



COLLEGE OF AGRICULTURE
AND LIFE SCIENCES
COOPERATIVE EXTENSION

Department of
Agricultural and
Resource Economics

AZ's Alfalfa Market Situation and Risk Management Considerations



U.S. Department of Agriculture
Risk Management Agency

by

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Livestock Monitor Market Situation Newsletter Livestock Marketing Information Center State Extension Services in Cooperation with the USDA



Market Indicators . . .

March 22, 2019

DECEMBER 1 HAY STOCKS DECLINE

December 1 hay stocks declined nationally for the third year in a row to 79 million tons, the smallest December 1 figure since 2012. Texas inventories were hit the hardest, losing over 2 million tons in inventory from last year. Texas hay inventory lost over 30% the previous December as well, making 2018's stock number the lowest state number since 2011. Wisconsin and Missouri also had significant reductions in stocks of 900 thousand tons each. This was the smallest December figure for Missouri since 1983, and Wisconsin dipped below 2 million tons, sitting at the lowest value in our dataset back to 1973. Declines in hay inventories were widespread through the U.S. with declines seen in the Southern Plains, Southwest, California, upper Midwest and Mid-Atlantic States.

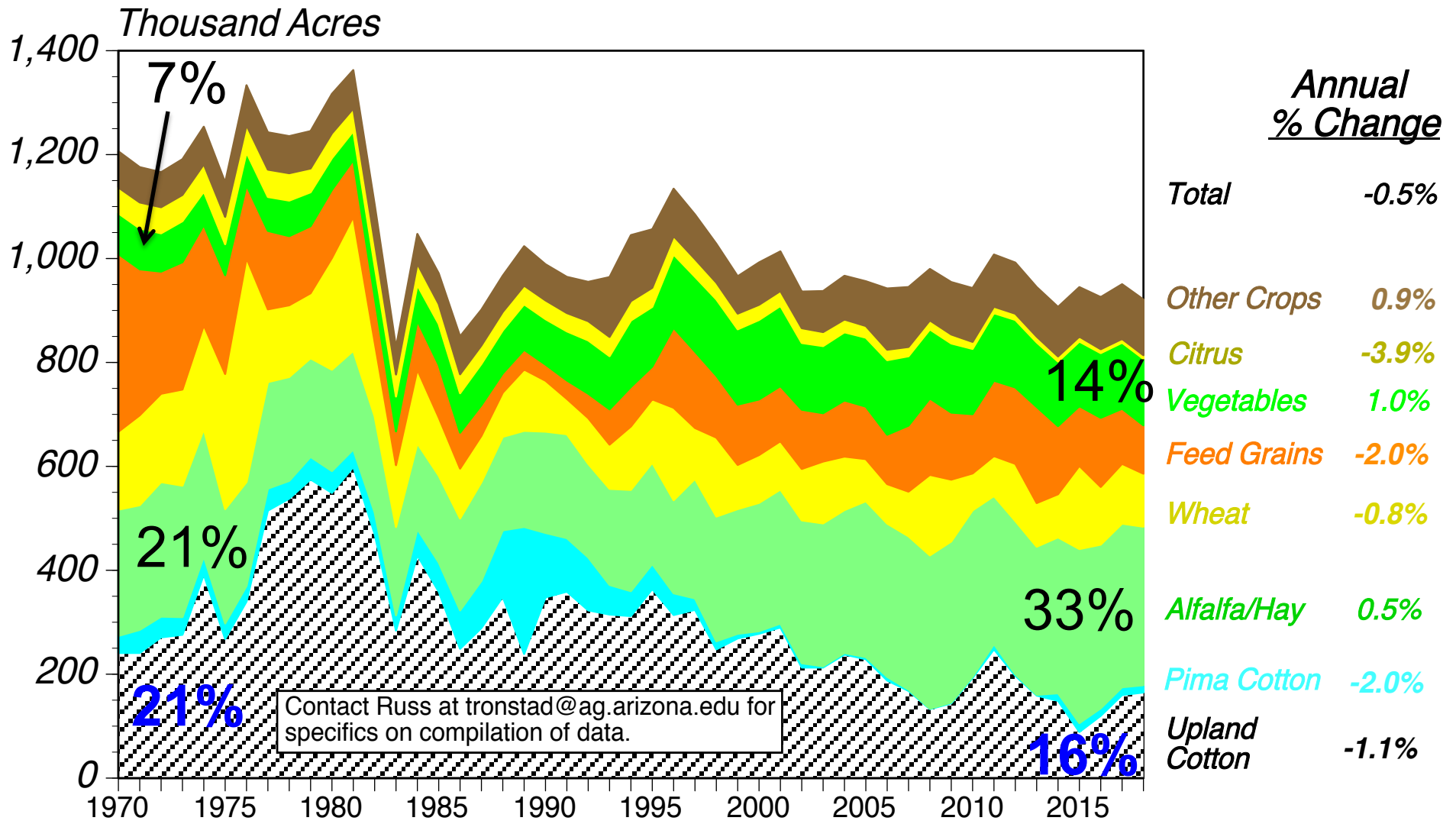
USDA NASS provided an October forecast for hay this year. Historically, estimated hay acres are provided in the June Acreage report and are unrevised until the final value. For 2018, hay acres were revised in the October estimate and offered a large gain in acres expected to be harvested. June Acreage showed a modest gain overall in total hay acres from the previous year up 4.3% or adding 2.3 million acres. The October revision showed another boost of 4.5 million acres putting the expected harvested acres 11% above a year ago. The final harvested acres finished the year 62 thousand acres over the 2017/18 marketing year.

Hay acres harvested are among the more difficult acres to estimate. This year's price profile also left something to puzzle over as hay prices climbed through most of the marketing year. Since August, all hay prices have been over \$20 per ton higher. The revision of the final hay estimate fits much closer to the yield rumors of poor growing conditions in the Southern Plains, Southwest and California. Given tight inventories and high prices, acreage is expected to be higher for 2019. Prospective plantings in the last three marketing years has overestimated the final harvested acres count, and given the swing between acreage estimates this year, it may be difficult to assess the production picture until well into the marketing year.

	Last	Week Ago	Year Ago
	130.00	127.14	125.90
	207.59	204.25	201.79
	228.95	227.70	224.18
	9.09	9.06	10.09
	160.18	152.77	156.08
	61.76	51.84	54.68
	63.78	58.83	65.01
	79.30	70.05	74.56
	74.92	67.92	71.40
	329.26	331.23	328.88
	1.62	1.61	1.57
	3.70	3.63	3.49
	8.82	8.66	10.03



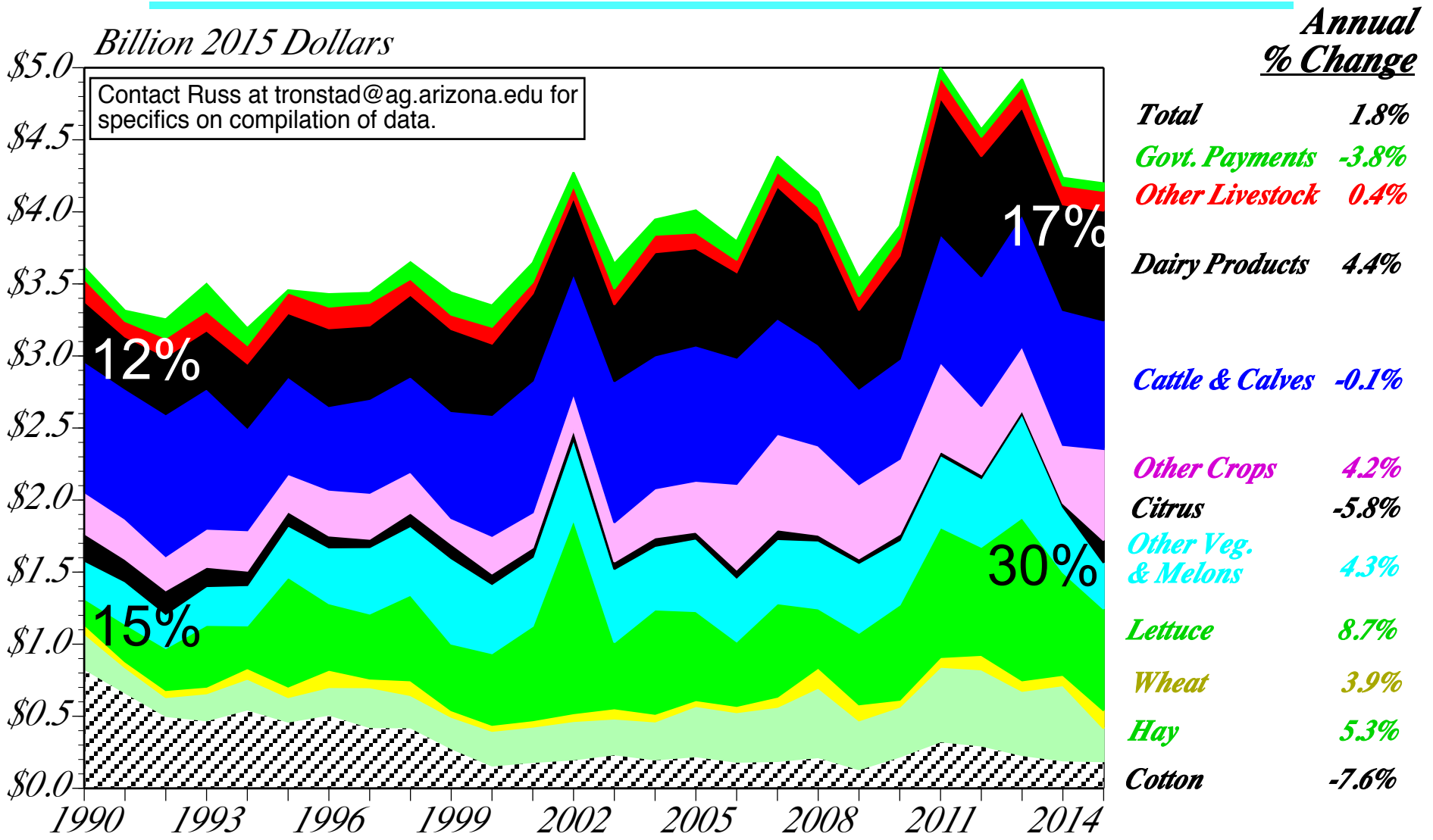
AZ Crop Acres, 1970-2018



Source: Arizona Agricultural Statistics & Ag Census Data

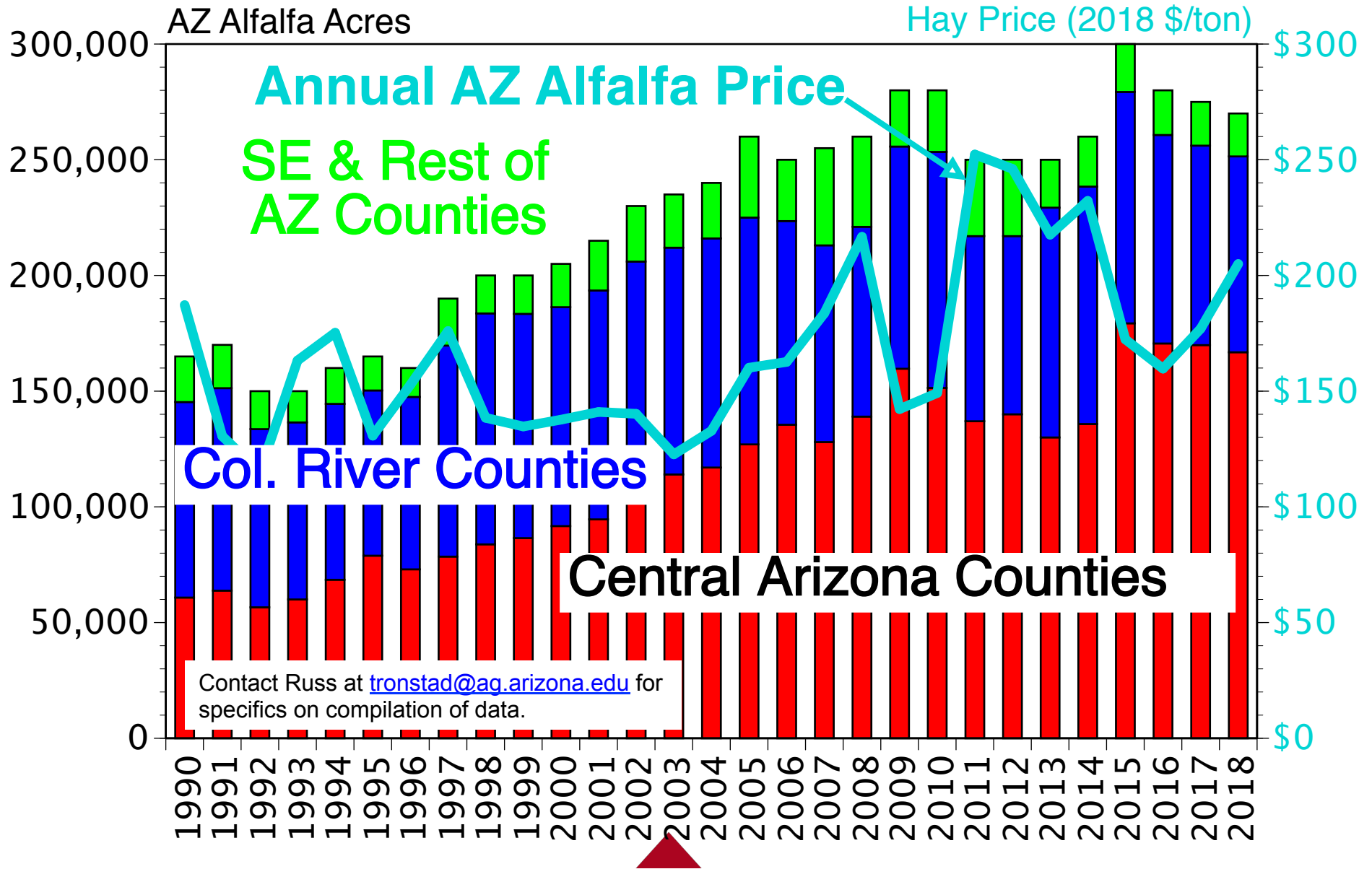


AZ Cash Receipts, 1990-2015

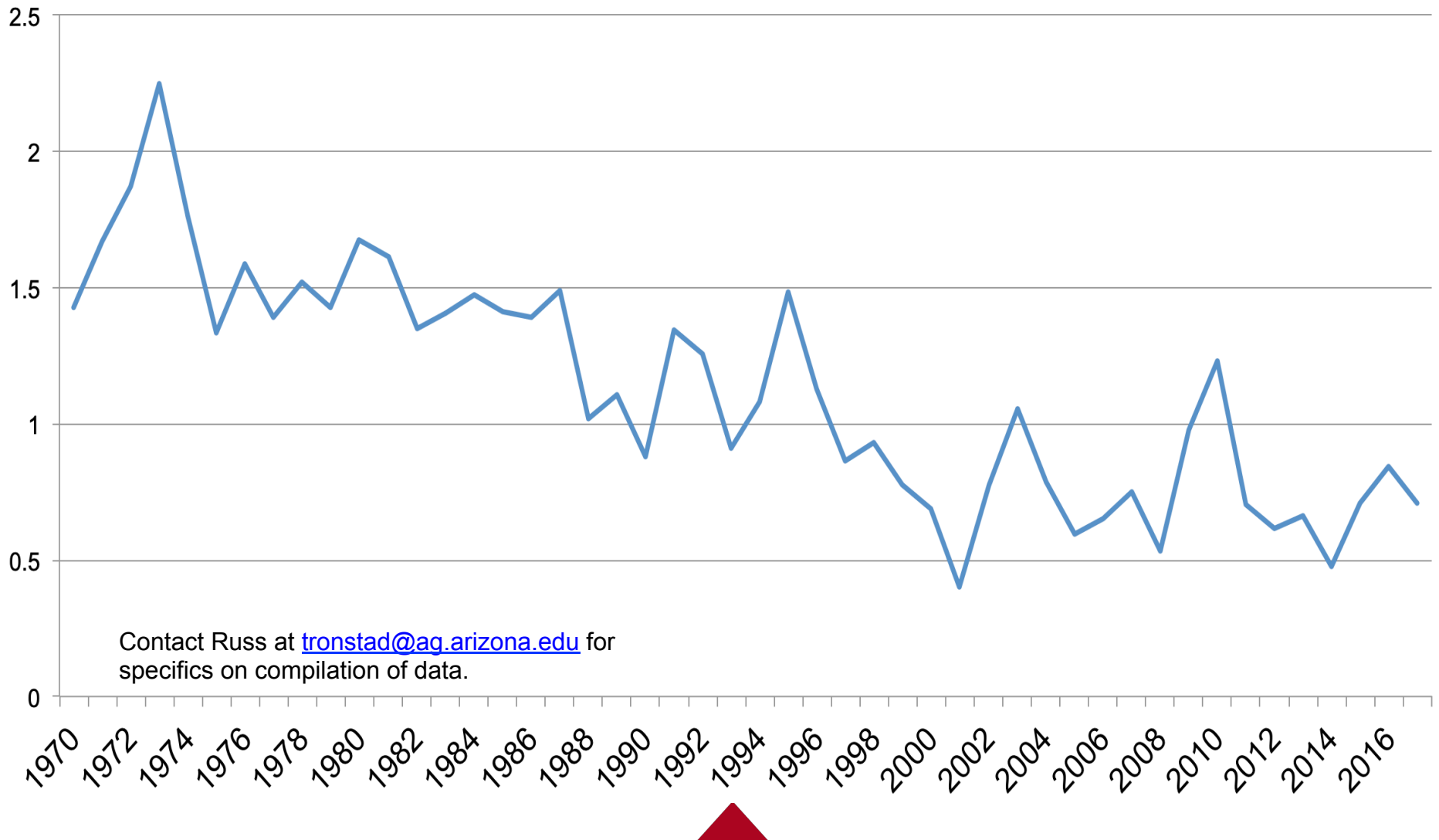


Source: Arizona Agricultural Statistics and Ag Census, various years
 Revenues are deflated by the Consumer Price Index for all goods, 1982-84=100

