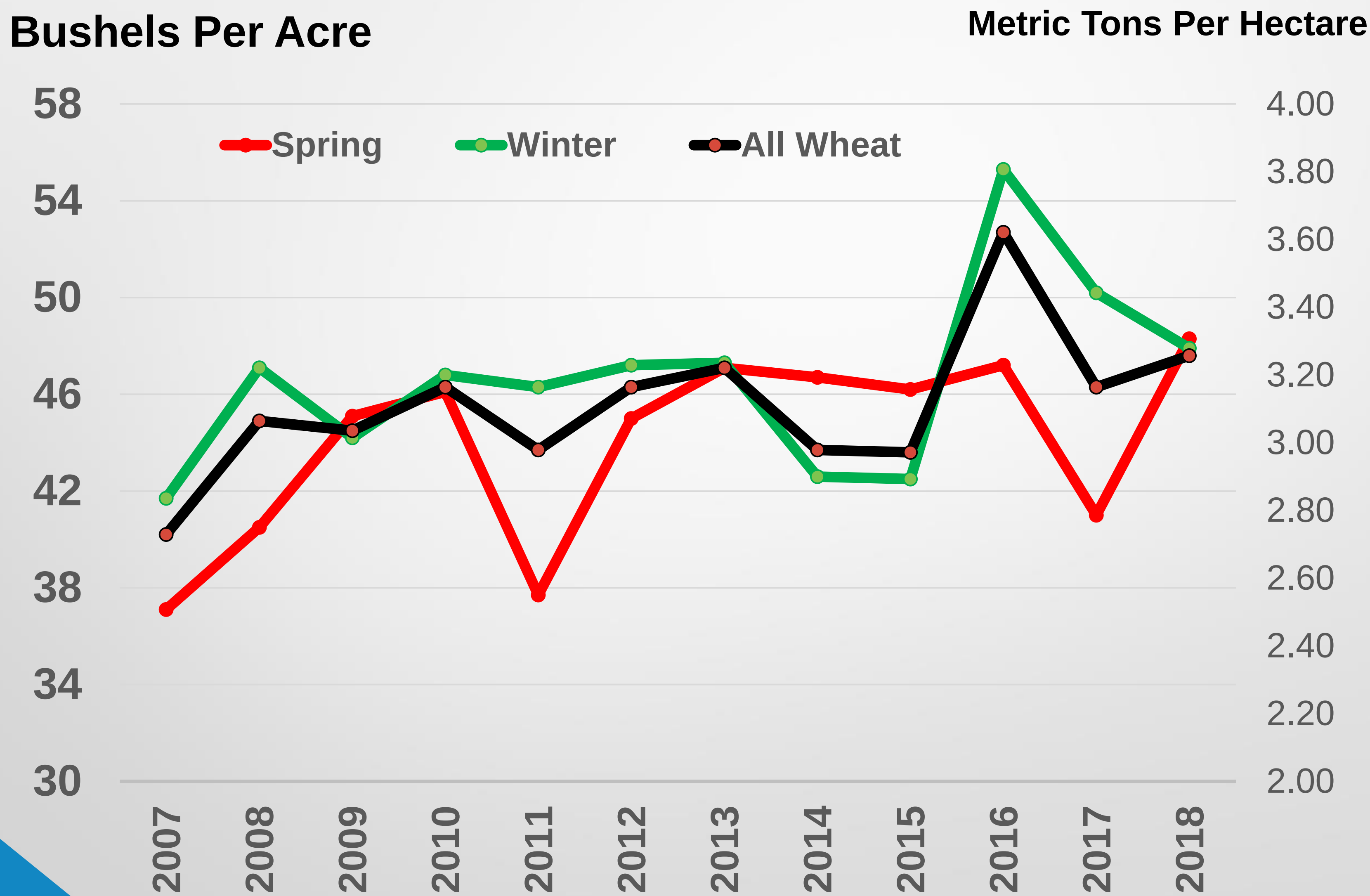


Source: USDA Small Grains Summary

U.S. HRS Planting Progress

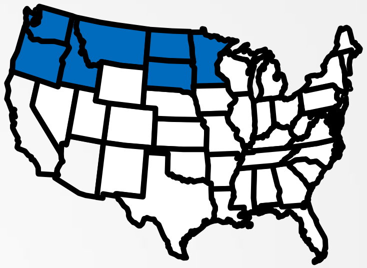


Average U.S. Wheat Yields



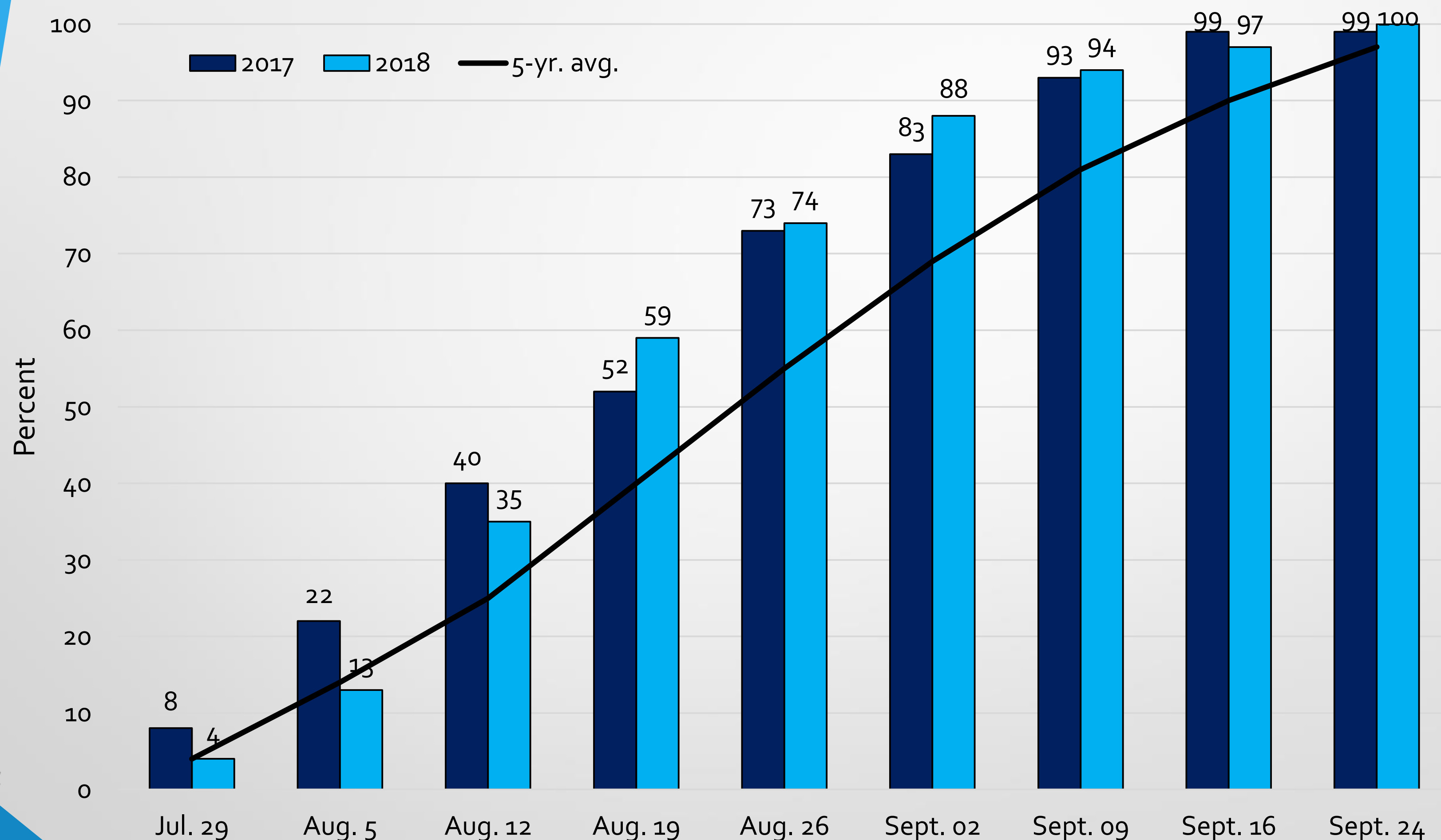
Source: USDA Sept 2018

U.S. HARD RED SPRING
2018 Harvest/Quality

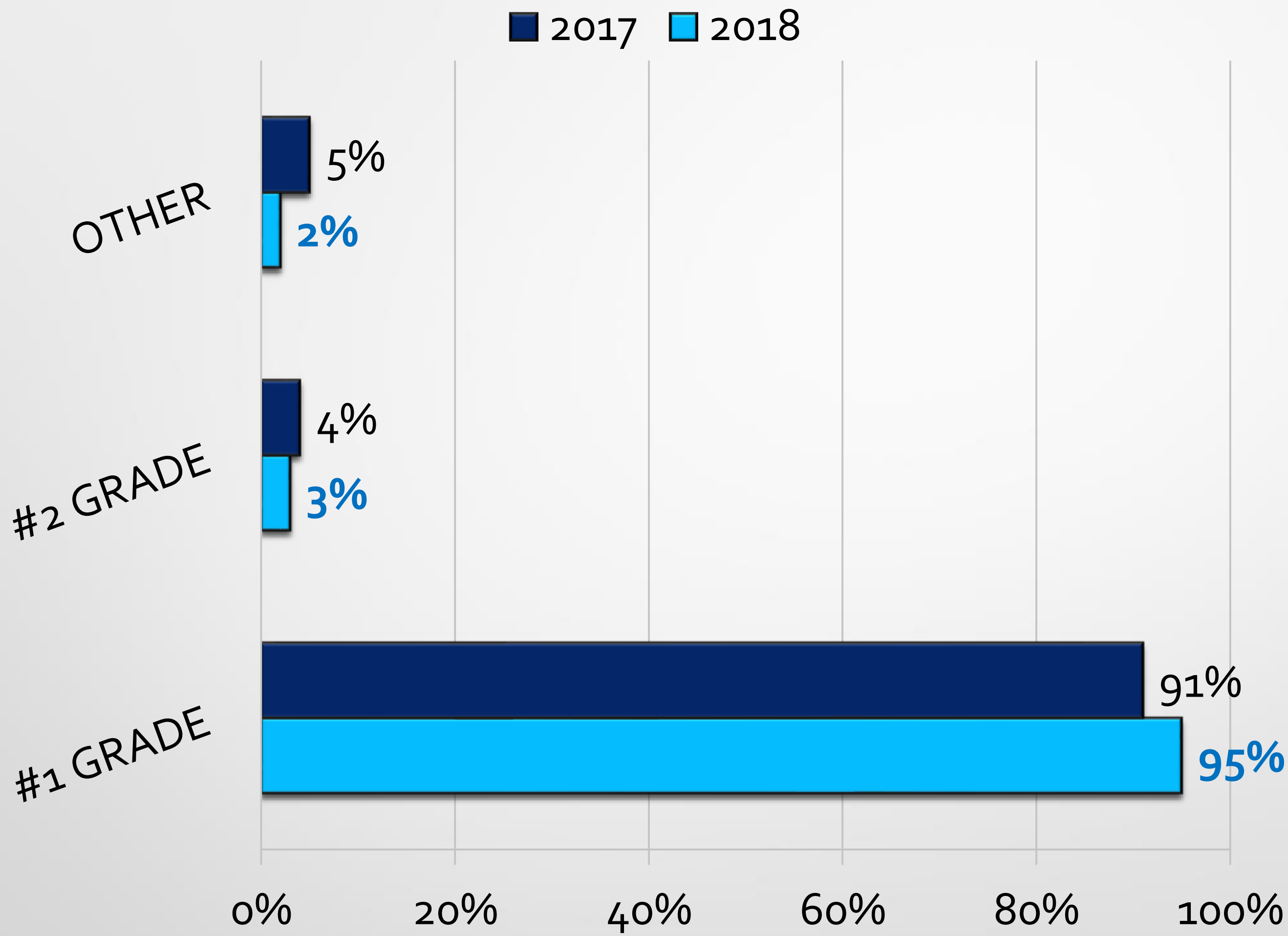


- Harvest finished slightly ahead of average pace…latest harvest in parts of Montana.
- Excellent quality overall with high TW, large kernels, sound kernels and improved vitreous kernel levels.
- High protein crop in most areas.
- Some pockets of higher disease pressure and other downgrading factors… not concerning levels (DON <1 ppm in areas where disease pressures high).
- Good overall dough and bake qualities.

