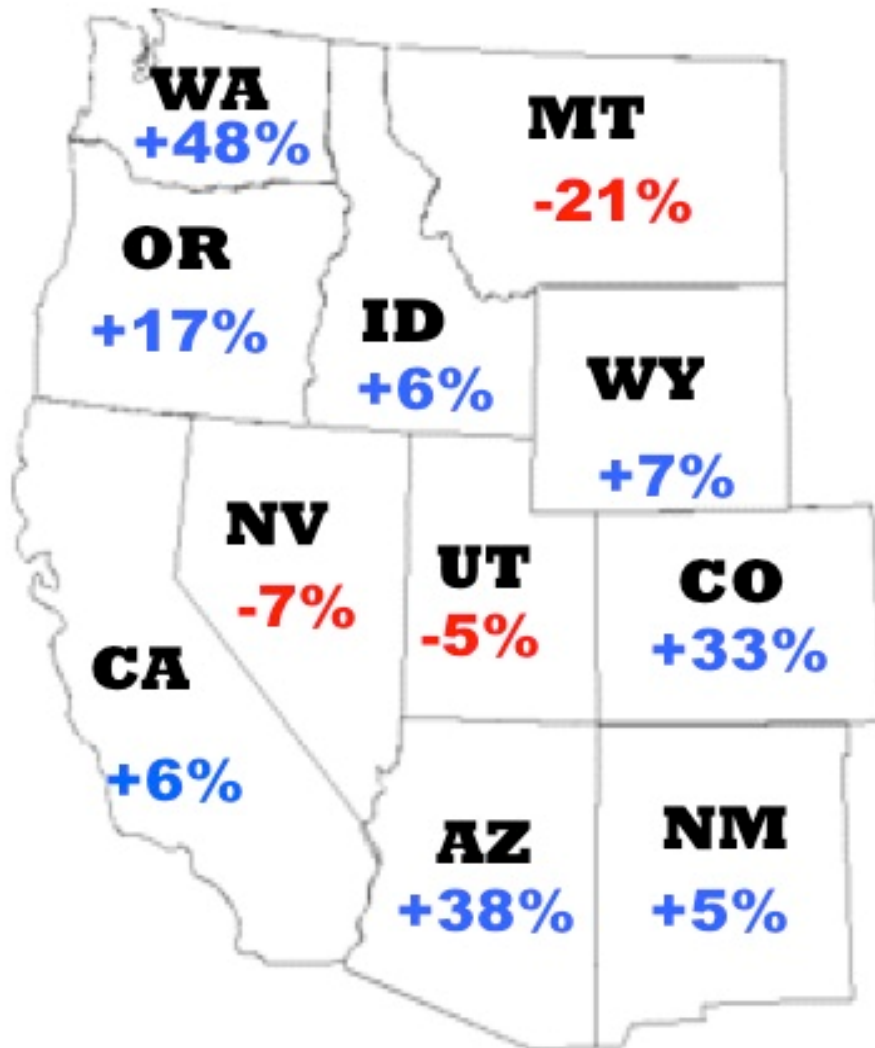


Hay Market Trends in the West

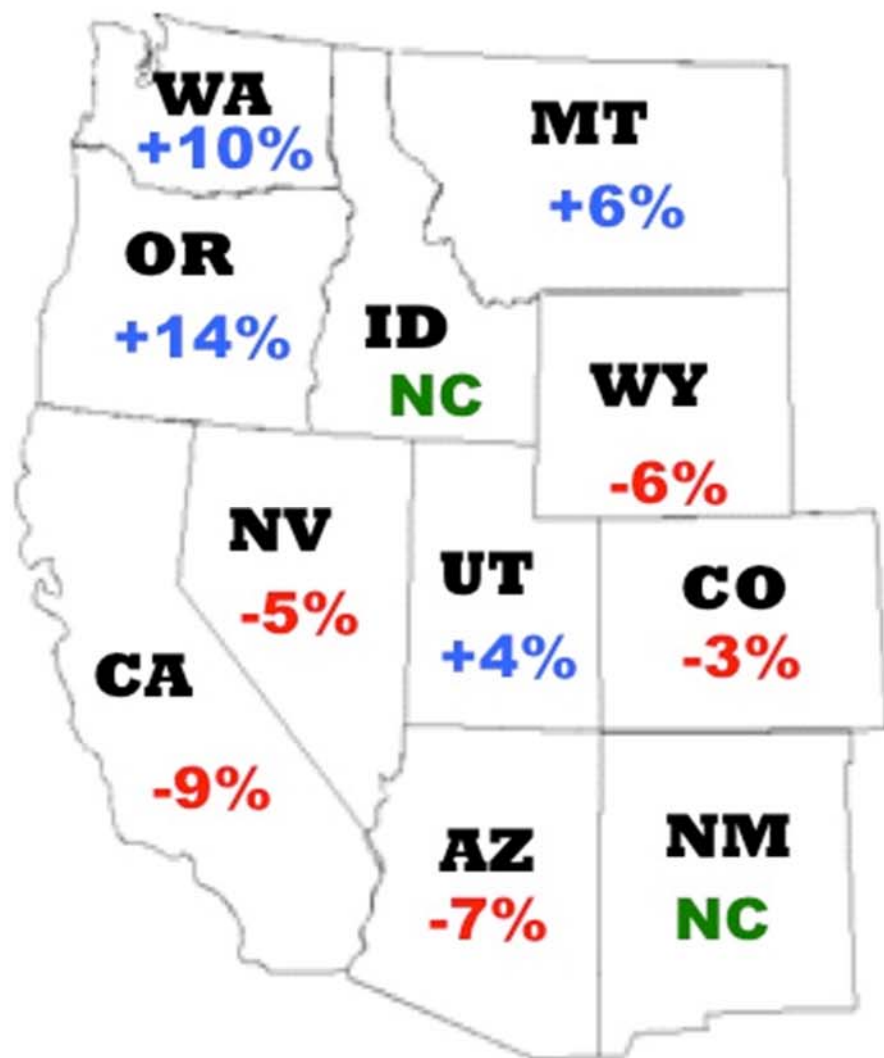