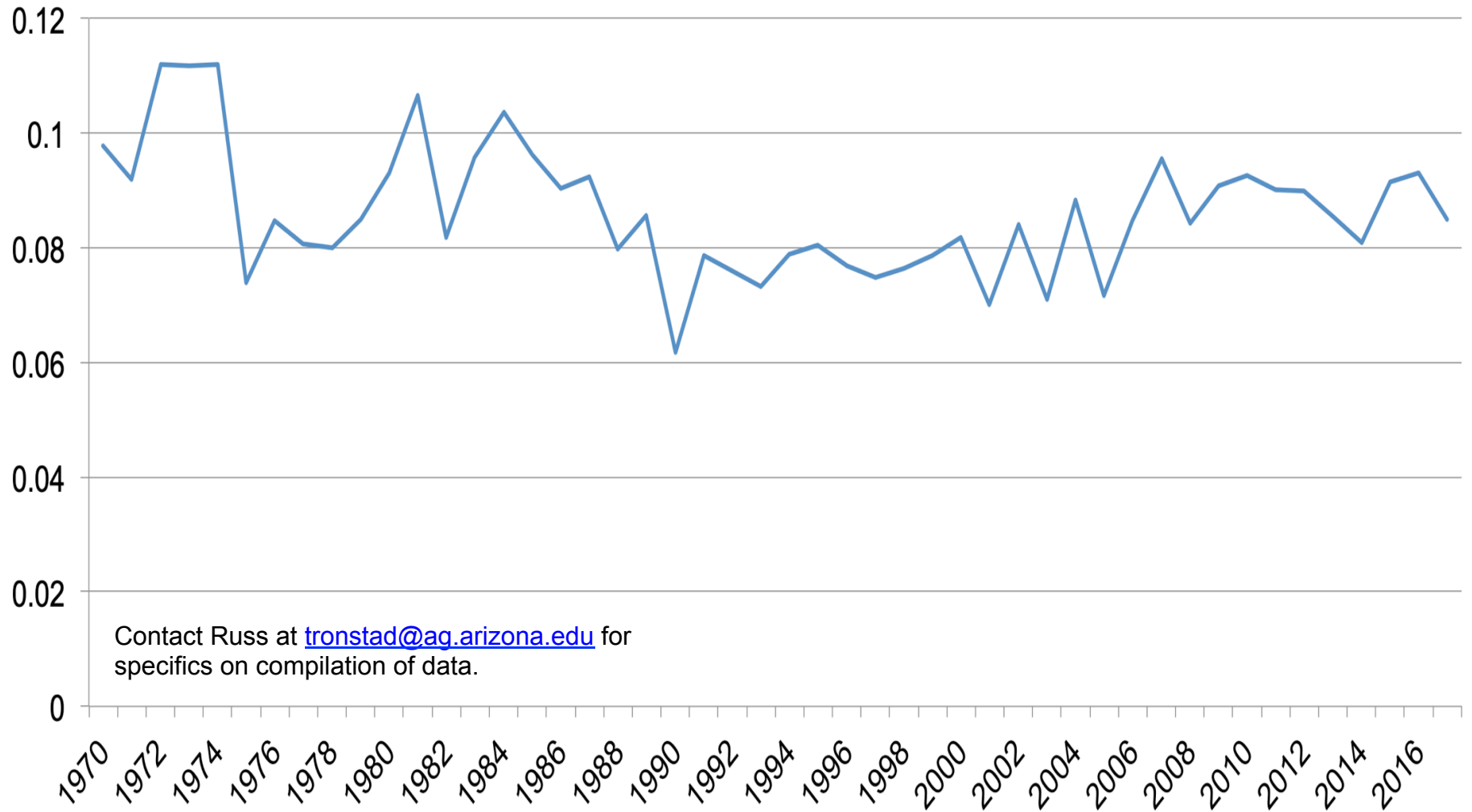
AZ Alfalfa Acres & Price, 90-18



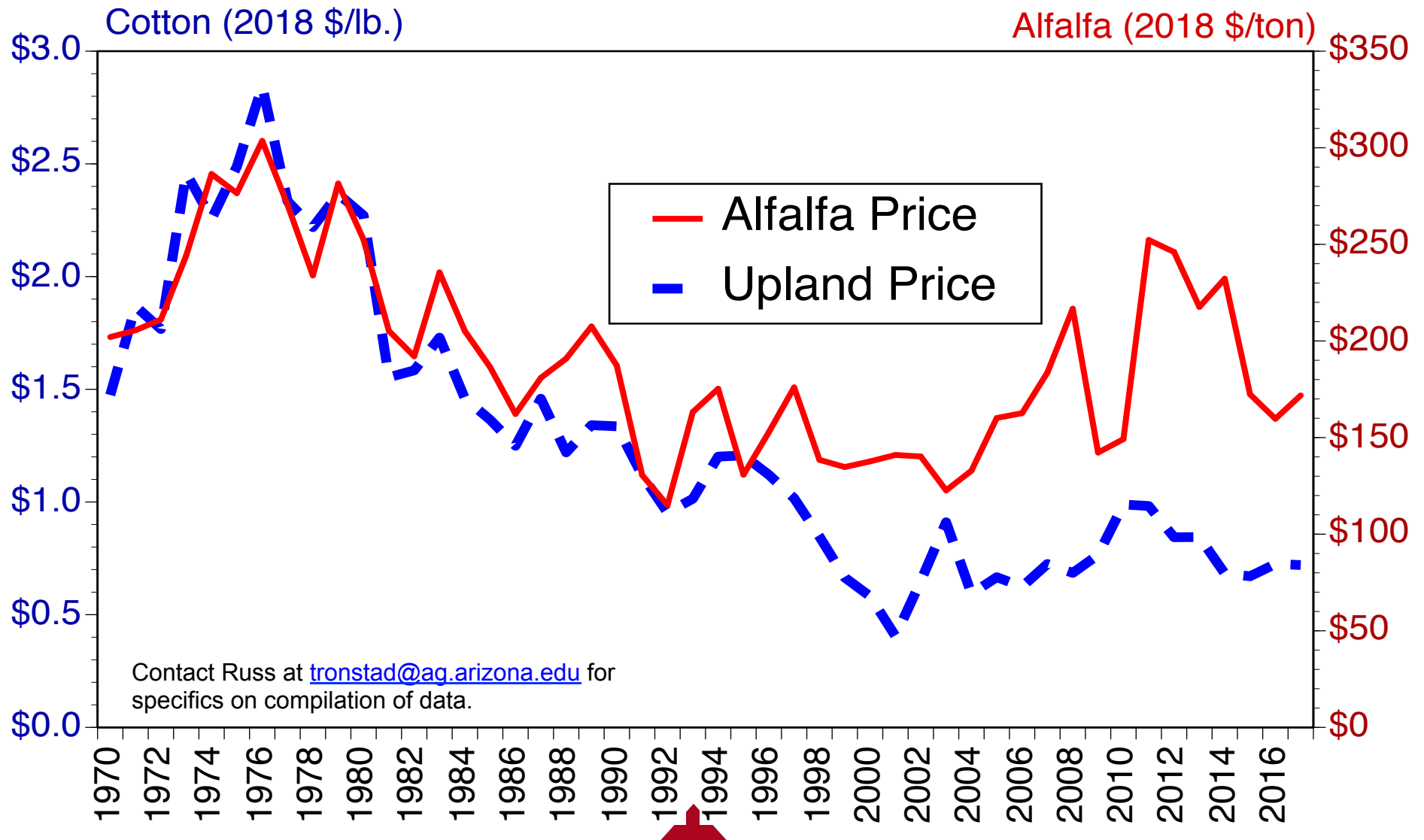
Ratio of Upland to Alfalfa Revenues Per Acre, Pinal County Ylds. (1970-2017)



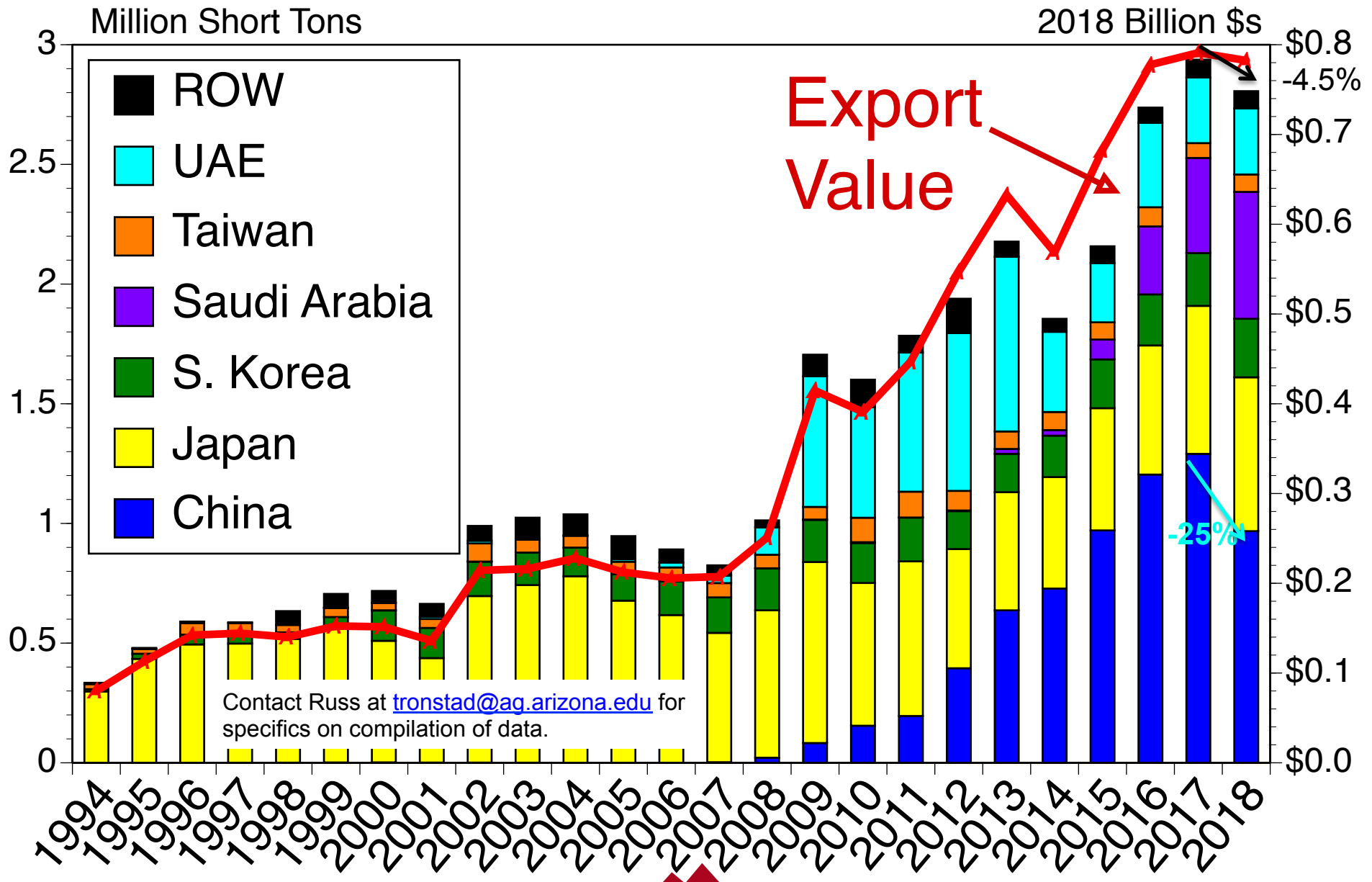
Ratio of Upland / Alfalfa Yields, lbs. Per Acre, Pinal County Ylds. (1970-2017)



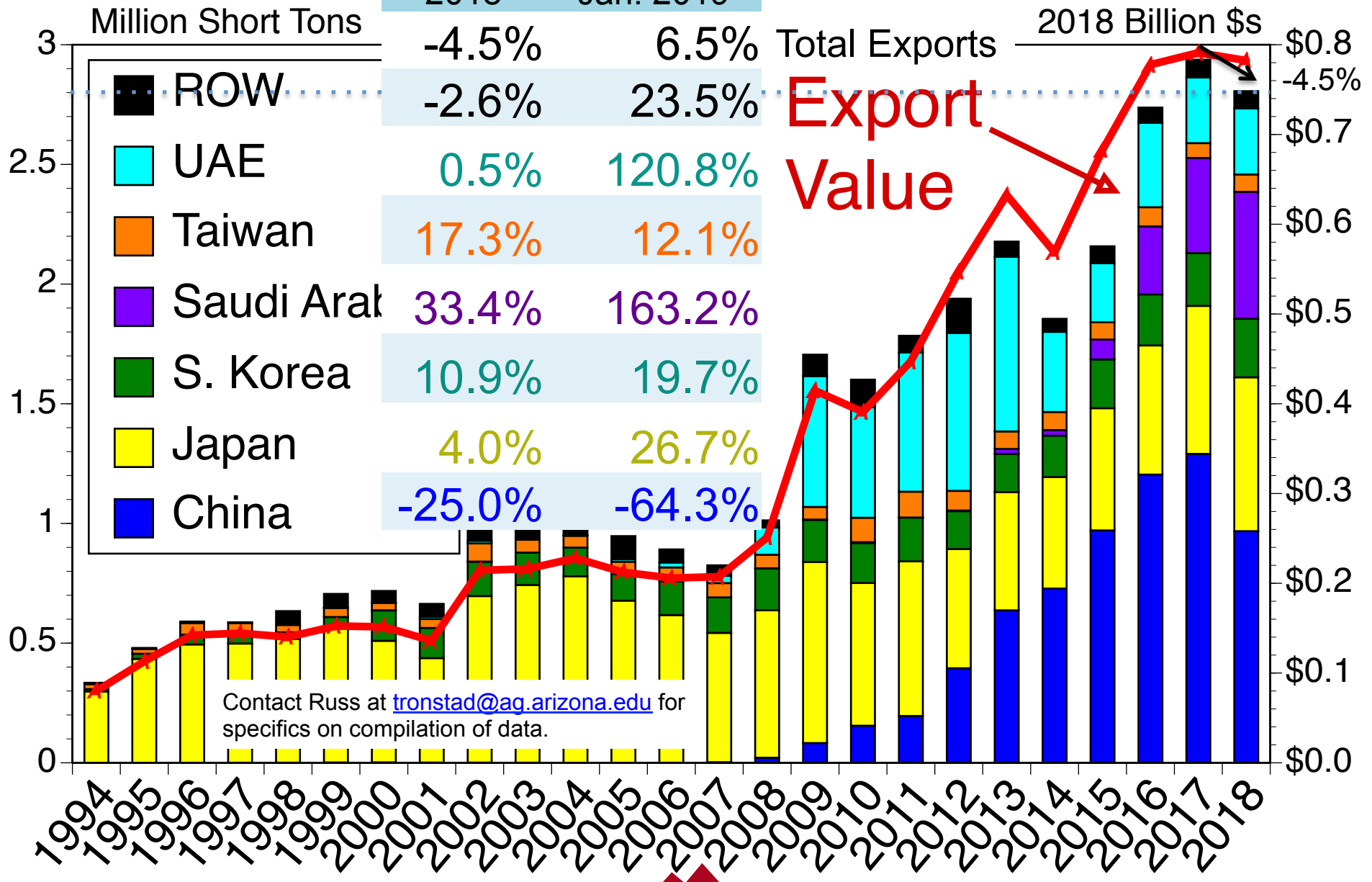
Prices (Real, 2018 \$) for AZ Upland and Alfalfa, 1970 - 2017