U.S. HRS Harvest Progress



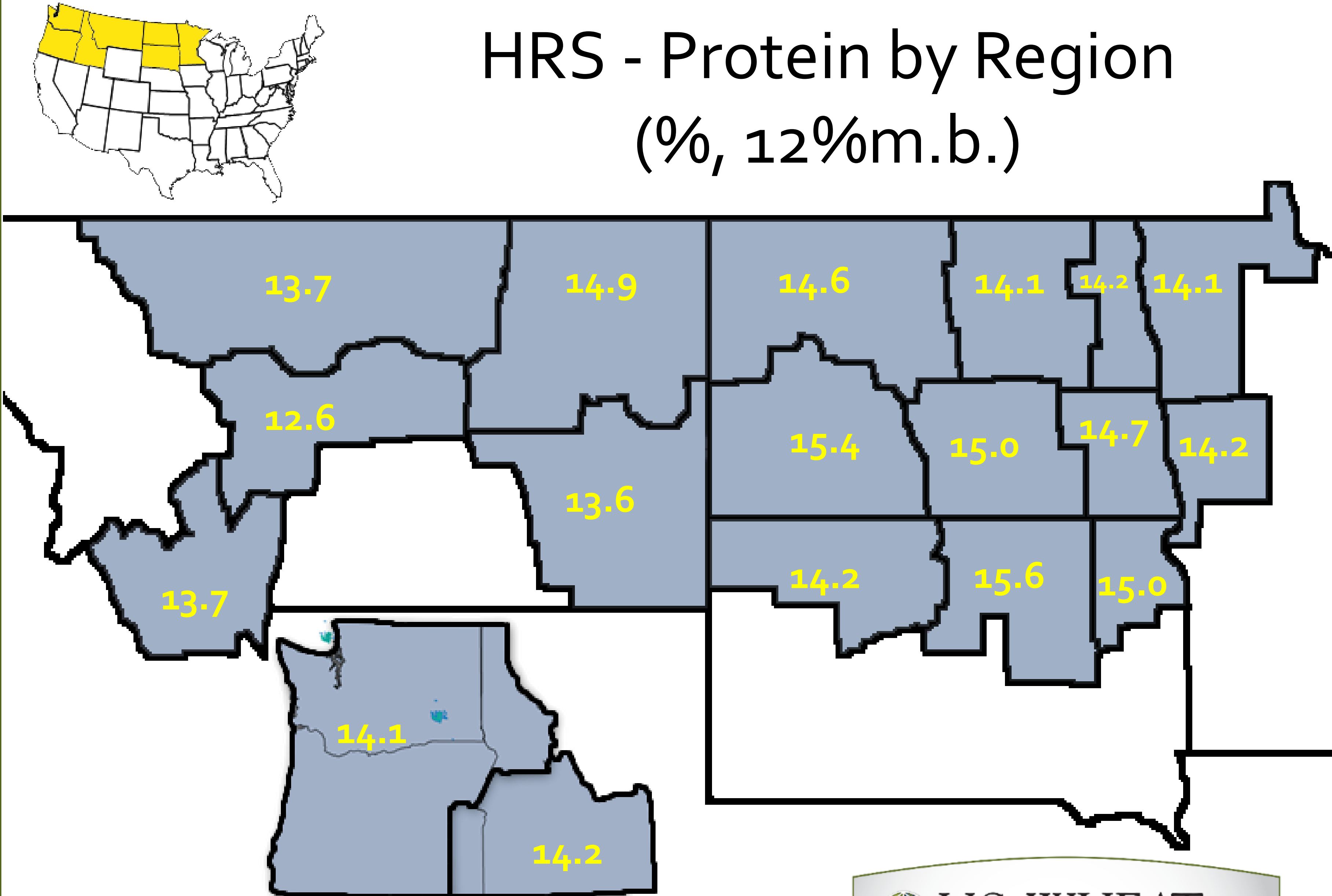
HRS: Grade Distribution



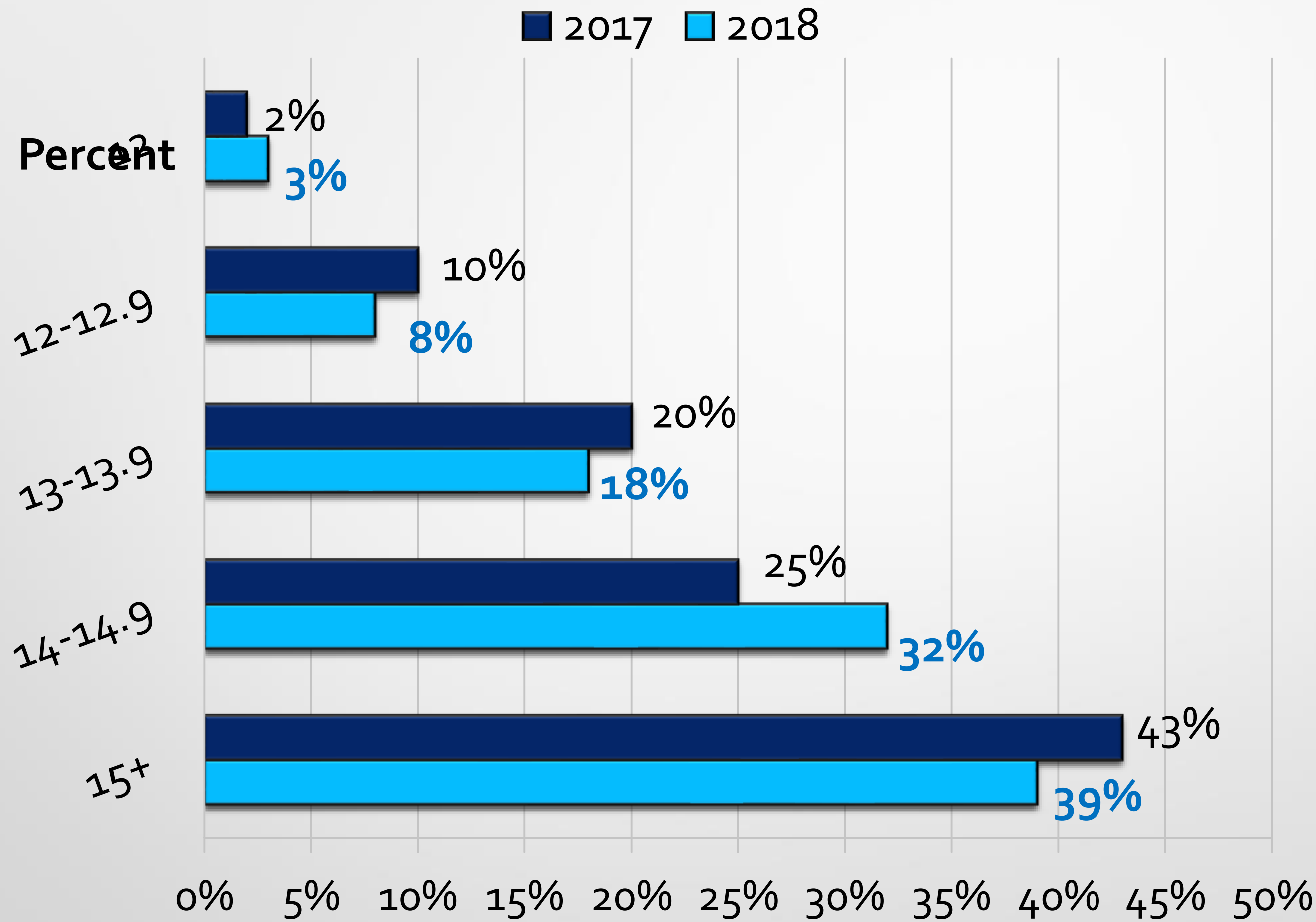
HRS Grading & Kernel Characteristics

	2017	2018	5-Year Avg.	ND 2018
Test Weight (lbs/bu.)	61.6	**62.2**	61.8	62.6
1000 KWT (g)	31.5	**31.5**	31.3	30.4
Damage (%)	0.1	**0.4**	0.2	0.3
Total Defects	1.0	**1.3**	1.0	1.0
Vitreous Kernels (%)	71	**86**	70	87
Protein (12% moisture)	14.5	**14.5**	14.0	14.6
Falling Number (seconds)	389	**399**	382	398
DON (ppm)	0.0	**0.4**	0.2	0.5

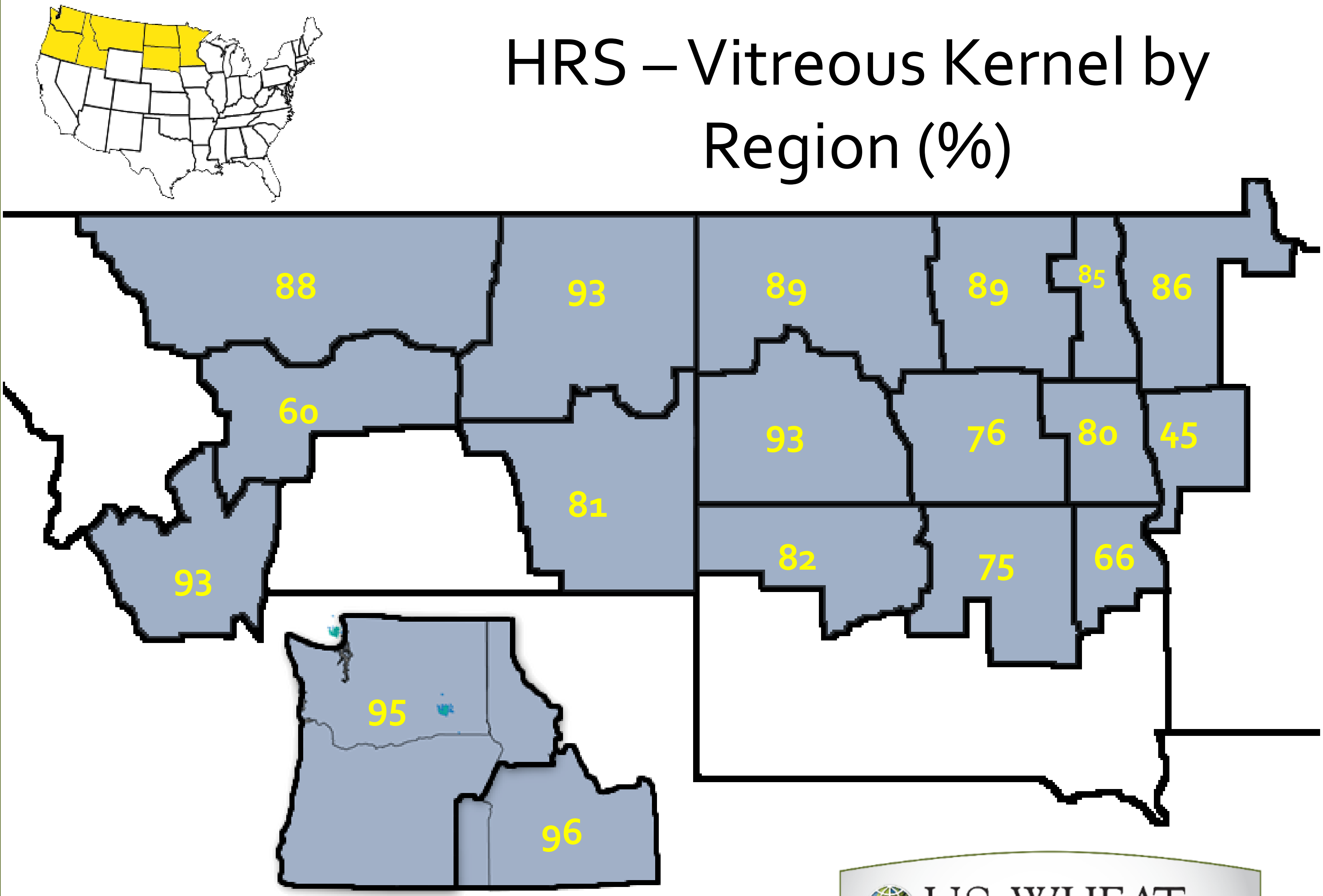
HRS - Protein by Region
(%, 12%m.b.)