Seth Hoyt, The Hoyt Report



**May 1
Hay Stocks
2016/2015 % CHANGE**



Source: USDA-NASS

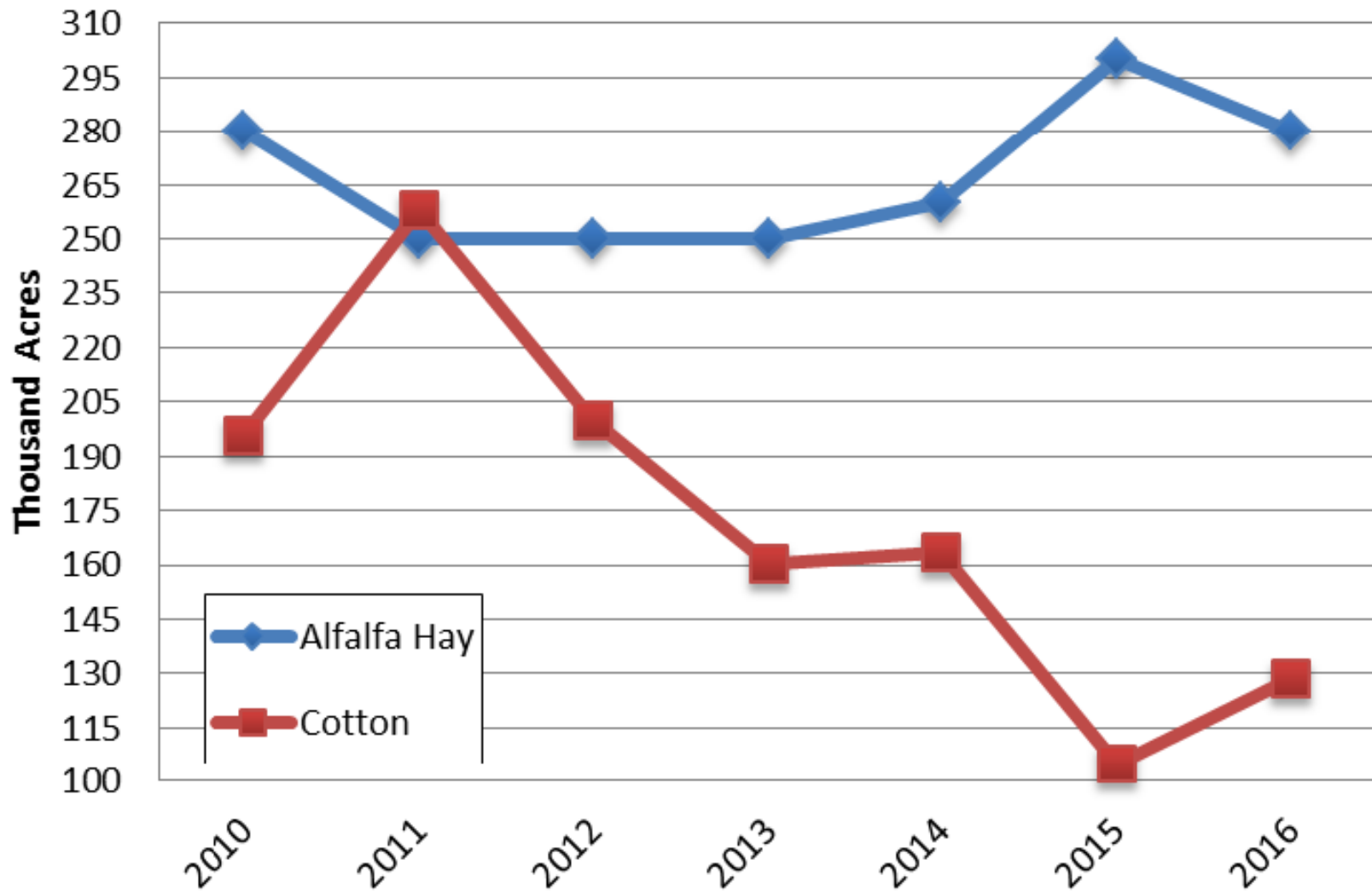