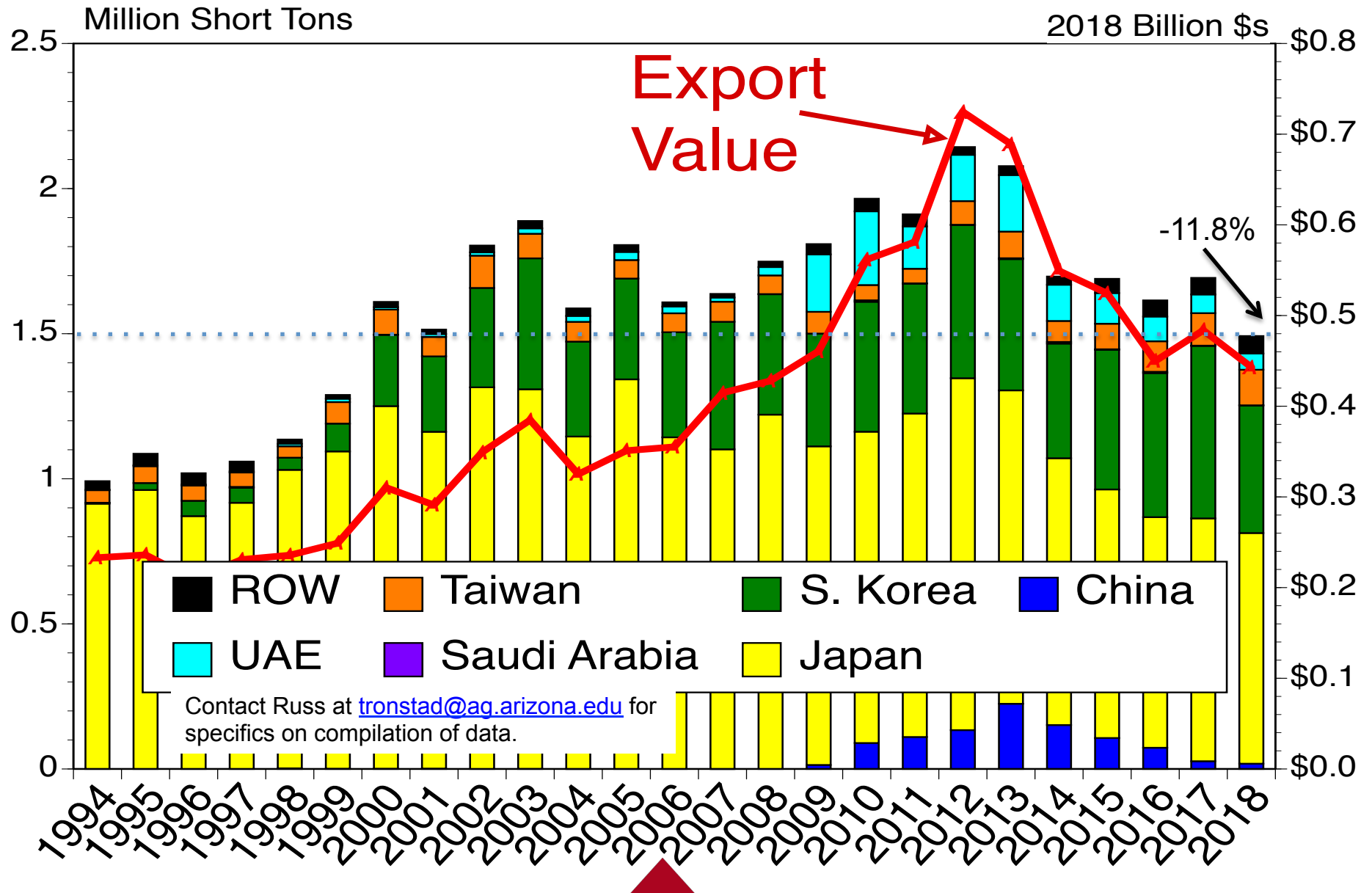
Alfalfa Exports by Country



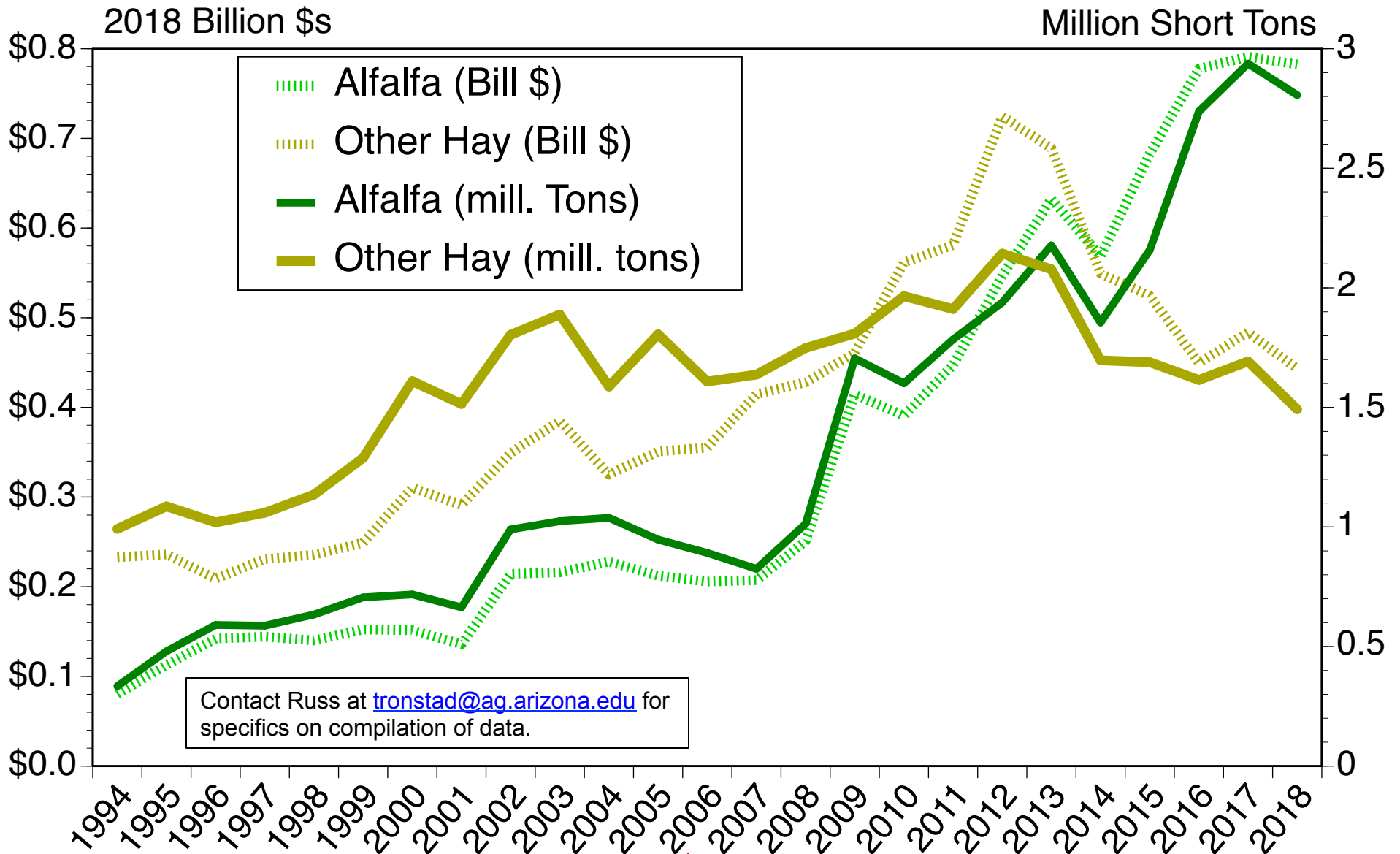
Alfalfa by Country



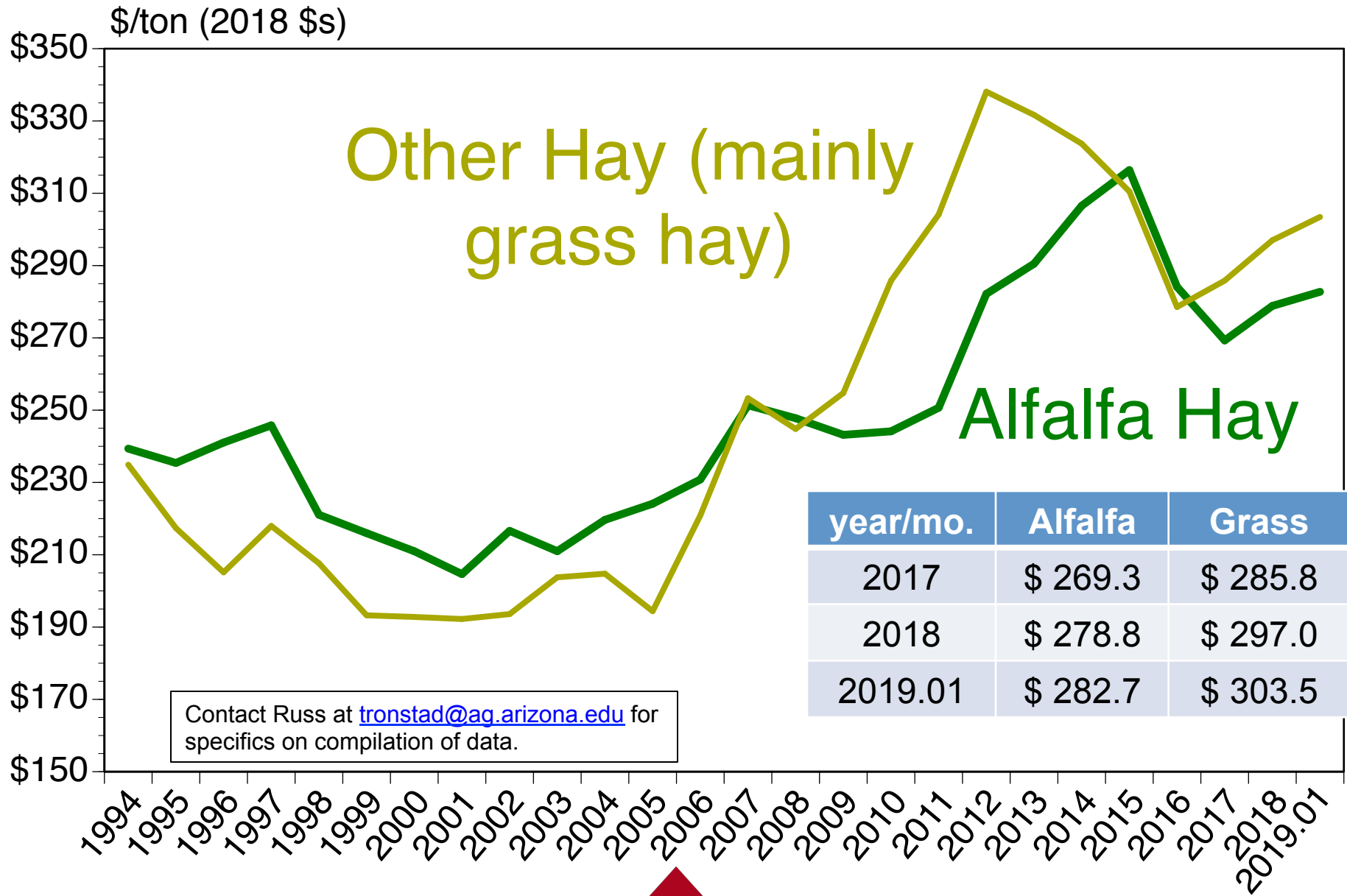
Grass Hay Exports by Country



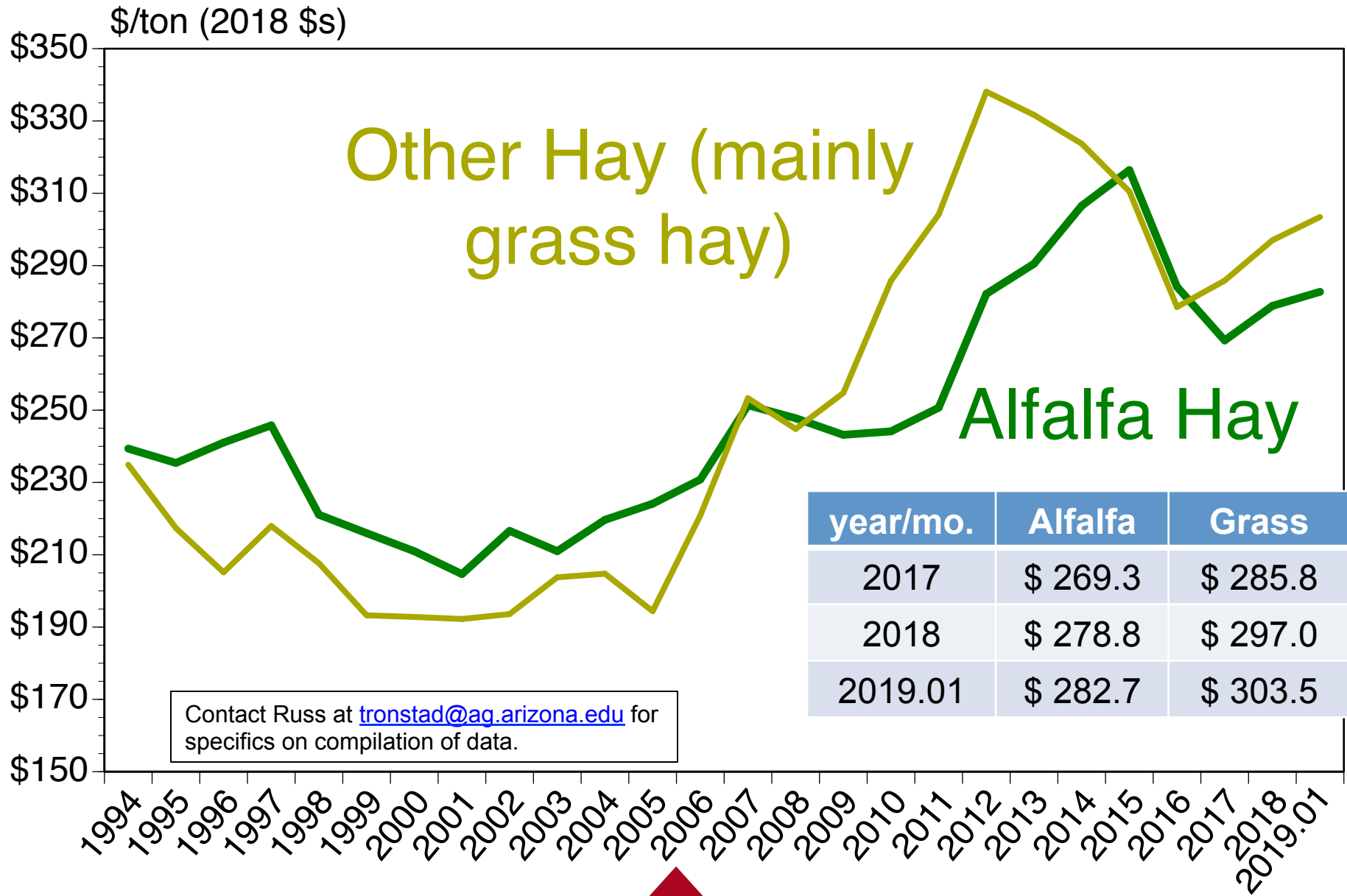
Exports for Alfalfa & Grass Hay



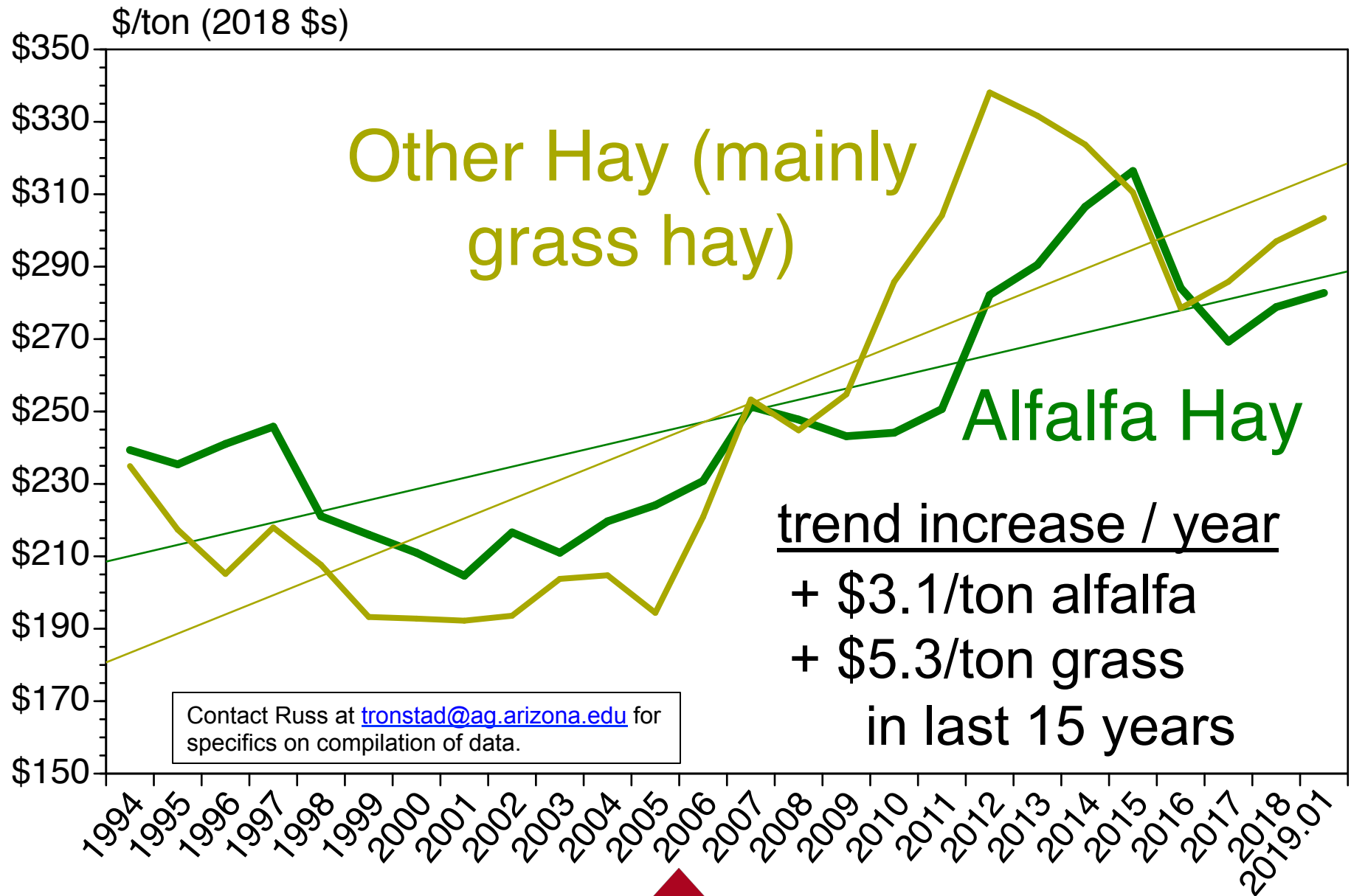
Price (\$/ton) for Hay Exports



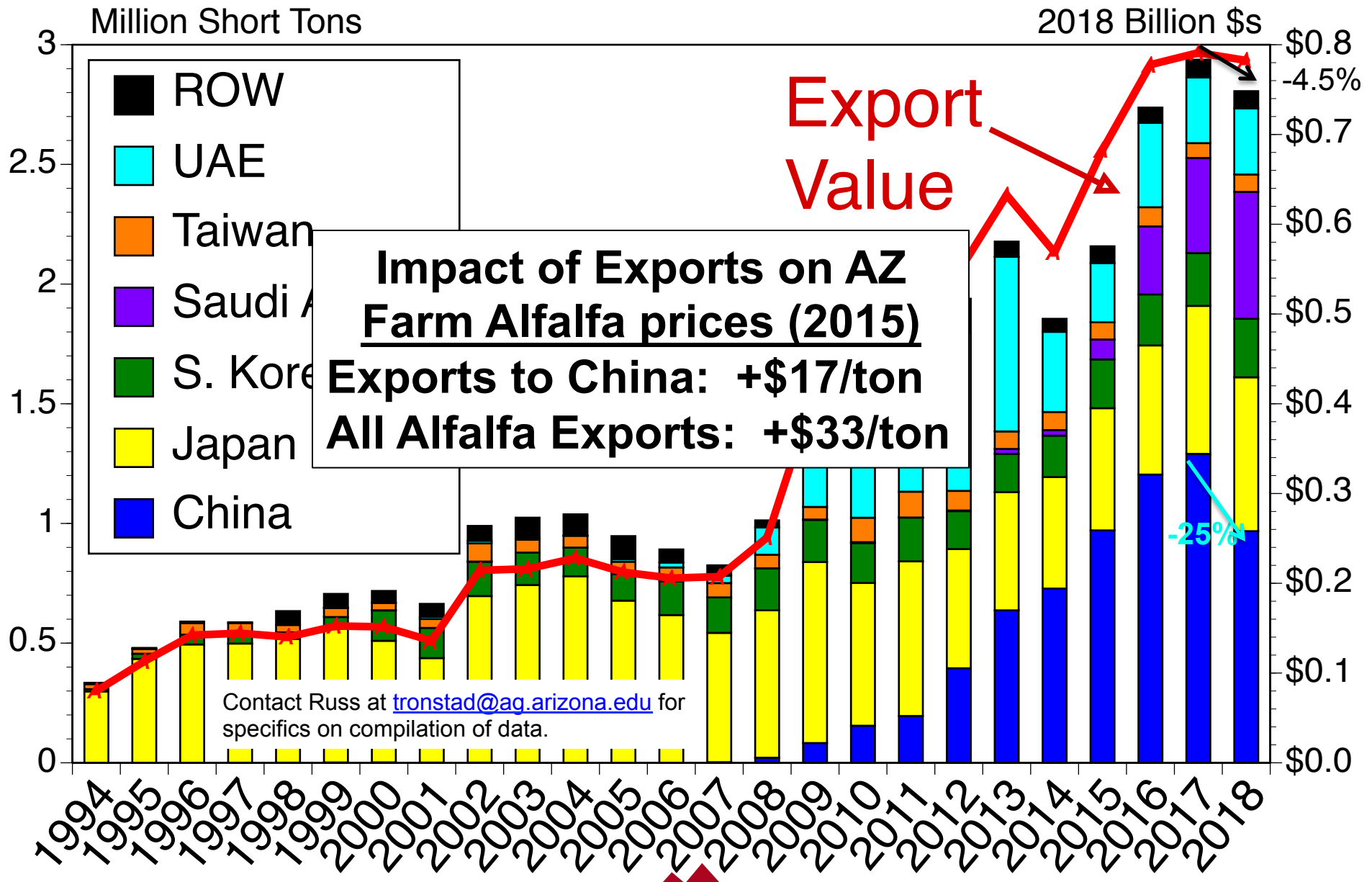
Price (\$/ton) for Hay Exports



Price (\$/ton) for Hay Exports



Alfalfa Exports by Country



2017's Increase in Value of Alfalfa Produced from Exports

	Value to AZ (million \$s)	Value to 7 Western States (million \$s)