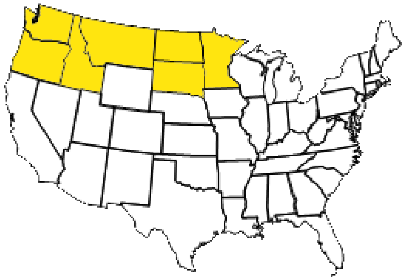
HRS: Protein Content Distribution



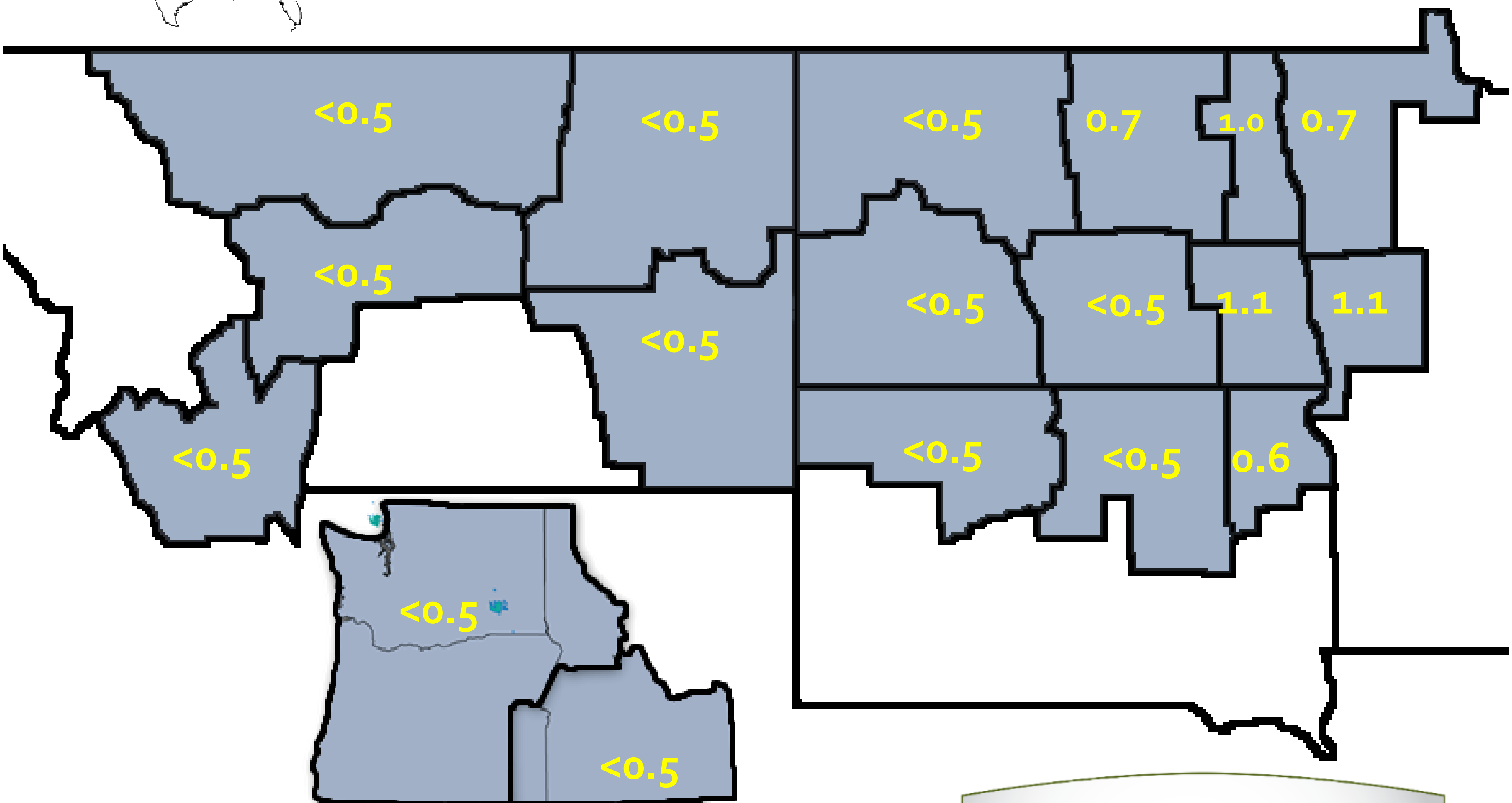
HRS – Vitreous Kernel by Region (%)



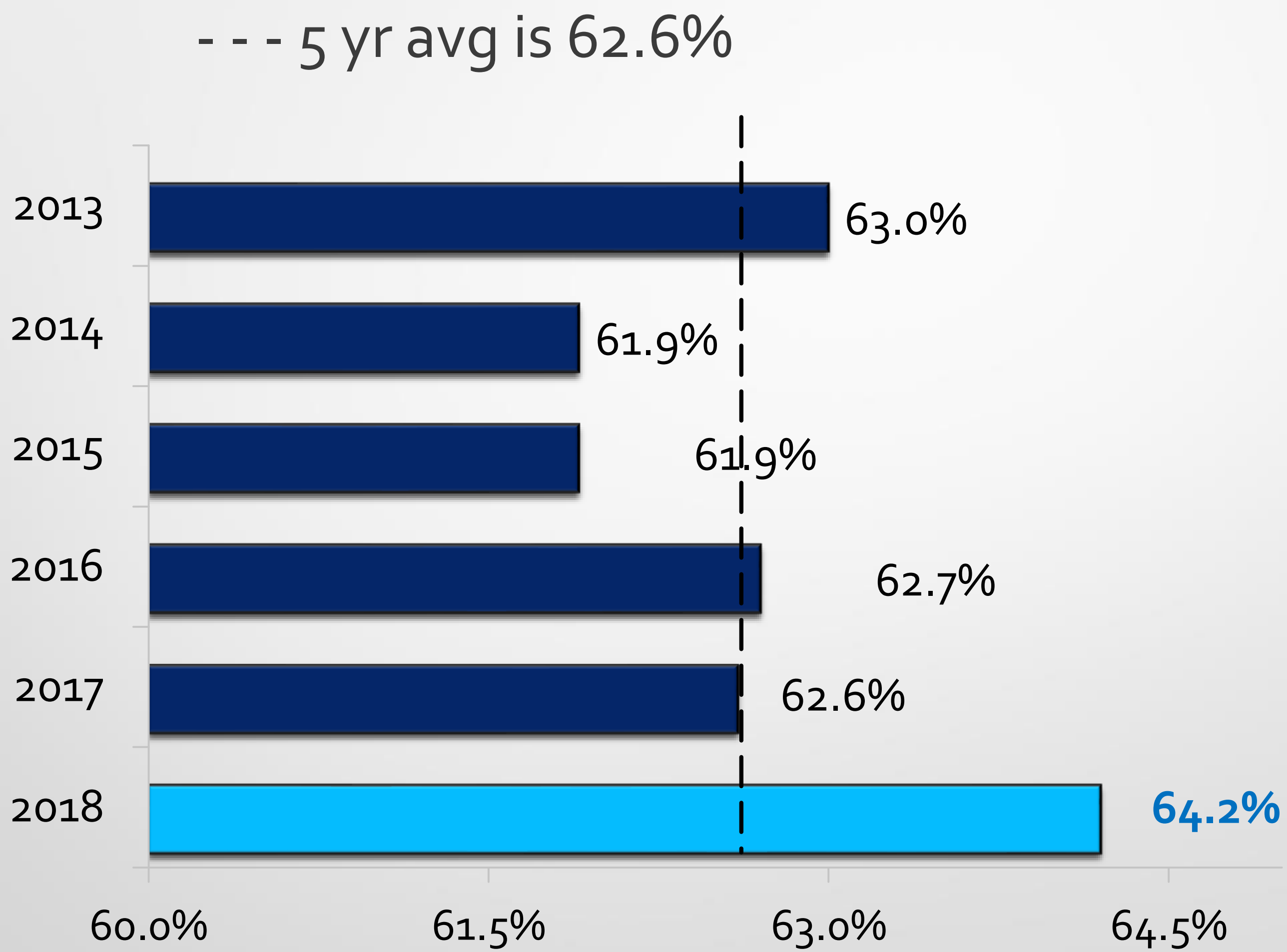
U.S. WHEAT ASSOCIATES



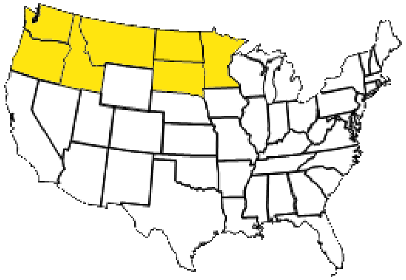
HRS –DON by Region (ppm)