**Alfalfa
Hay Acres
2016/2015 % CHANGE**



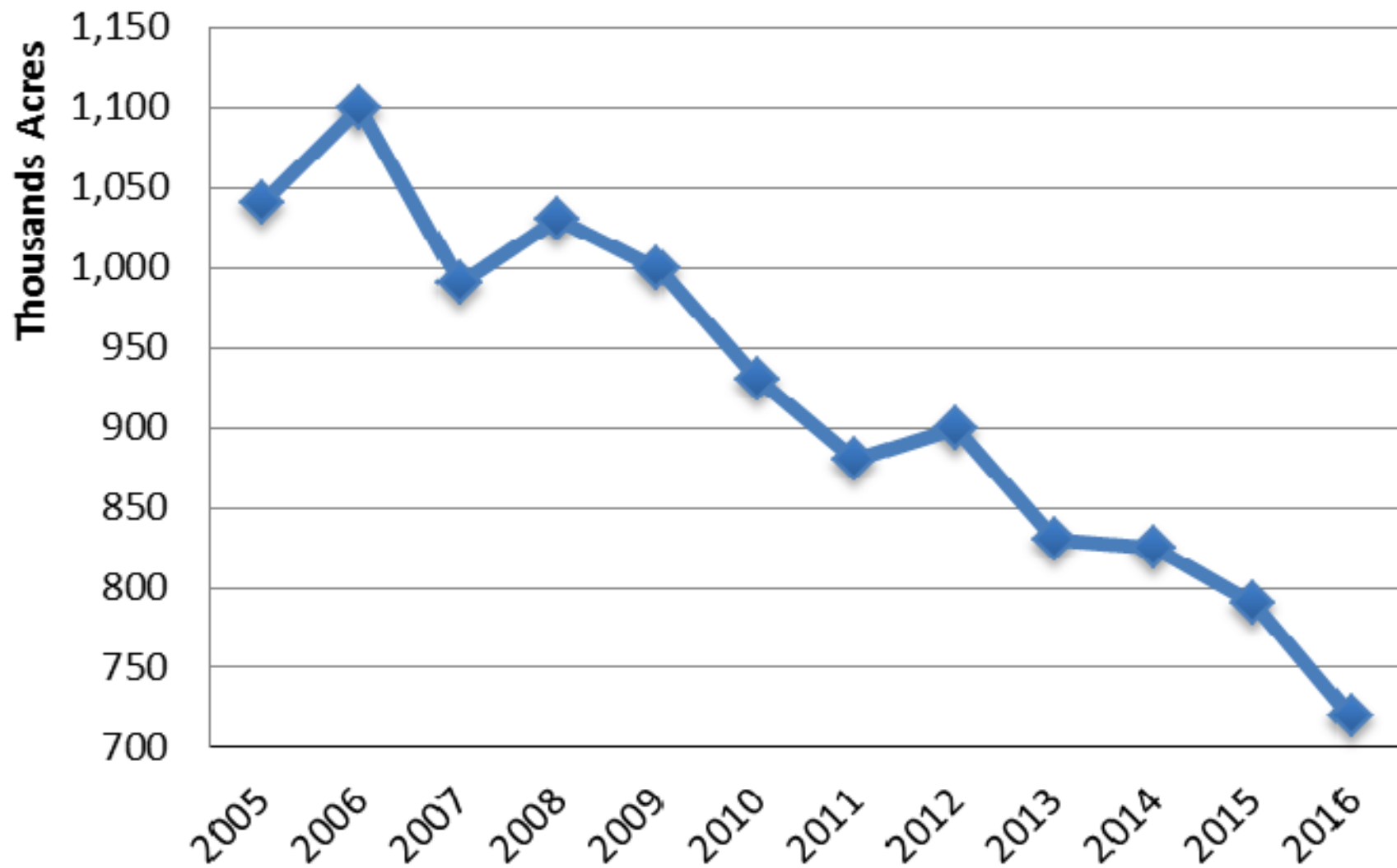
Source: USDA-NASS

Alfalfa Hay Acres Versus Cotton