Alfalfa Exports to China: 2017	\$ 39.3 (\$138/acre)	\$ 309.2
All Alfalfa Exports: 2017	\$ 76.2 (\$267/acre)	\$600.3



China

\$21.4 billion U.S. Agricultural Exports, 2016

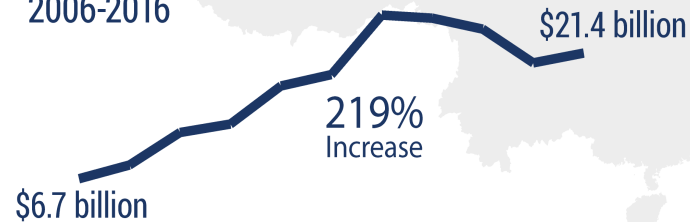
Top 5 U.S. Exports

- 1 Soybeans (\$14.2 billion)
- 2 Course Grains* (\$1.0 billion)
- 3 Hides & Skins (\$949 million)
- 4 Pork (\$578 million)
- 5 Cotton (\$550 million)

*Excluding Corn

Export Growth

2006-2016



#1

Among U.S.
Agricultural Export
Markets, 2016

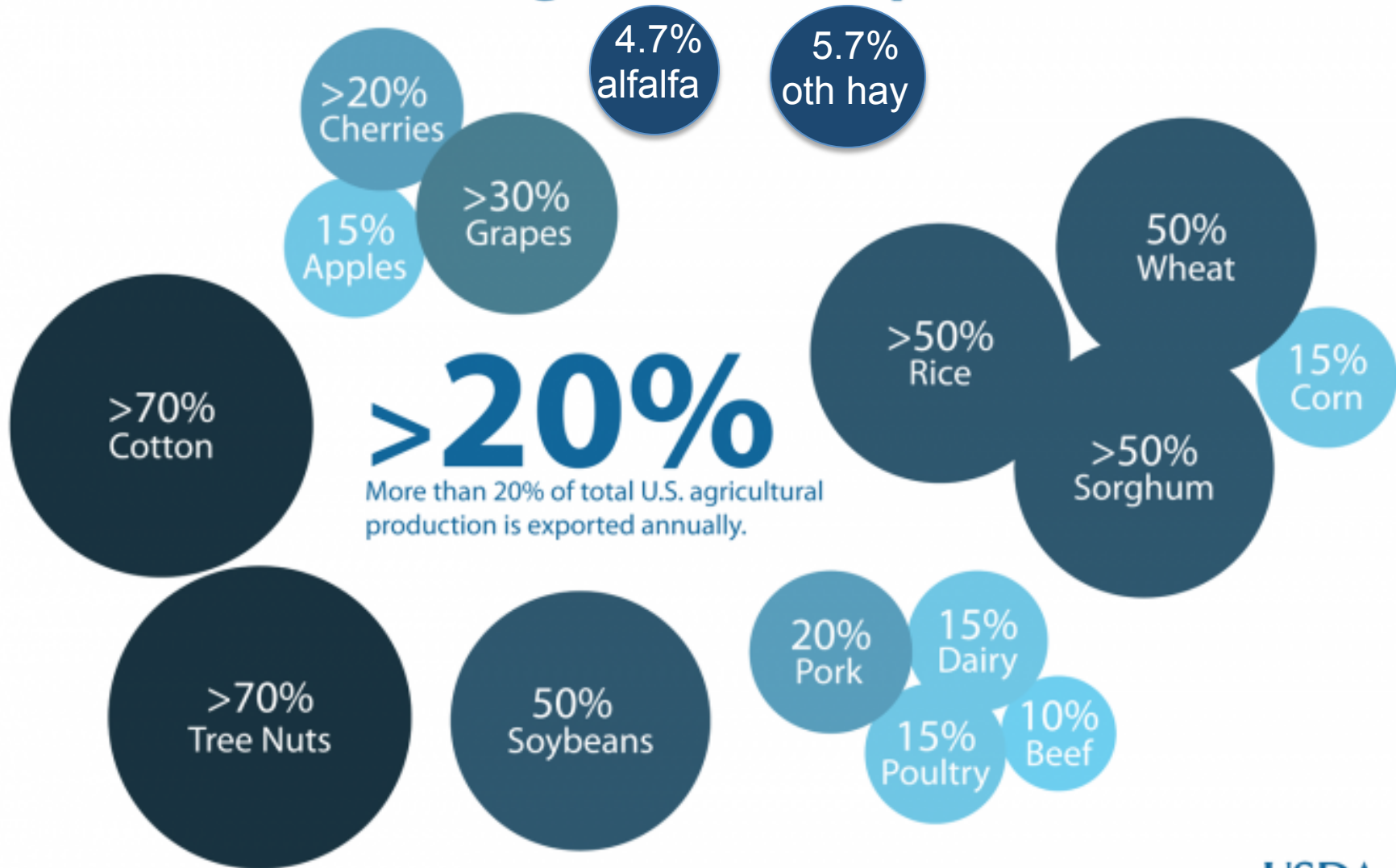
Twitter: @USDAForeignAg Website: www.fas.usda.gov