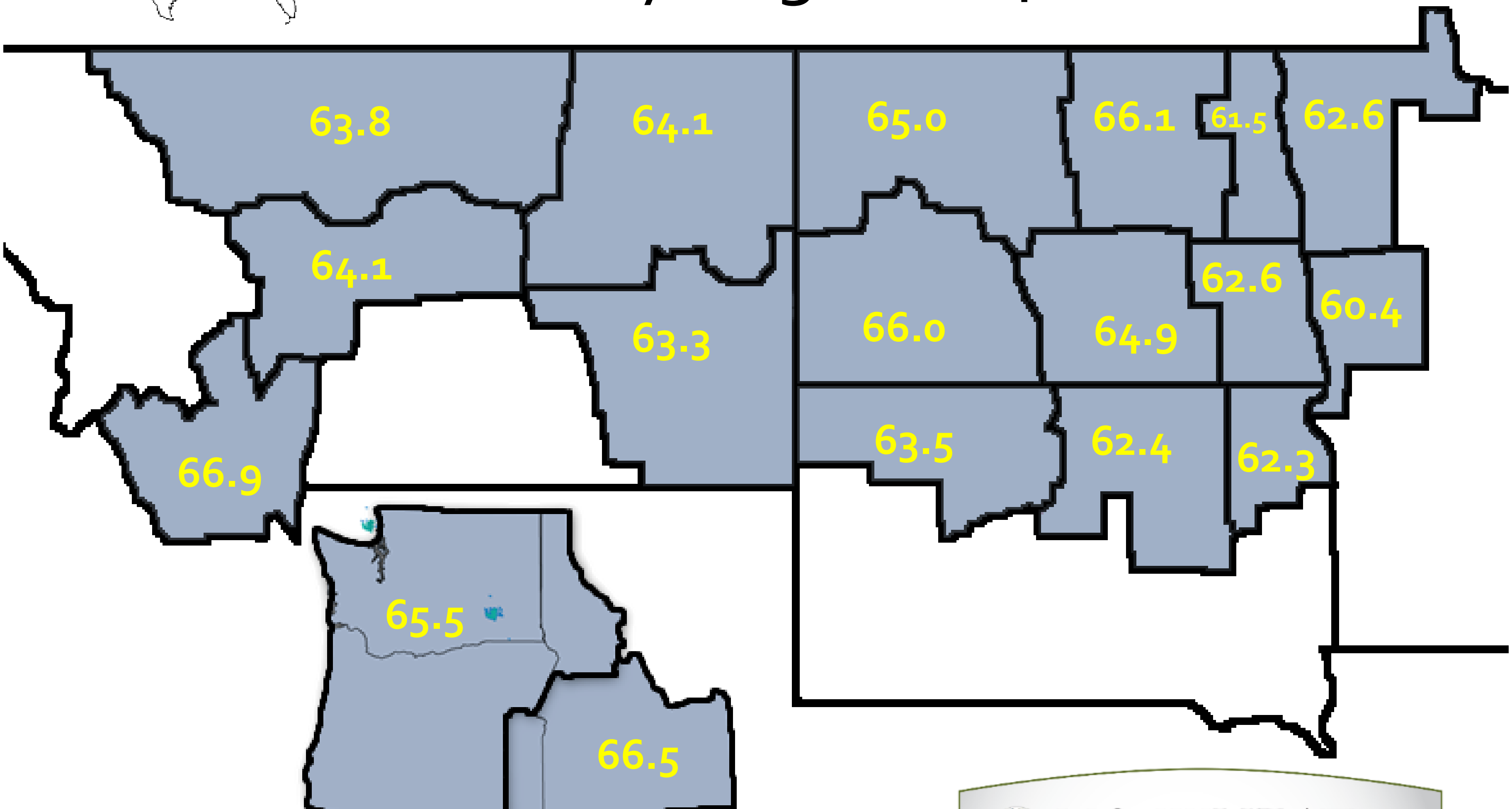


HRS: Farinogram Absorption



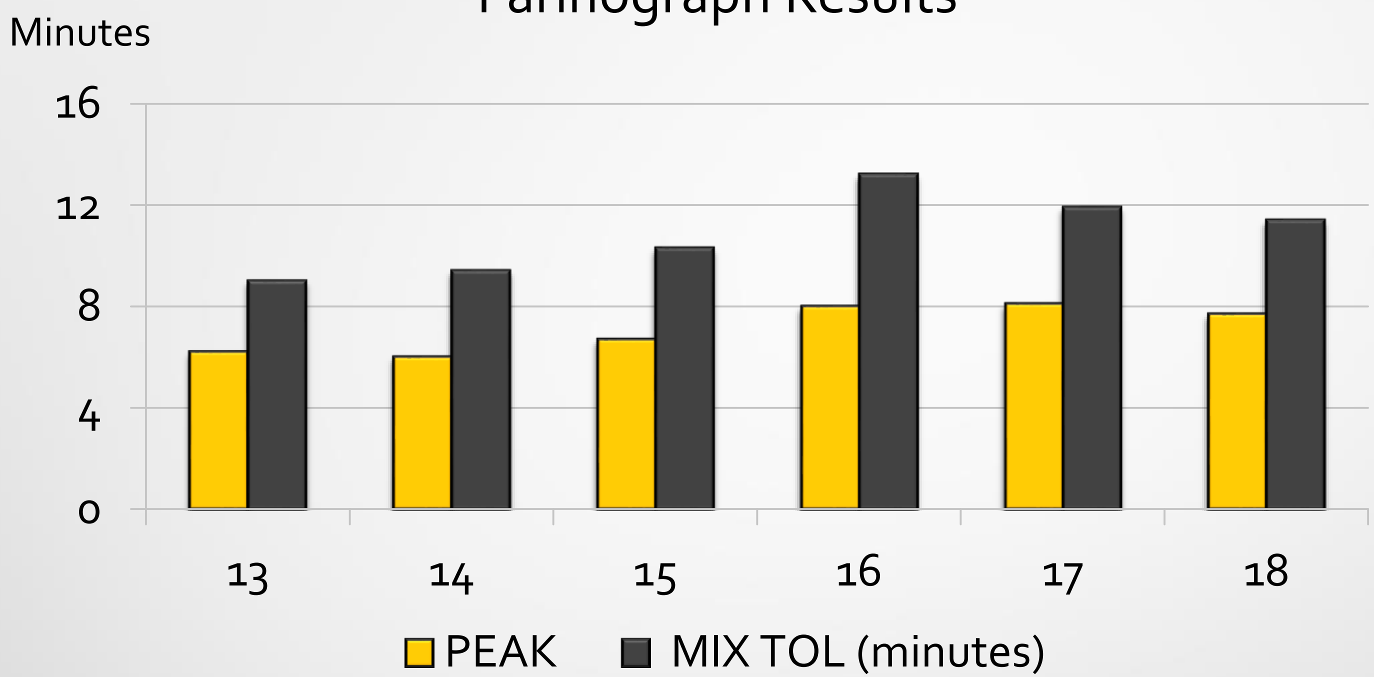
HRS –Farinograph Absorption by Region (14%)