Acres in Arizona 2010 to 2016



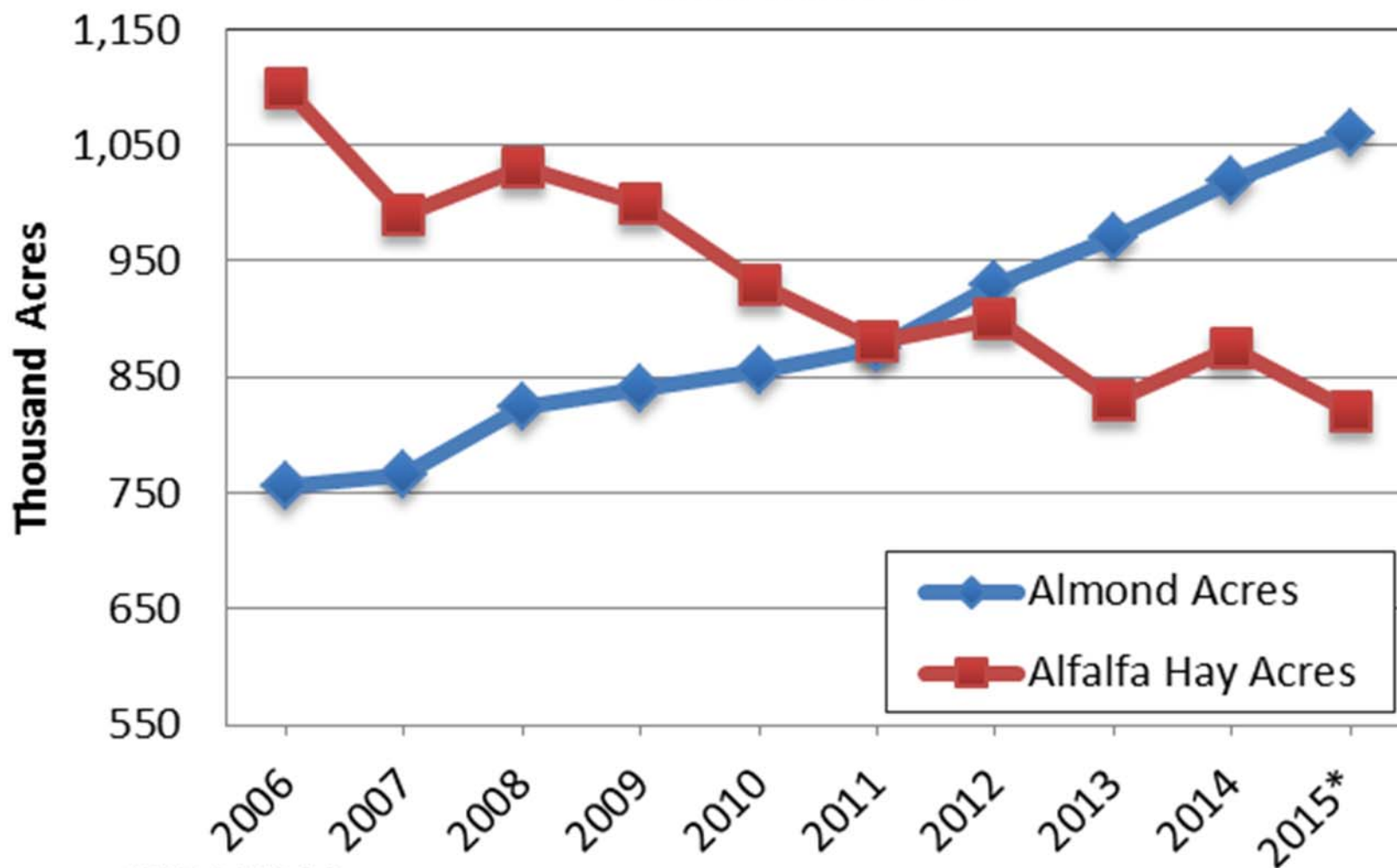
Source: USDA/NASS

Alfalfa Hay Acres in California, 2005 to 2016