Source: FAS Global Agricultural Trade System (GATS) BICO HS- 6

United States Department of Agriculture
Foreign Agricultural Service



Share of U.S. Agriculture Exported in 2016

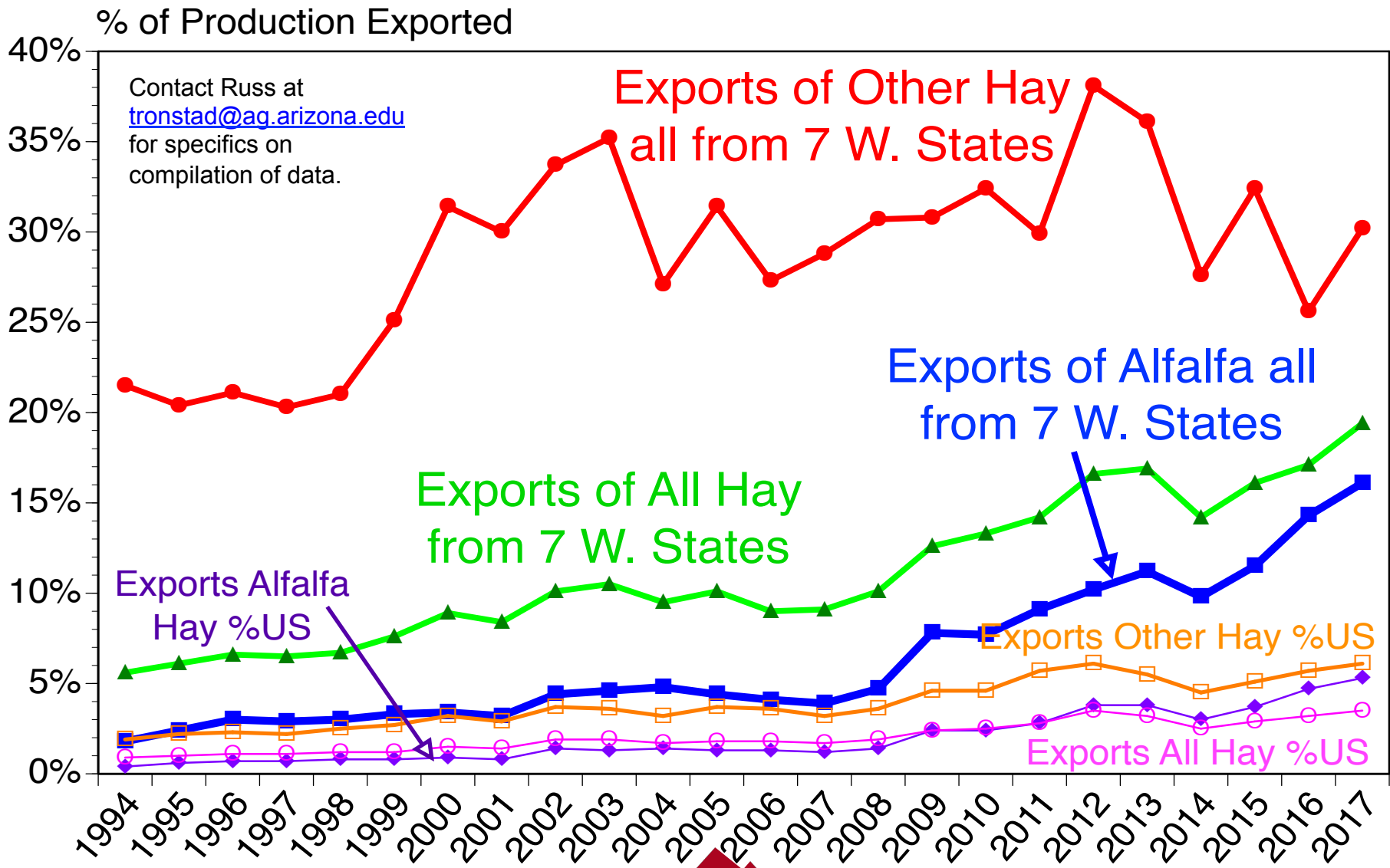


Twitter: @USDAForeignAg Website: www.fas.usda.gov
Source: USDA-FAS Global Agricultural Trade System (GATS)

United States Department of Agriculture
Foreign Agricultural Service

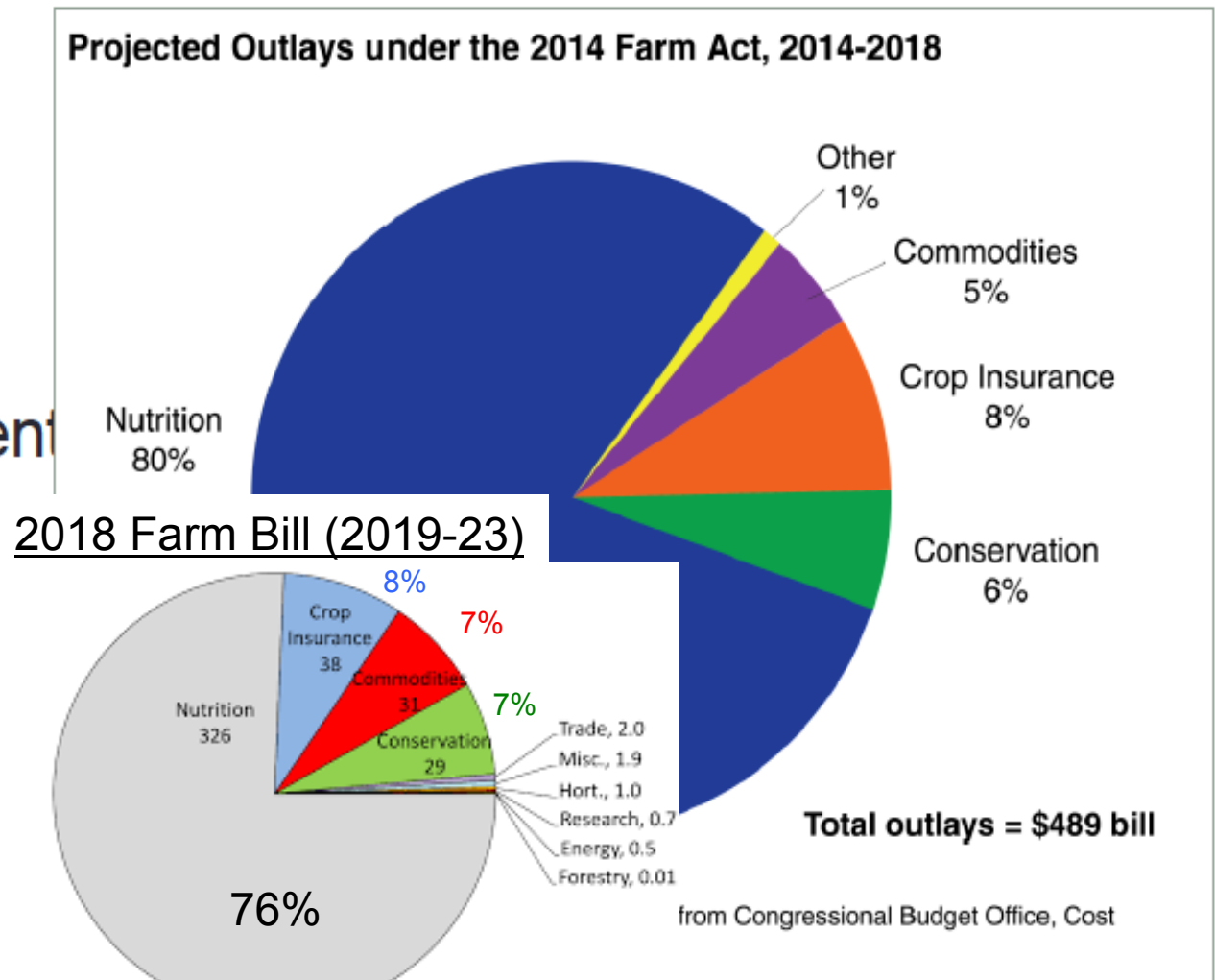


Exports % of Production for 7 Western States and U.S.



Farm Bill Titles and Outlays

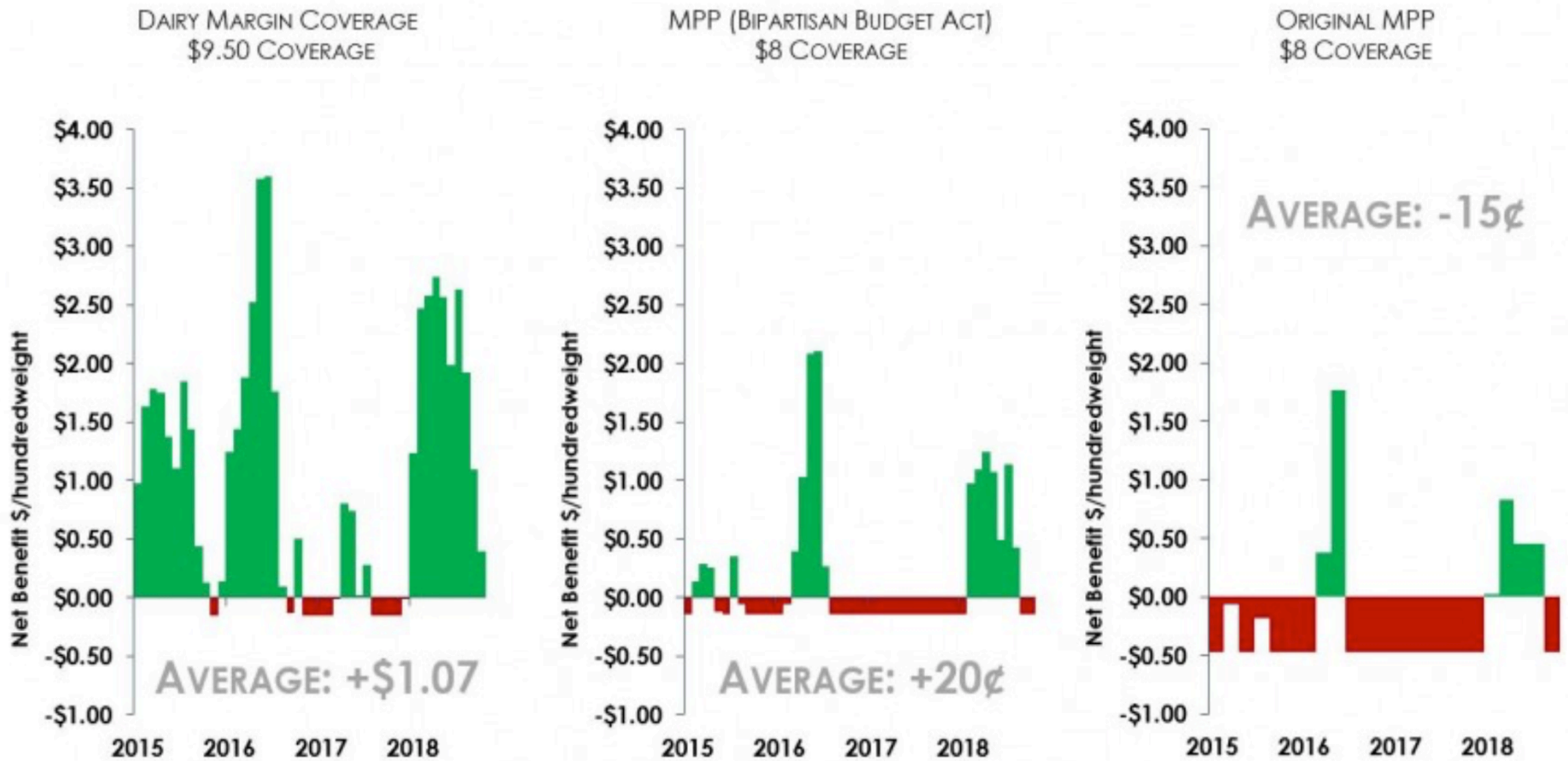
- 1) Commodities
- 2) Conservation
- 3) Trade
- 4) Nutrition
- 5) Credit
- 6) Rural Development
- 7) Research
- 8) Forestry
- 9) Energy
- 10) Specialty Crops
- 11) Crop Insurance
- 12) Miscellaneous



Total Outlays: 428 B (-12.5% from 2014 Farm Act)

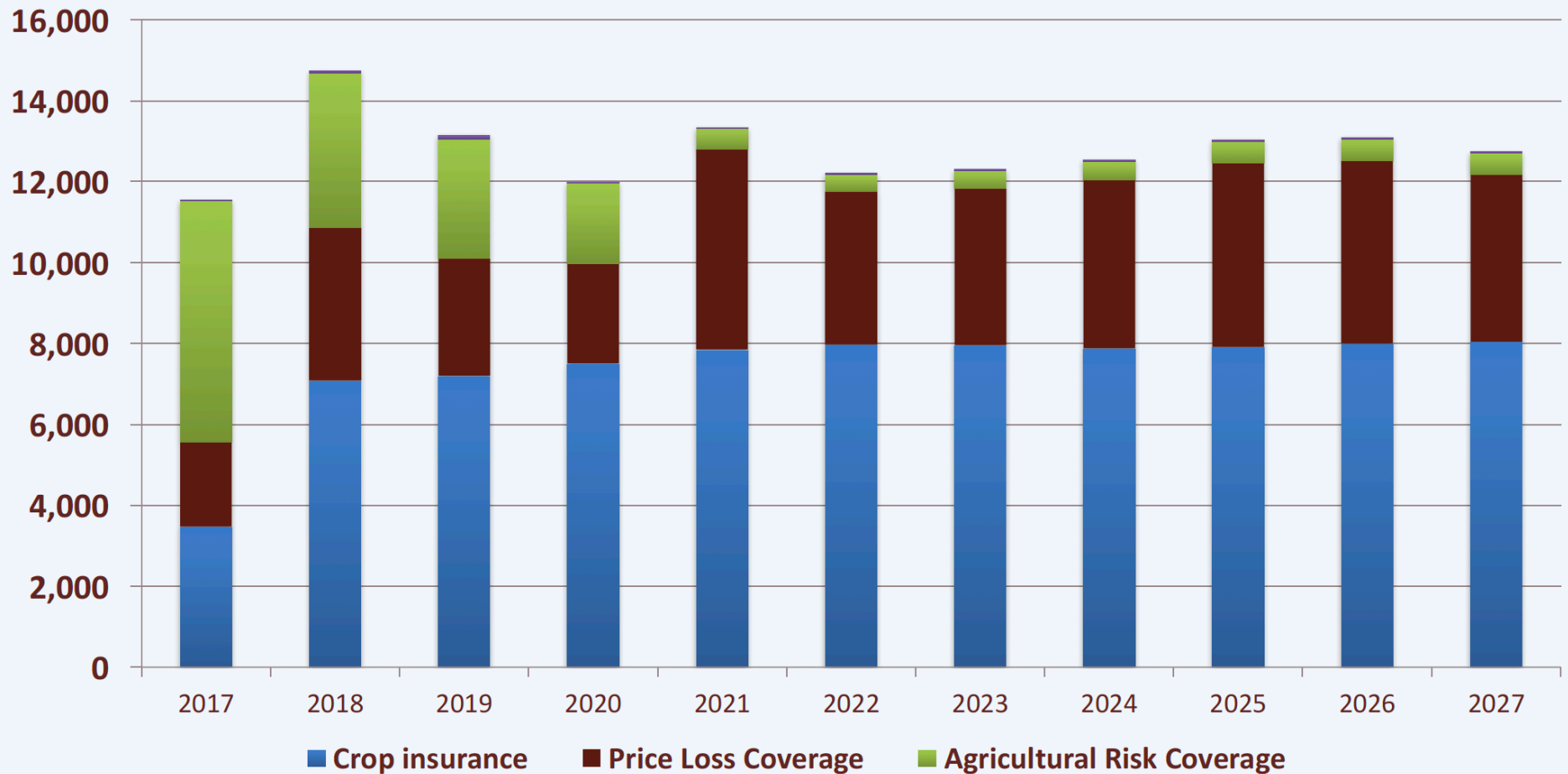


FSA Benefits under DMC, BBA-MPP, and Original MPP



Farm Bill & Crop Insurance

Projected government subsidy outlays



Whole Farm Revenue Protection

- *Alfalfa large part of revenue?*
- *Never been a claim on APH forage in AZ.*
- *Premium price (dairy) or even organic with WFRP?*



Whole Farm Revenue Protection

- **lower of projected revenue or schedule F 5-yr. avg. (3-yr for BFs)**
- **trends considered (+10% of avg.)**
- **inventory adjustments**
- **\$8.5 million maximum liability amt.**
- **attractive producer premiums**
- **considers other MPCCI products**



Subsidy Portion of Total Premium

Coverage Level

Premium Subsidy (%)

Coverage Level (% of exp. rev.)	50	55	60	65	70	75	80	85
Basic 1 Commodity	67%	64%	64%	59%	59%	55%		
2 Commodity Count	80%	80%	80%	80%	80%	80%		
3 Plus Commodity Count	80%	80%	80%	80%	80%	80%	71%	56%

- lower coverage levels for 1 or 2 crop based revenue.
- 3 commodities maximize 85% coverage level



Whole Farm Revenue Program

www.rma.usda.gov -- cost estimator, detailed estimate

The screenshot shows the USDA Risk Management Agency website. The header includes the USDA logo, the text "Risk Management Agency" and "United States Department of Agriculture", and navigation links for "About RMA", "Field Offices", "Contact Us", and "¡En Español!". A "Cost Estimator" link is also present with a "Welcome Guest!" message. A secondary navigation bar contains "What's New", "Newsroom", "Programs", and "Blog". The main content area shows a breadcrumb trail: "You are: Home > Information Browser > Cost Estimator > Detailed Estimate". On the right, there are "Log In" and "CE0301" links. A "Popular Topics" sidebar lists various resources, with "Cost Estimator" expanded to show "Main Menu", "Quick Estimate", "Detailed Estimate", and "Saved Estimates". The "Detailed Estimate" section contains a "Detailed Criteria" form with four dropdown menus: "Commodity Year" (2019), "Insurance Plan" (Whole Farm Revenue Protection 76), "State" (Arizona 04), and "County" (Pinal 021). Below the form are "Continue" and "Reset" buttons. A note states "Data valid as of: 4/3/2019" and a disclaimer: "The Cost Estimator only provides a general premium estimate. Refer to your crop insurance agent and policy for specific information regarding insurance coverage, actuarial information, conditions and exclusions." A red triangle points to the text "select year, program, state, and county".