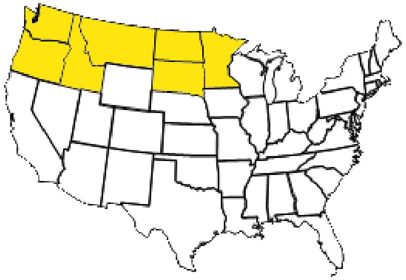
U.S. Hard Red Spring: Dough Quality

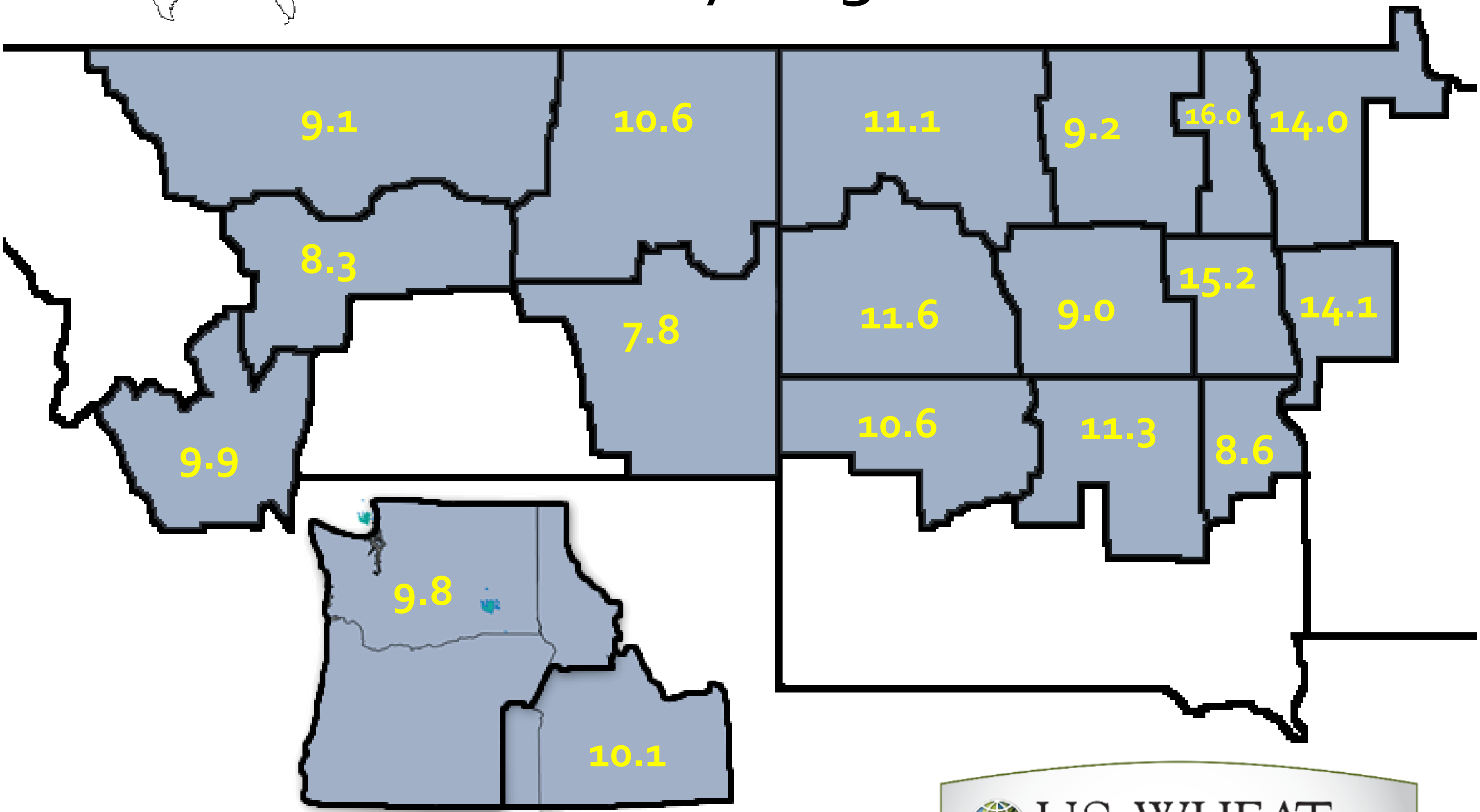
Farinograph Results



	13	14	15	16	17	18
Peak	6.2	6.0	6.7	8.0	8.1	7.7
Mix Tolerance	9.0	9.4	10.3	13.2	11.9	11.4

HRS –Farinograph Stability by Region (min)

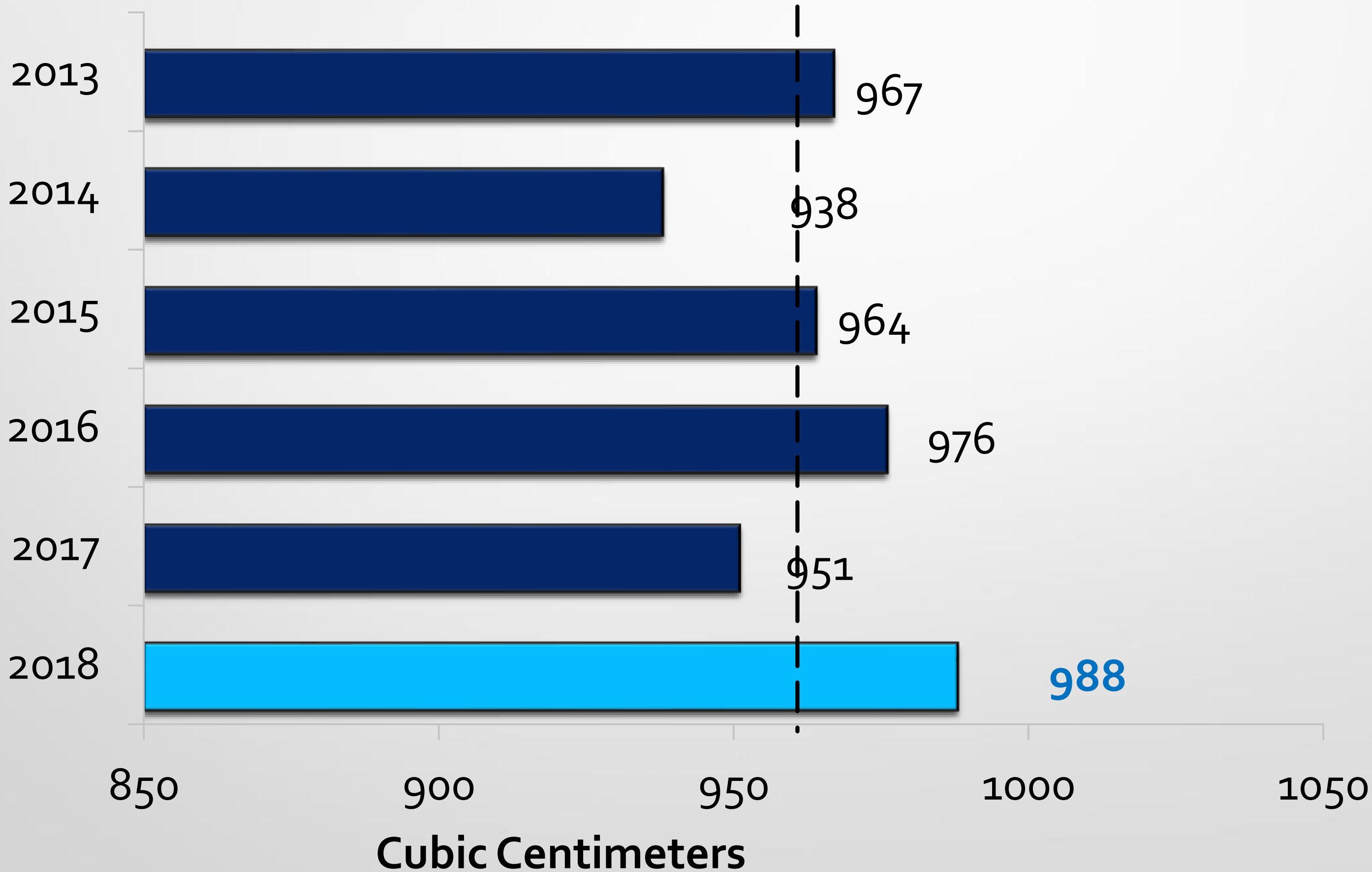




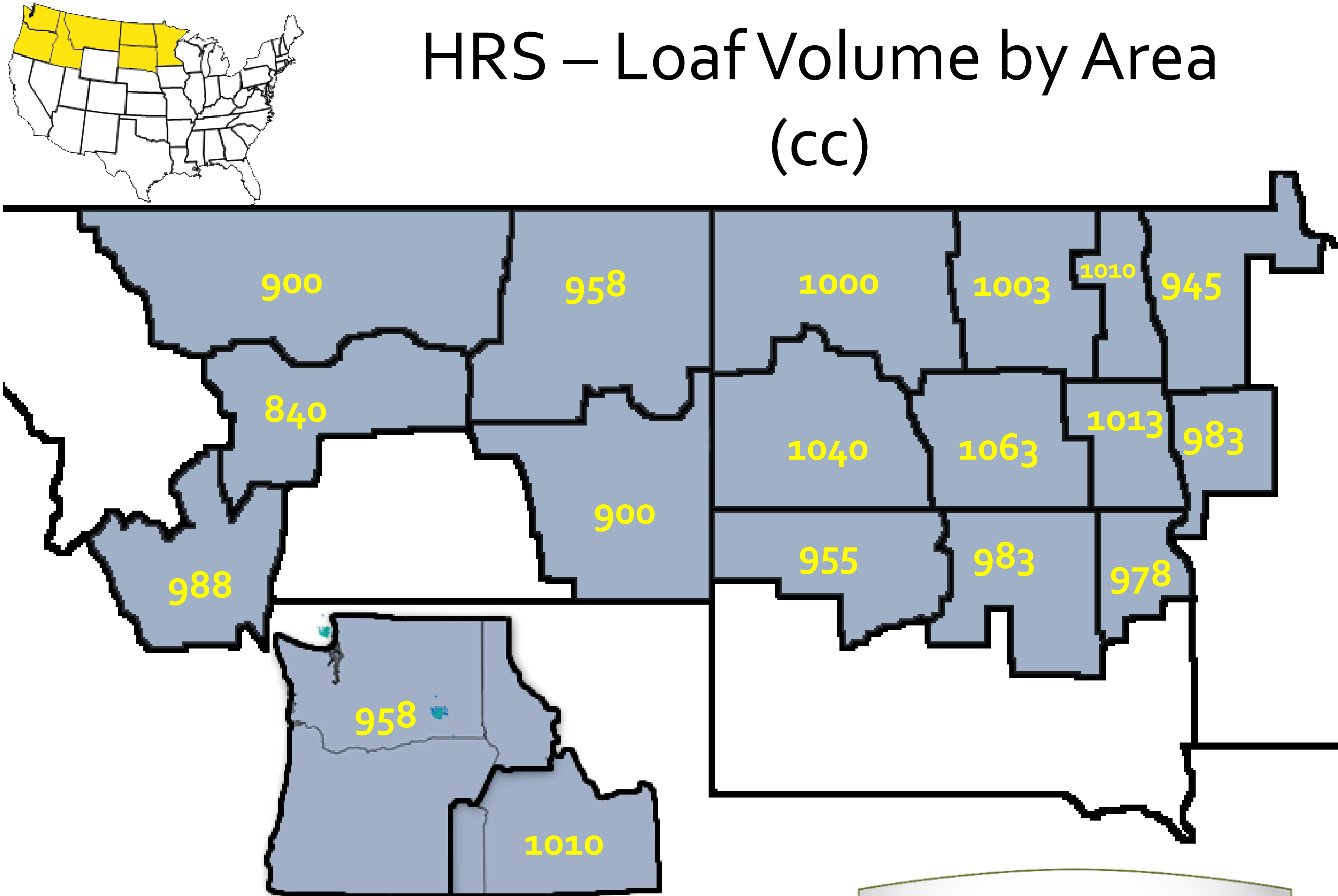
U.S. WHEAT ASSOCIATES

HRS: Loaf Volume

- - - 5 yr avg is 959 cc



HRS – Loaf Volume by Area (cc)



U.S. WHEAT ASSOCIATES

U.S. HARD RED SPRING SUPPLY & DEMAND

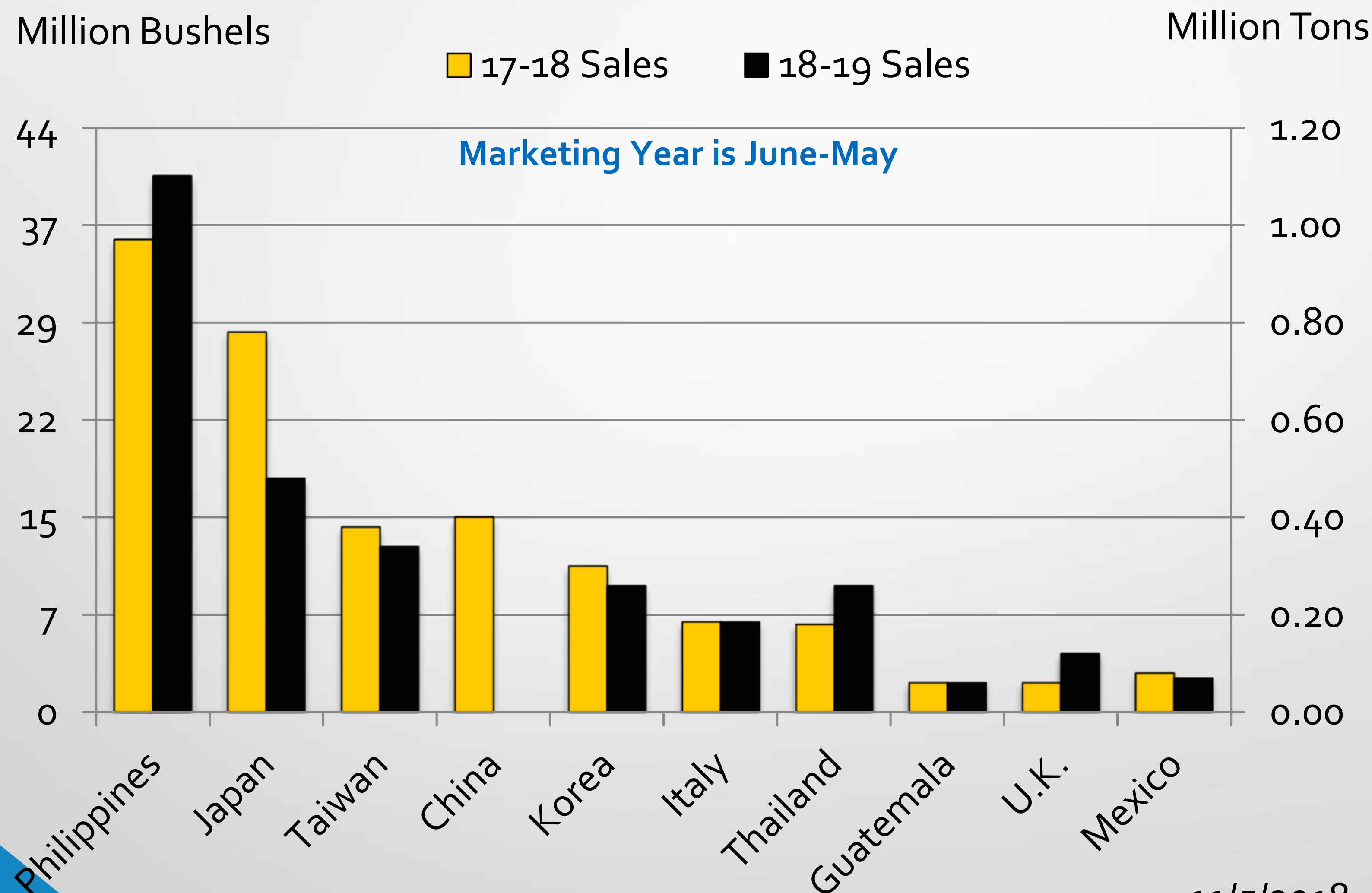
Million Bushels

	15-16	16-17	17-18	Proj 18-19	Change
Beg Stocks	212	272	235	**191**	-19%
Production	568	491	384	**587**	+53%
Imports	48	42	88	**70**	-20%
Tot Supply	828	805	707	**848**	+20%
Dom Use	304	249	288	**292**	+1%
Exports	252	321	228	**295**	+29%
Tot Use	556	570	516	**587**	+14%
End Stocks	272	235	191	**261**	+37%
S/U Ratio	49%	41%	37%	**44%**	