USDA Risk Management Agency
United States Department of Agriculture

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Cost Estimator
Welcome Guest!

What's New | Newsroom | Programs | Blog

Site Map | A-Z Index | Advanced Search | Help | Search Tips

You are: Home > Information Browser > Cost Estimator > Detailed Estimate

Log In

CE0301

Popular Topics

- ▶ Appendix III/M-13
- ▶ Bulletins and Handbooks
- ▶ Crop Policies and Pilots
- ▶ Federal Crop Insurance Corp
- ▶ Field Offices: ROs | COs
- ▶ Frequently Asked Questions
- ▼ Information Browser
 - ▼ Cost Estimator
 - ▶ Main Menu
 - ▶ Quick Estimate
 - ▶ Detailed Estimate
 - ▶ Saved Estimates
 - ▶ Laws and Regulations

Detailed Estimate

Detailed Criteria

* Commodity Year : 2019

* Insurance Plan : Whole Farm Revenue Protection 76

* State : Arizona 04

* County : Pinal 021

* - indicates required field.

Continue Reset

Data valid as of: 4/3/2019

The Cost Estimator only provides a general premium estimate. Refer to your crop insurance agent and policy for specific information regarding insurance coverage, actuarial information, conditions and exclusions.

select year, program, state, and county

Whole Farm Revenue Program


<p>* Allowable Revenue</p>	<p>2012 : <input type="text" value="100000"/></p> <p>2013 : <input type="text" value="90000"/></p> <p>2014 : <input type="text" value="110000"/></p> <p>2015 : <input type="text" value="120000"/></p> <p>2016 : <input type="text" value="80000"/></p>	<p>\$100,000/yr. average revenue</p>												
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>Three enterprises 50% alfalfa 30% cotton 20% wheat</p> </div> <p>* Commodity Values</p>	<div style="text-align: center; margin-bottom: 10px;"> <input type="text" value="--Select A Commodity--"/> </div> <div style="text-align: center; margin-bottom: 10px;"> <input type="button" value="Add"/> </div> <div style="display: flex; justify-content: space-around; margin-bottom: 10px;"> Add Multiple Remove All </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #fff9c4;"> <th style="width: 50%;">Commodity</th> <th style="width: 20%;">Total Value</th> <th style="width: 30%;">Delete</th> </tr> </thead> <tbody> <tr> <td>Alfalfa (Irrigated) 0850 (M)</td> <td style="text-align: center;">: <input type="text" value="50000"/></td> <td style="text-align: center; color: red;">✘</td> </tr> <tr> <td>Cotton (Irrigated) 1003 (M)</td> <td style="text-align: center;">: <input type="text" value="30000"/></td> <td style="text-align: center; color: red;">✘</td> </tr> <tr> <td>Wheat (Irrigated) 0948 (M)</td> <td style="text-align: center;">: <input type="text" value="20000"/></td> <td style="text-align: center; color: red;">✘</td> </tr> </tbody> </table>	Commodity	Total Value	Delete	Alfalfa (Irrigated) 0850 (M)	: <input type="text" value="50000"/>	✘	Cotton (Irrigated) 1003 (M)	: <input type="text" value="30000"/>	✘	Wheat (Irrigated) 0948 (M)	: <input type="text" value="20000"/>	✘	<p>\$100,000/yr. average revenue</p>
Commodity	Total Value	Delete												
Alfalfa (Irrigated) 0850 (M)	: <input type="text" value="50000"/>	✘												
Cotton (Irrigated) 1003 (M)	: <input type="text" value="30000"/>	✘												
Wheat (Irrigated) 0948 (M)	: <input type="text" value="20000"/>	✘												



2019: 50% Whole Farm Revenue

	Total
Liability Amount:	\$50,000.00
Premium Liability Amount:	\$50,000
Qualifying Commodity Count:	3
Diversification Factor:	0.568
Total Premium Amount (Including A&O):	\$1,340.90
Subsidy (Including A&O):	\$1,120.90
Producer Premium (No Admin Administrative Included):	\$220.00
Administrative Fee:	\$30.00
Producer Premium (Including Administrative Fee):	\$250.00

50%: \$50,000 dollars in coverage, the producer pays \$250. The subsidy is 84% (\$1,120.90 including A&O) of the premium in this example.



2019: 75% Whole Farm Revenue

	Total
Liability Amount:	\$75,000.00
Premium Liability Amount:	\$75,000
Qualifying Commodity Count:	3
Diversification Factor:	0.568
Total Premium Amount (Including A&O):	\$4,754.10
Subsidy (Including A&O):	\$3,974.10
Producer Premium (No Admin Administrative Included):	\$780.00
Administrative Fee:	\$30.00
Producer Premium (Including Administrative Fee):	\$810.00

75%: \$75,000 dollars in coverage, the producer pays \$810. However the subsidy is \$3,974 or 84% (including A&O) of the premium in this example.



2019: 80% Whole Farm Revenue

	Total
Liability Amount:	\$80,000.00
Premium Liability Amount:	\$80,000
Qualifying Commodity Count:	3
Diversification Factor:	0.568
Total Premium Amount (Including A&O):	\$5,851.20
Subsidy (Including A&O):	\$4,459.20
Producer Premium (No Admin Administrative Included):	\$1,392.00
Administrative Fee:	\$30.00
Producer Premium (Including Administrative Fee):	\$1,422.00

80%: \$80,000 dollars in coverage, the producer pays \$1,422. However the subsidy is \$4,459 or 76% (including A&O) of the premium in this example.

2019: 85% *Whole Farm Revenue*

	Total
Liability Amount:	\$85,000.00
Premium Liability Amount:	\$85,000
Qualifying Commodity Count:	3
Diversification Factor:	0.568
Total Premium Amount (Including A&O):	\$7,460.28
Subsidy (Including A&O):	\$4,767.28
Producer Premium (No Admin Administrative Included):	\$2,693.00
Administrative Fee:	\$30.00
Producer Premium (Including Administrative Fee):	\$2,723.00

85%: \$85,000 dollars in coverage, the producer pays \$2,723. The subsidy is \$4,767 or 64% (including A&O) of the premium in this example.



Subsidy Portion of Total Premium

Coverage Level

Premium Subsidy (%)

Coverage Level (% of exp. rev.)	50	55	60	65	70	75	80	85
Basic 1 Commodity	67%	64%	64%	59%	59%	55%		
2 Commodity Count	80%	80%	80%	80%	80%	80%		
3 Plus Commodity Count	80%	80%	80%	80%	80%	80%	71%	56%

- lower coverage levels for 1 or 2 crop based revenue.
- 3 commodities maximize 85% coverage level

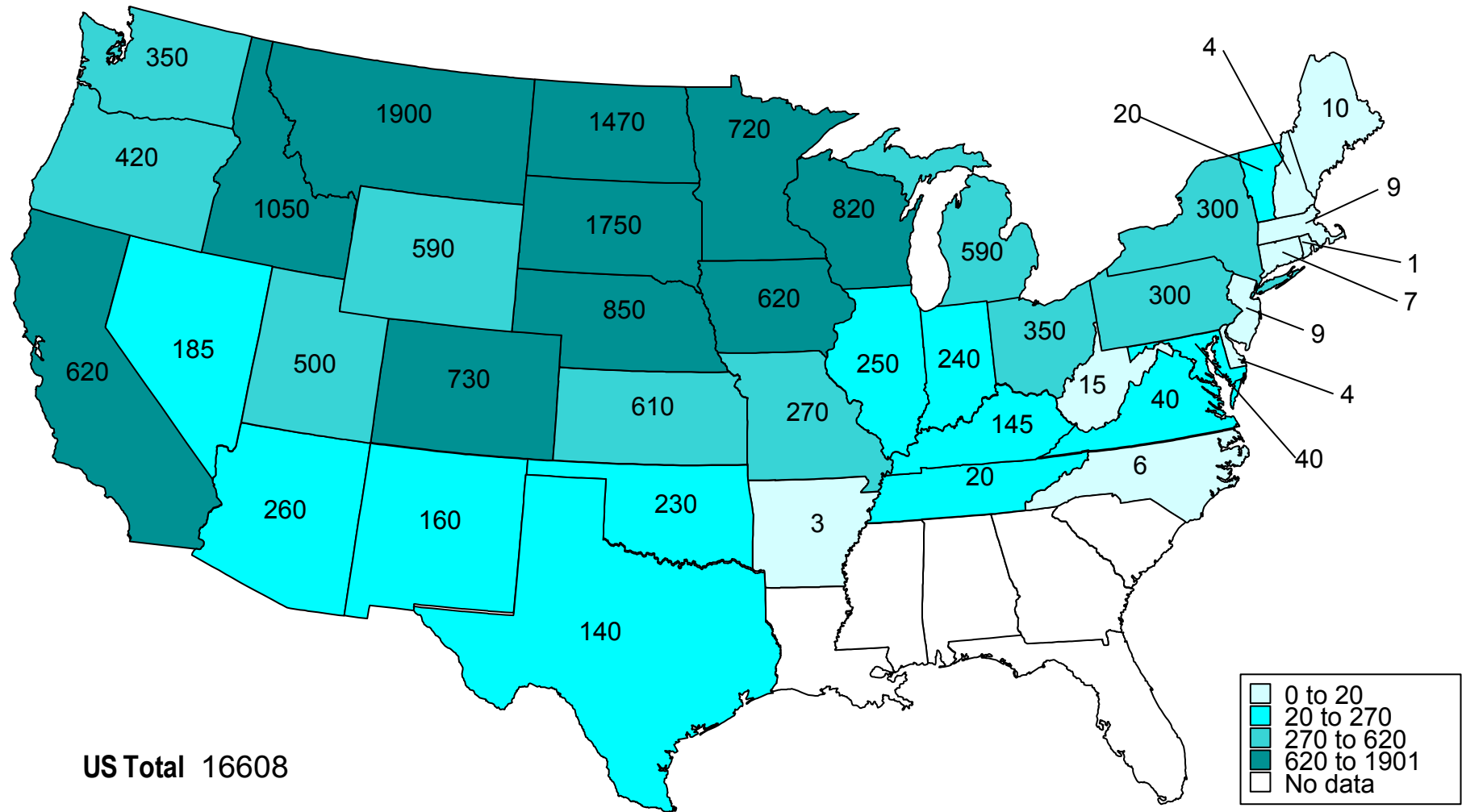


Important Dates/Items

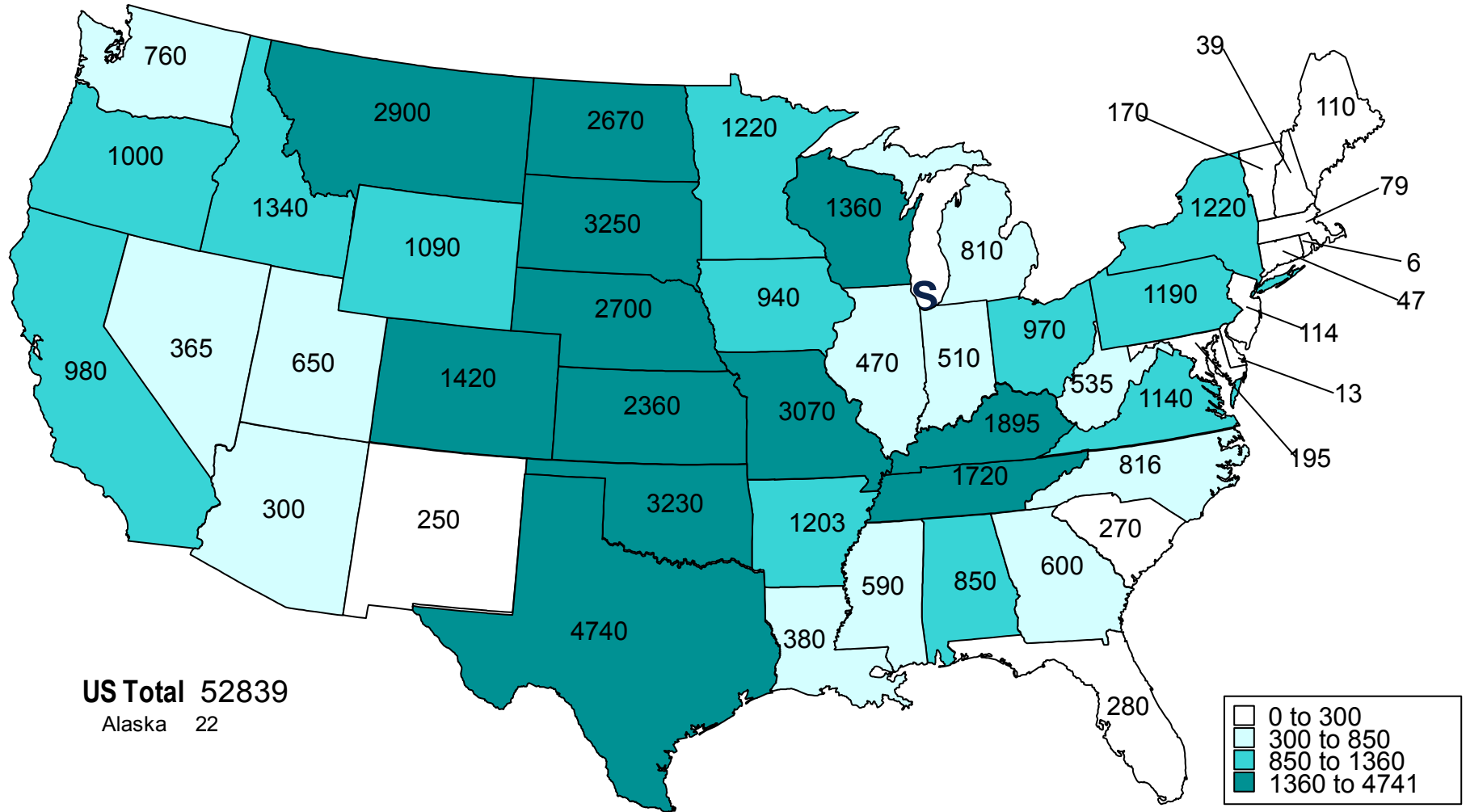
- **2/28/19 Sales Closing Date**
- **7/15/18 Acreage Reporting Date**
- **Reinsurance program**
- **Contact Insurance Agents through website (<https://www.rma.usda.gov/tools/agent.html>)**