Source: USDA Oct 2018

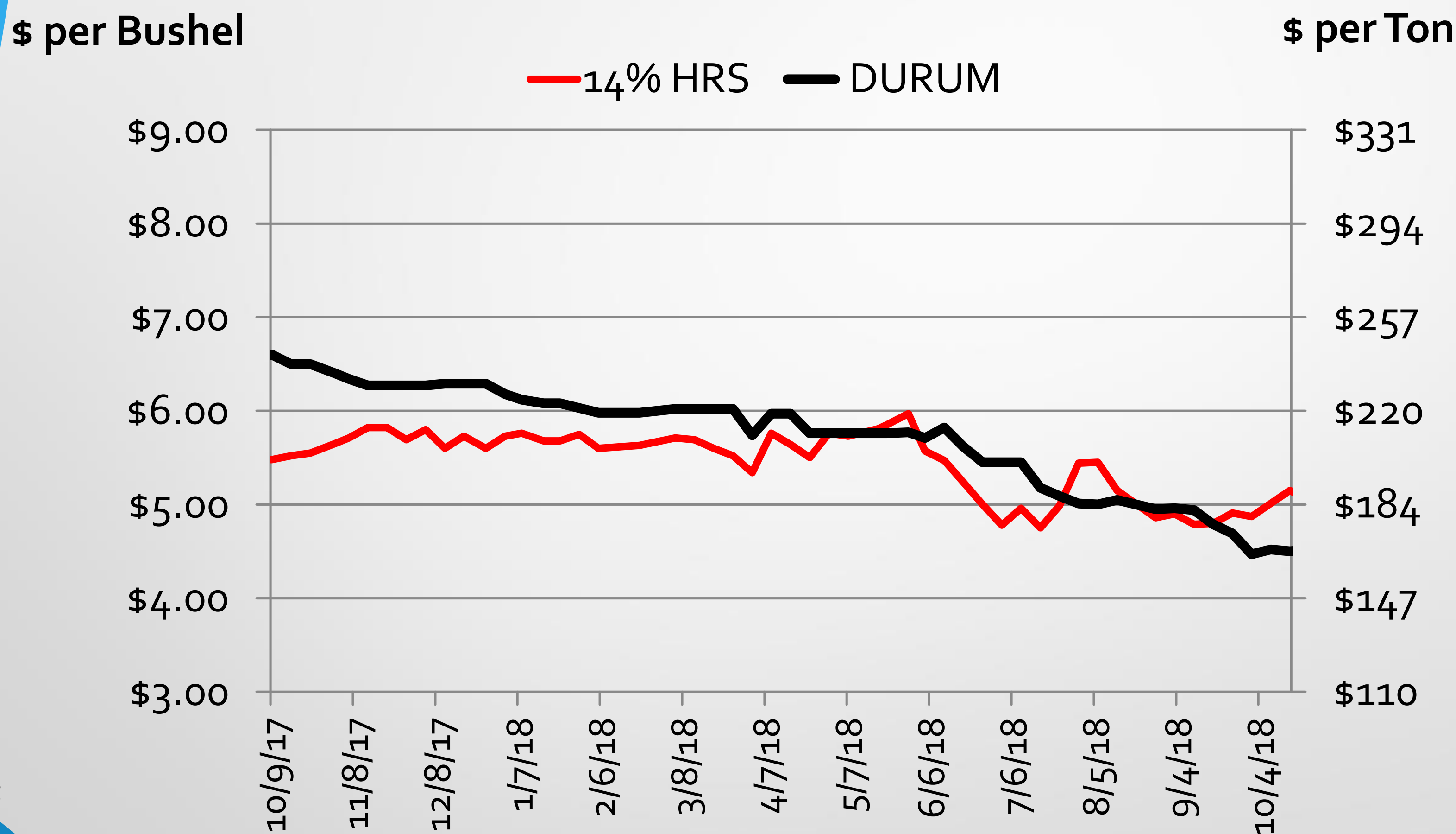
EXPORT SALES OF U.S. HRS WHEAT

(Year-to-Year comparison – As of October 18)



11/5/2018

Average N.D. Hard Red Spring and Durum Wheat Producer Bids (1 YR)

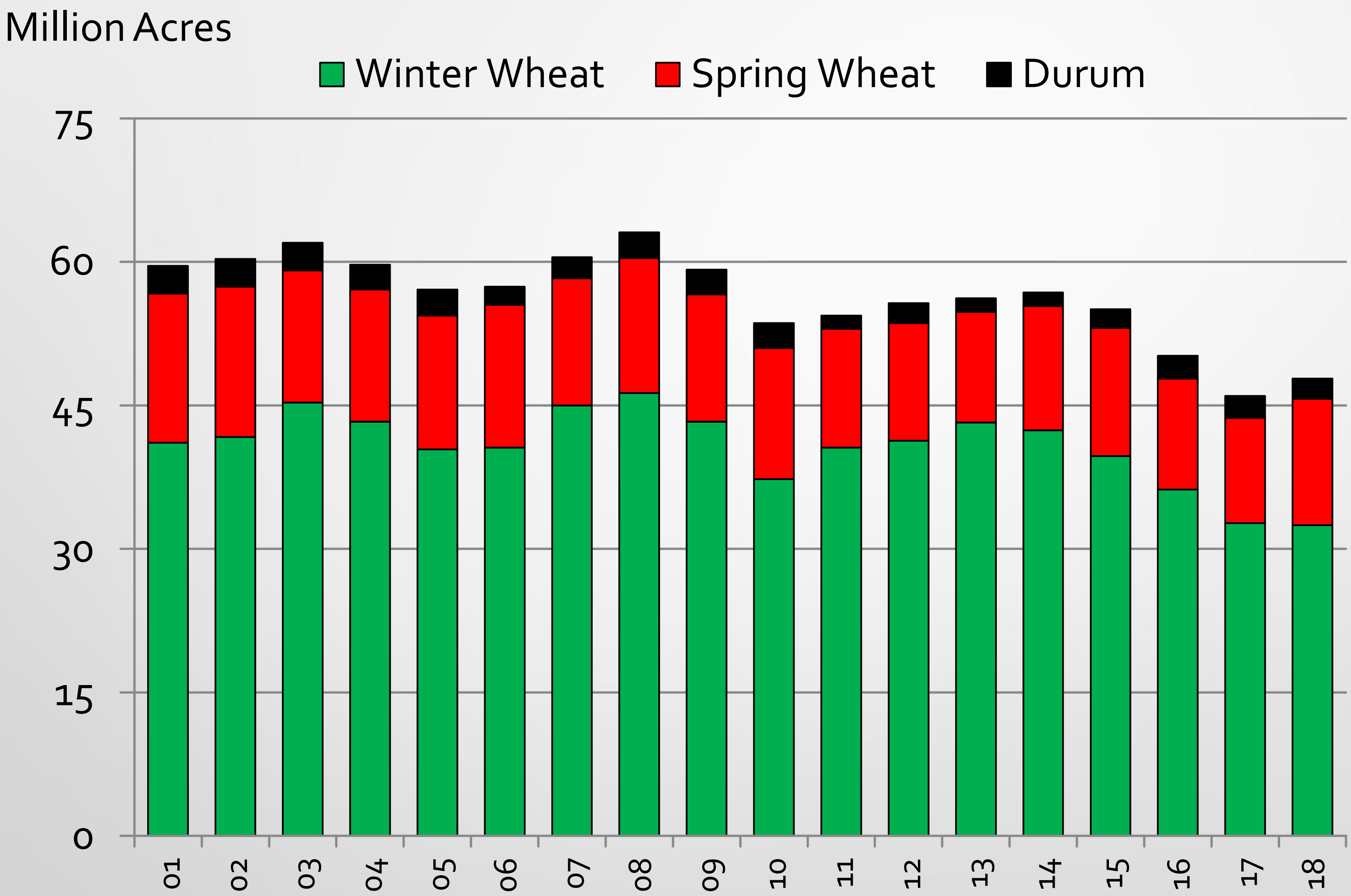


11/2/18
Source: AgWeek weekly prices

2018 Review

- World wheat situation tighter and more price positive, but stronger than expected sales from Black Sea region have stalled price gains this fall.
- Less of a price premium for higher protein, higher quality wheat classes like HRS…not due to less demand but relative supply shifts and above average protein in US HRW and HRS classes.
- Durum has fallen to a price discount to bread wheat classes in many markets.
- Large North African crops and no significant quality issues tempering durum prices.
- Trade uncertainty a new dynamic this year.

U.S. WHEAT PLANTED AREA



USDA Small Grains Summary

2019 Outlook

- **HRS acres being projected higher…good crop in 2018, lower prices and uncertainty with soybeans, and poor durum prices.**
- **HRW acres also projected higher..improved prices and good fall moisture…late soybean harvest will temper level of increase.**
- **Durum acres will decline again in 2019 at current price levels. Better returns on HRS… grower disappointment with high level of Canadian imports by U.S. mills.**
- **Resolution of U.S. and China tariff issues would likely shift crop choices.**

THANK YOU

QUESTIONS?