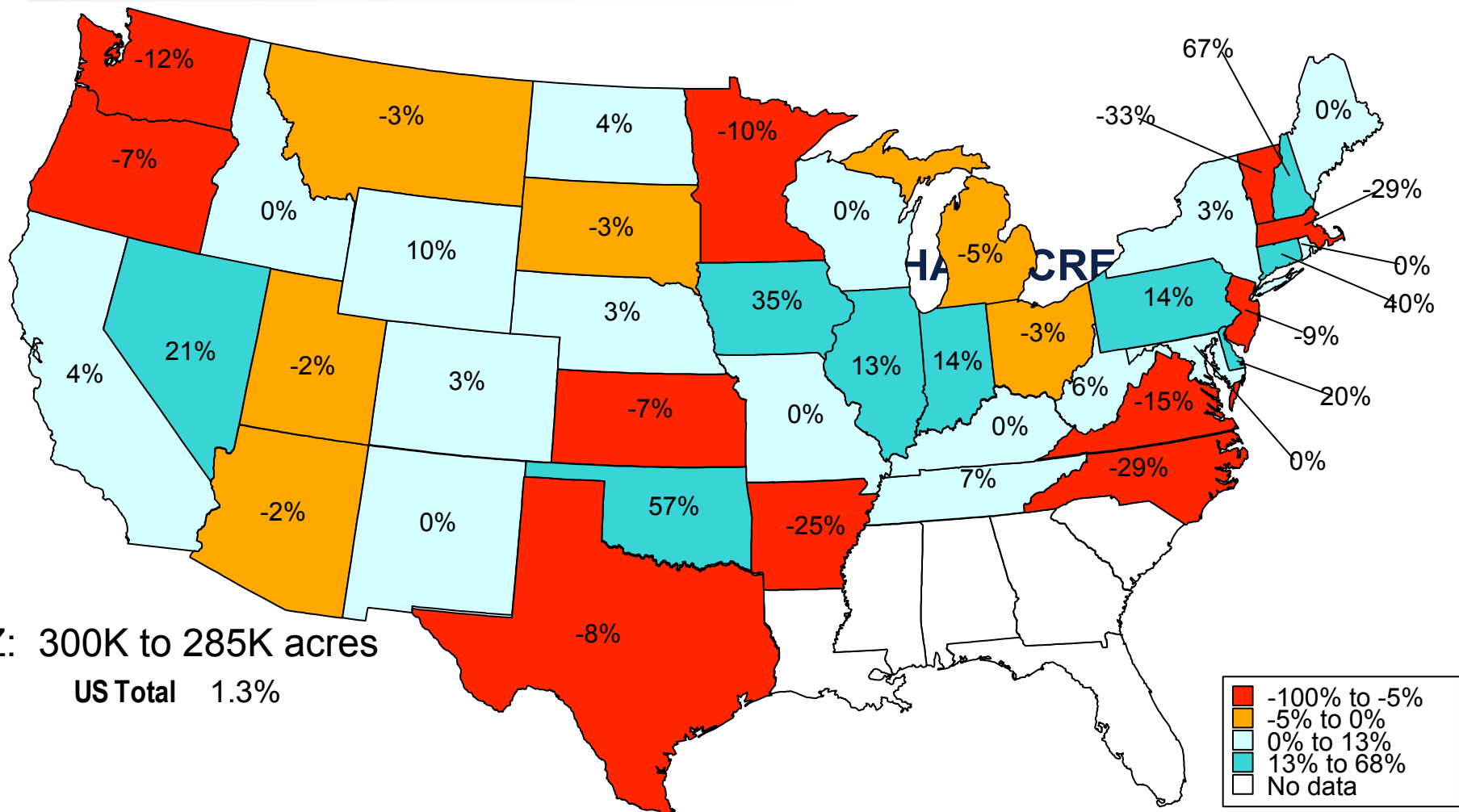
2018 Alfalfa Acres (1,000)



2018 All Hay Acres (1,000)



% Change in Alfalfa Acres (2016-2017)



AZ: 300K to 285K acres

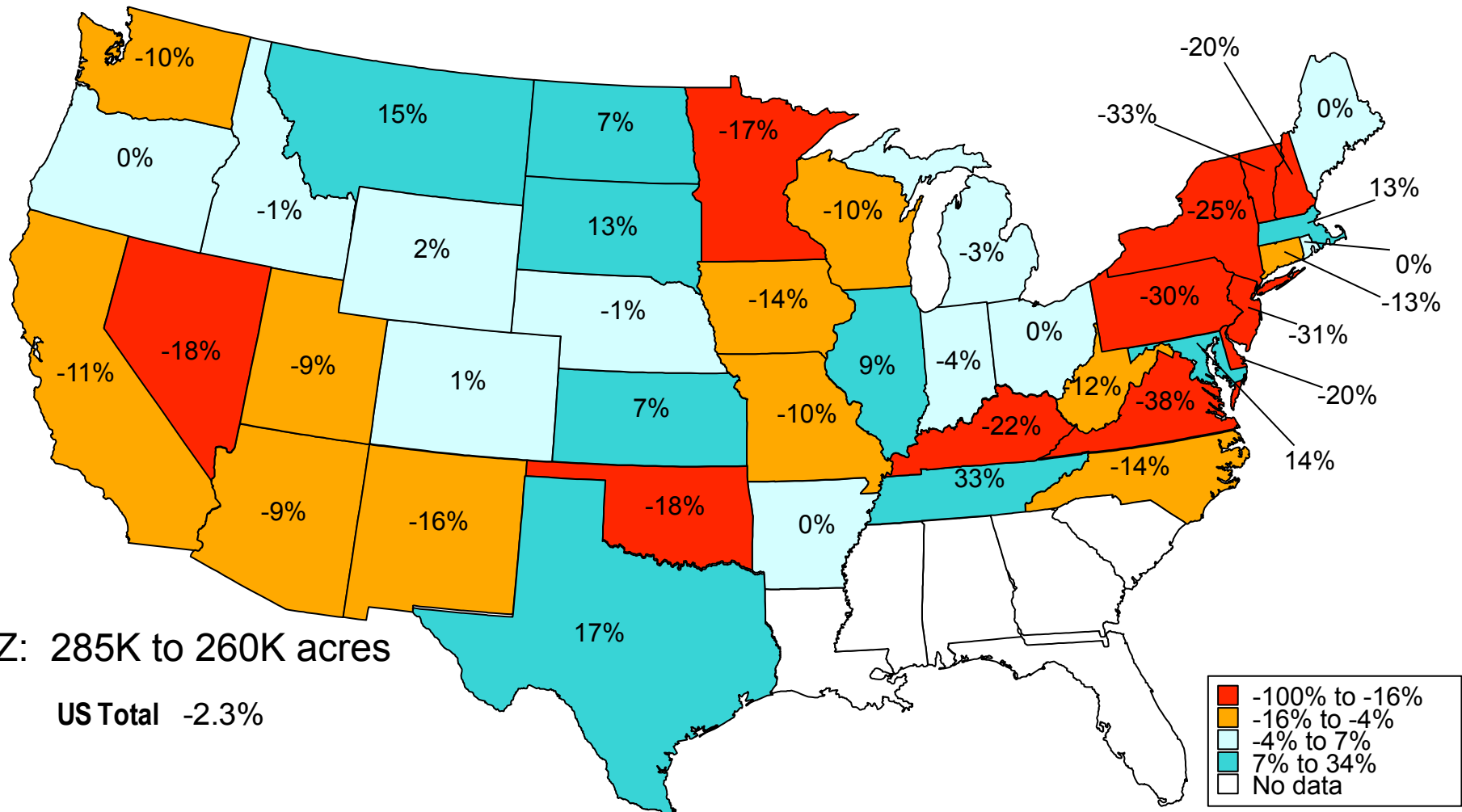
US Total 1.3%

Livestock Marketing Information Center

Data Source: USDA-NASS

10/18/17

% Change in Alfalfa Acres (2017-2018)

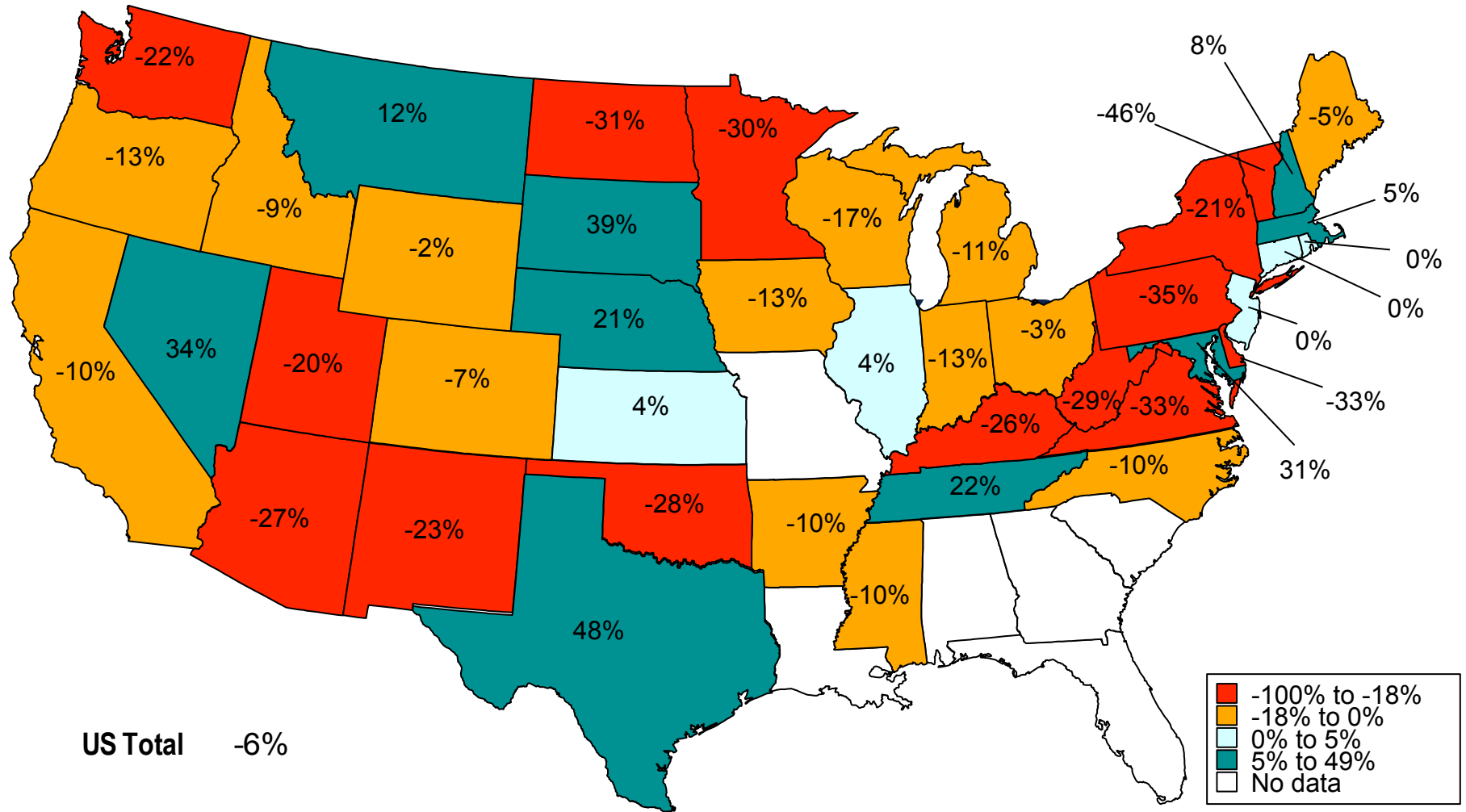


AZ: 285K to 260K acres

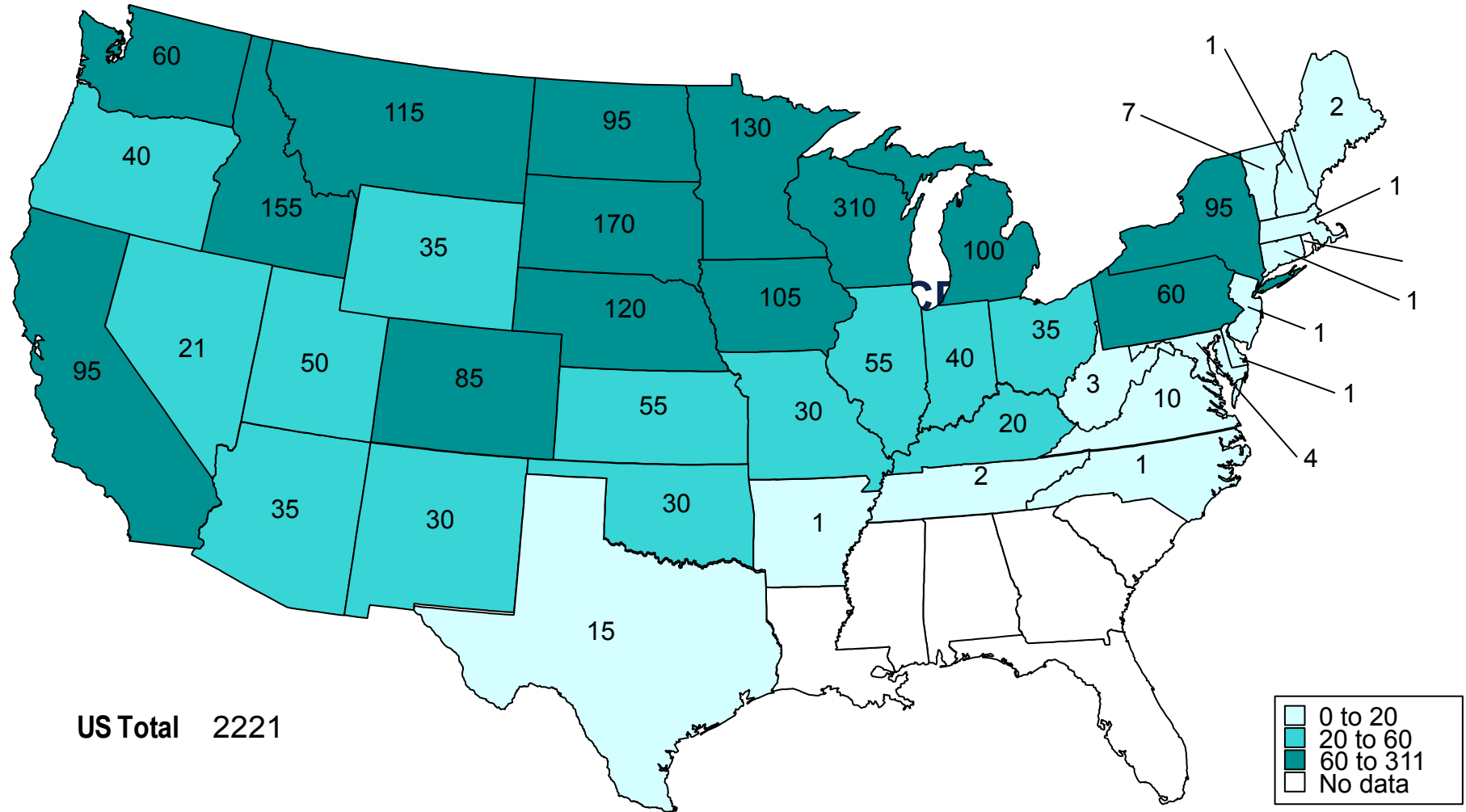
US Total -2.3%



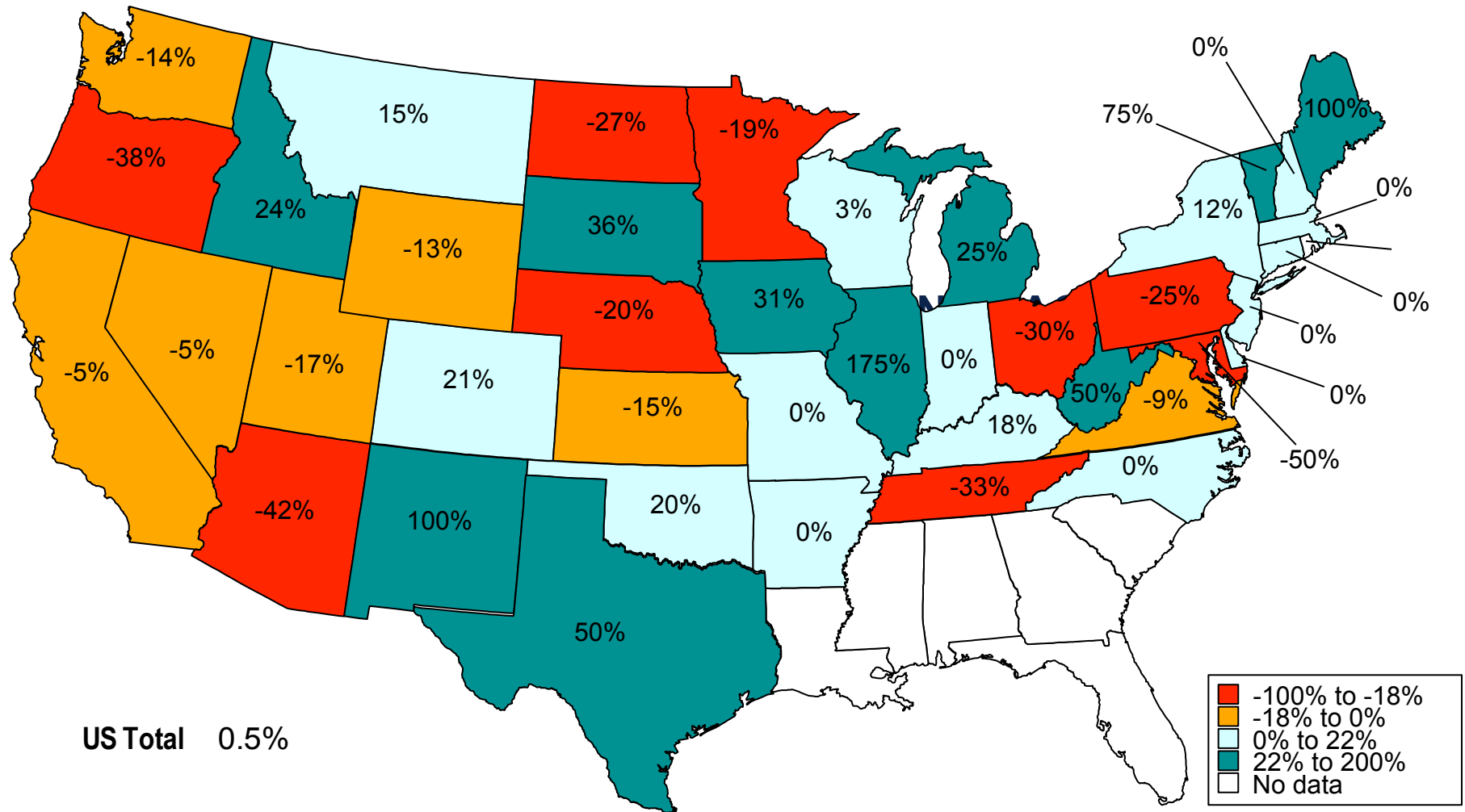
% Change in Alfalfa Production (2017-18)



2018 New Seedling Acres



Change in New Seedlings (2017-18)



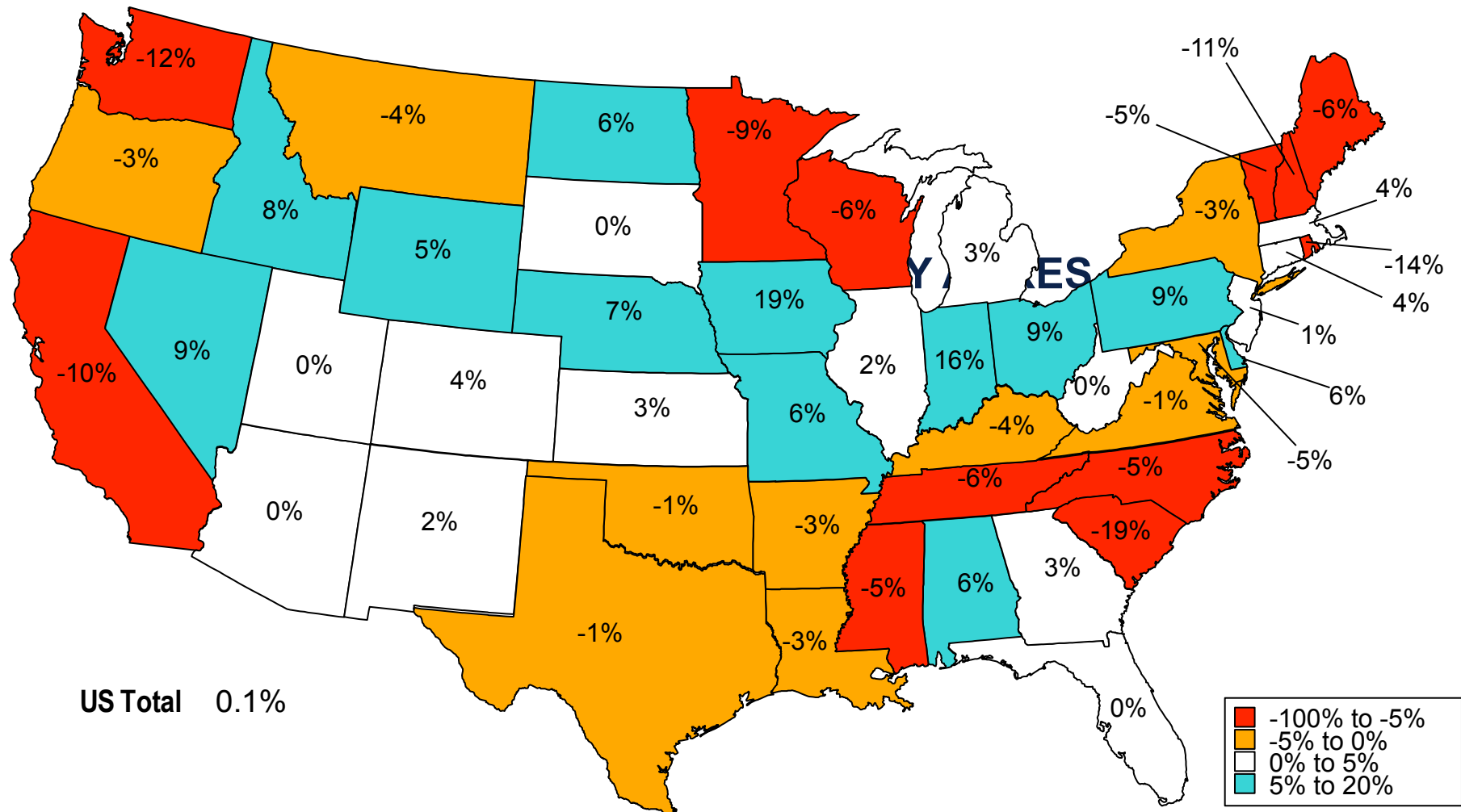
CA Crop Acres; Hay, Nuts, & Grapes

<u>Year</u>	<u>CA Alfalfa</u>	<u>CA Other Hay</u>	<u>CA Almonds</u>	<u>CA Pistachios</u>	<u>CA Grapes</u>
2002	1,160,000	590,000	625,580	91,999	818,737
2003	1,090,000	530,000			
2004	1,050,000	550,000			
2005	1,040,000	580,000			
2006	1,100,000	580,000			
2007	990,000	580,000	640,000	115,000	789,000
2008	1,030,000	580,000	710,000	118,000	795,000
2009	1,000,000	540,000	750,000	126,000	810,000
2010	930,000	550,000	770,000	137,000	835,000
2011	880,000	530,000	800,000	153,000	845,000
2012	900,000	600,000	820,000	182,000	855,000
2013	830,000	540,000	850,000	203,000	875,000
2014	825,000	520,000	870,000	221,000	865,000
2015	790,000	400,000	920,000	233,000	856,000
2016	720,000	500,000	940,000	239,000	841,000
2017	660,000	440,000			

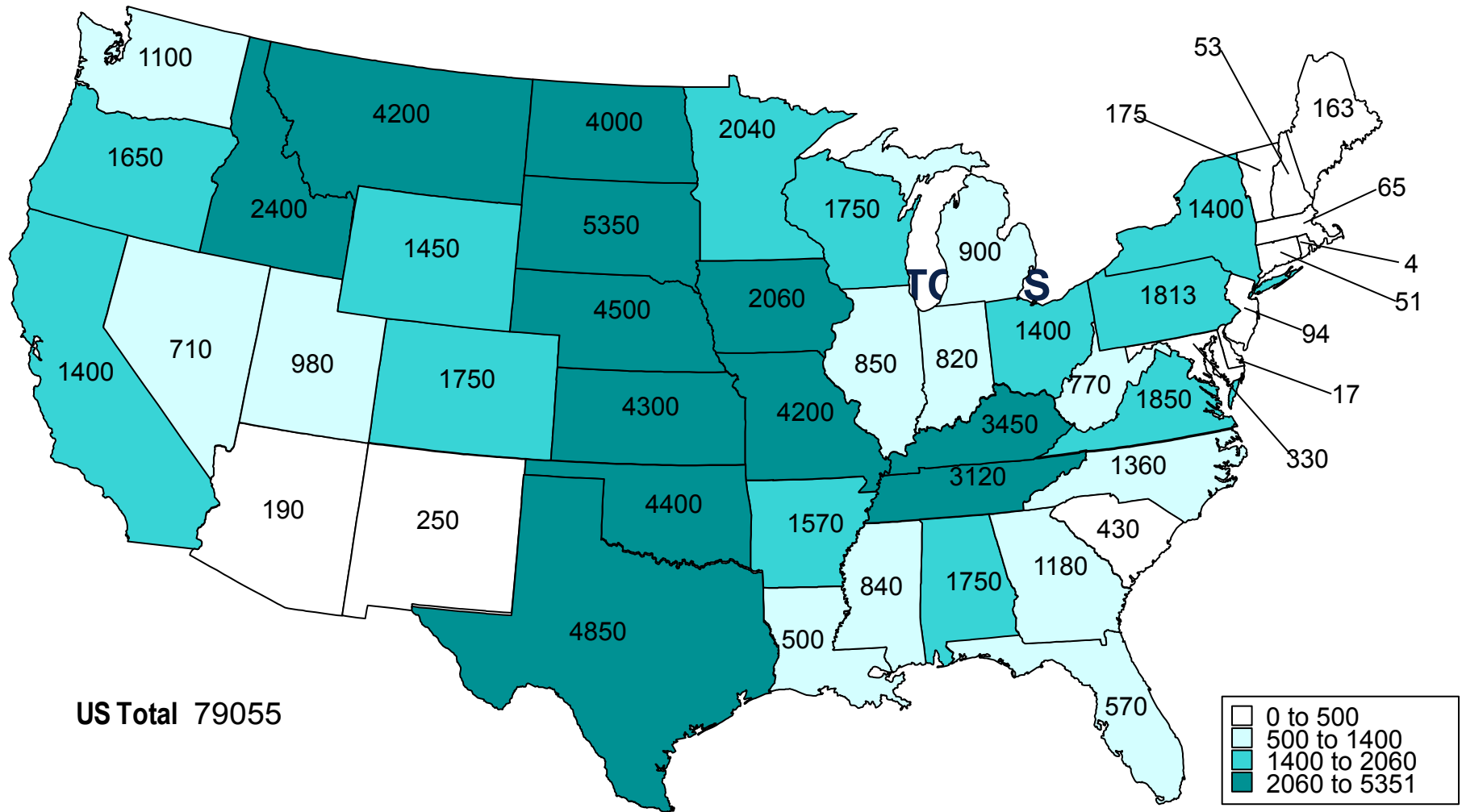
AZ Crop Acres; Hay, Nuts, & Grapes

<u>Year</u>	<u>AZ Alfalfa</u>	<u>AZ Other Hay</u>	<u>AZ Pecans</u>	<u>AZ Pistachios</u>	<u>AZ Grapes</u>
2002	230,000	45,000	16,226	2,335	2,563
2003	235,000	40,000			
2004	240,000	35,000			
2005	260,000	40,000			
2006	250,000	45,000			
2007	255,000	40,000	11,950	1,479	229
2008	260,000	35,000			250
2009	280,000	30,000			
2010	280,000	40,000			
2011	250,000	35,000			
2012	250,000	45,000	13,725	3,232	601
2013	250,000	35,000	12,000	2,100	
2014	260,000	40,000			
2015	300,000	35,000			
2016	280,000	35,000	14,000		
2017	275,000	40,000			

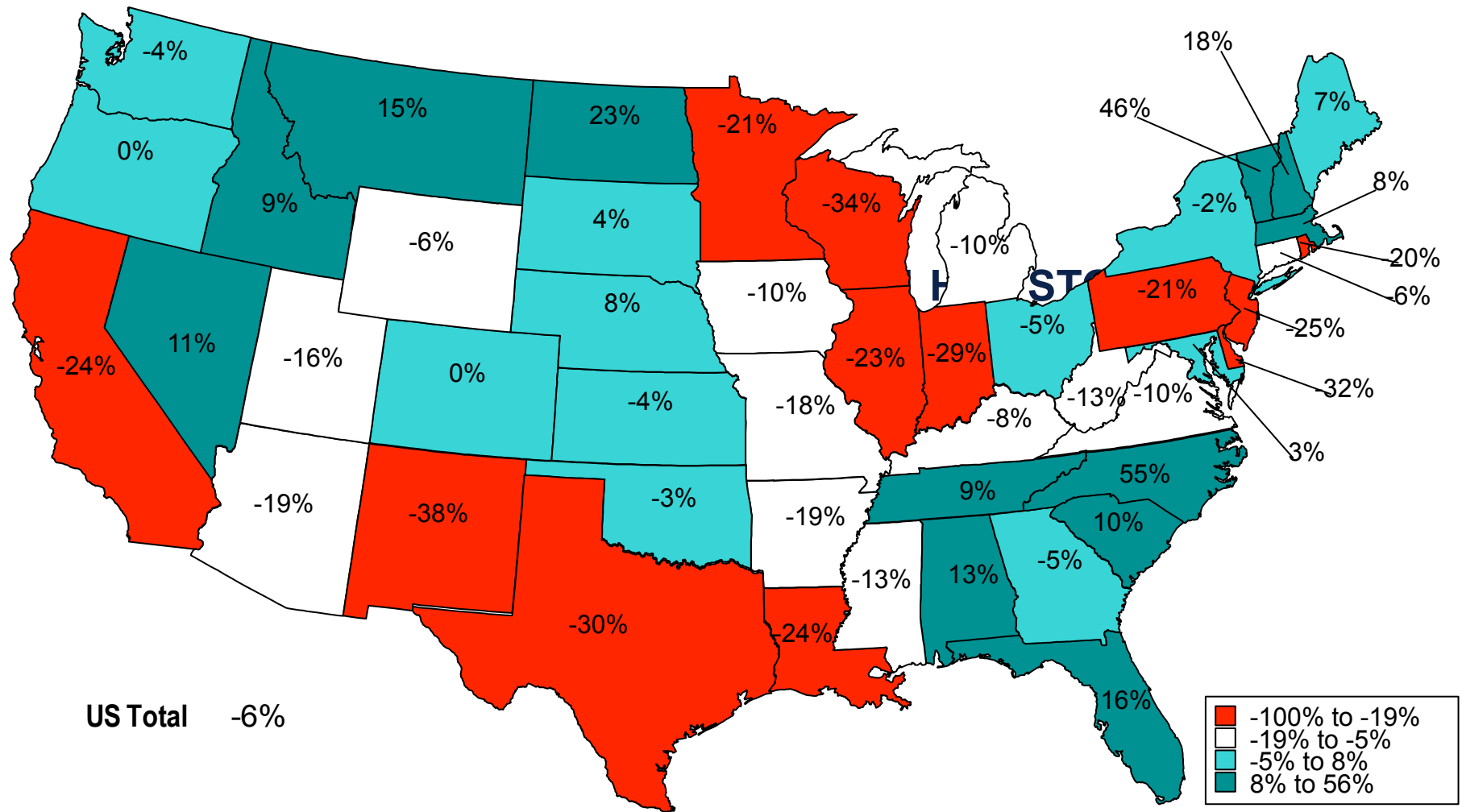
Change in Hay Acres (2017-18)



12/1/18 Hay Stocks (1,000 tons)



Change in Hay Stocks (2017-18)



Concluding Comments

- **water levels on Lake Mead – policy or inflows to Lake Powell below normal ...**
- **WFRP: price & production risks**
- **subsidy rates for WFRP are the most generous of all policies**
- **WFRP also considers other MPCCI products**