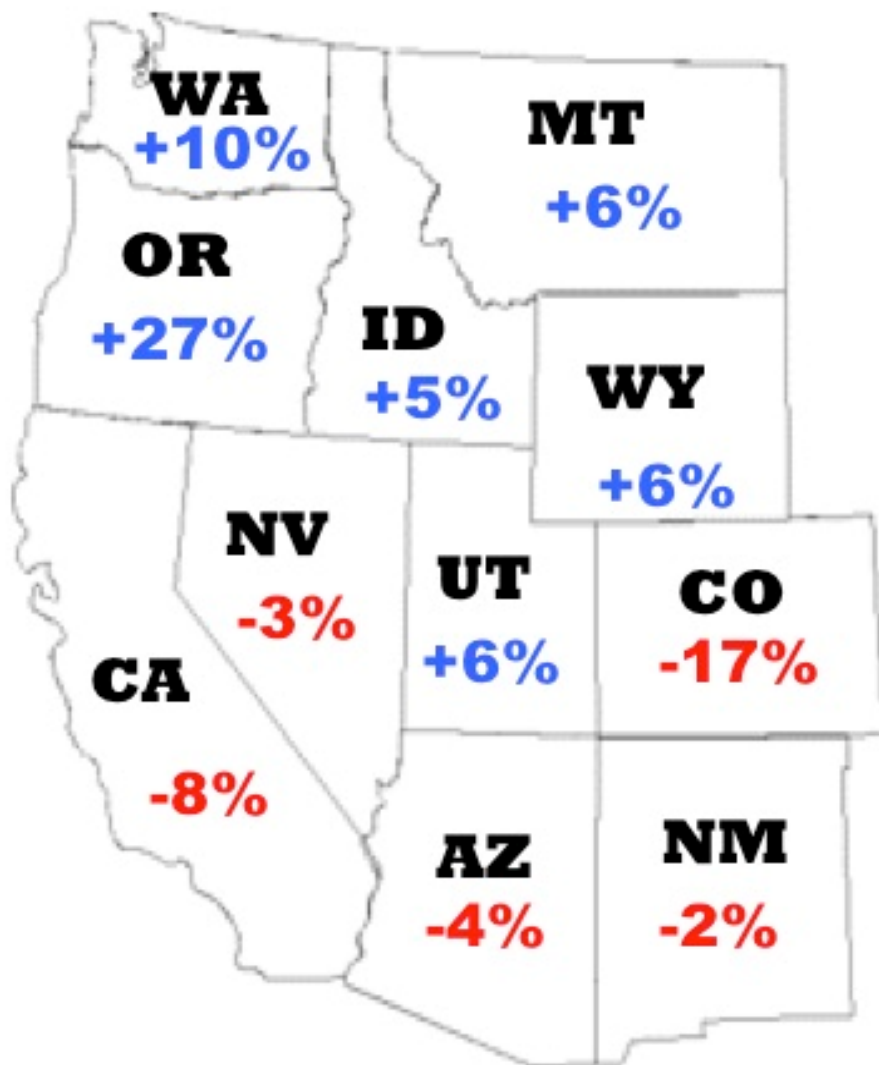
Source: USDA/NASS

Alfalfa Hay VS Almond Acres in California 2006 to 2015



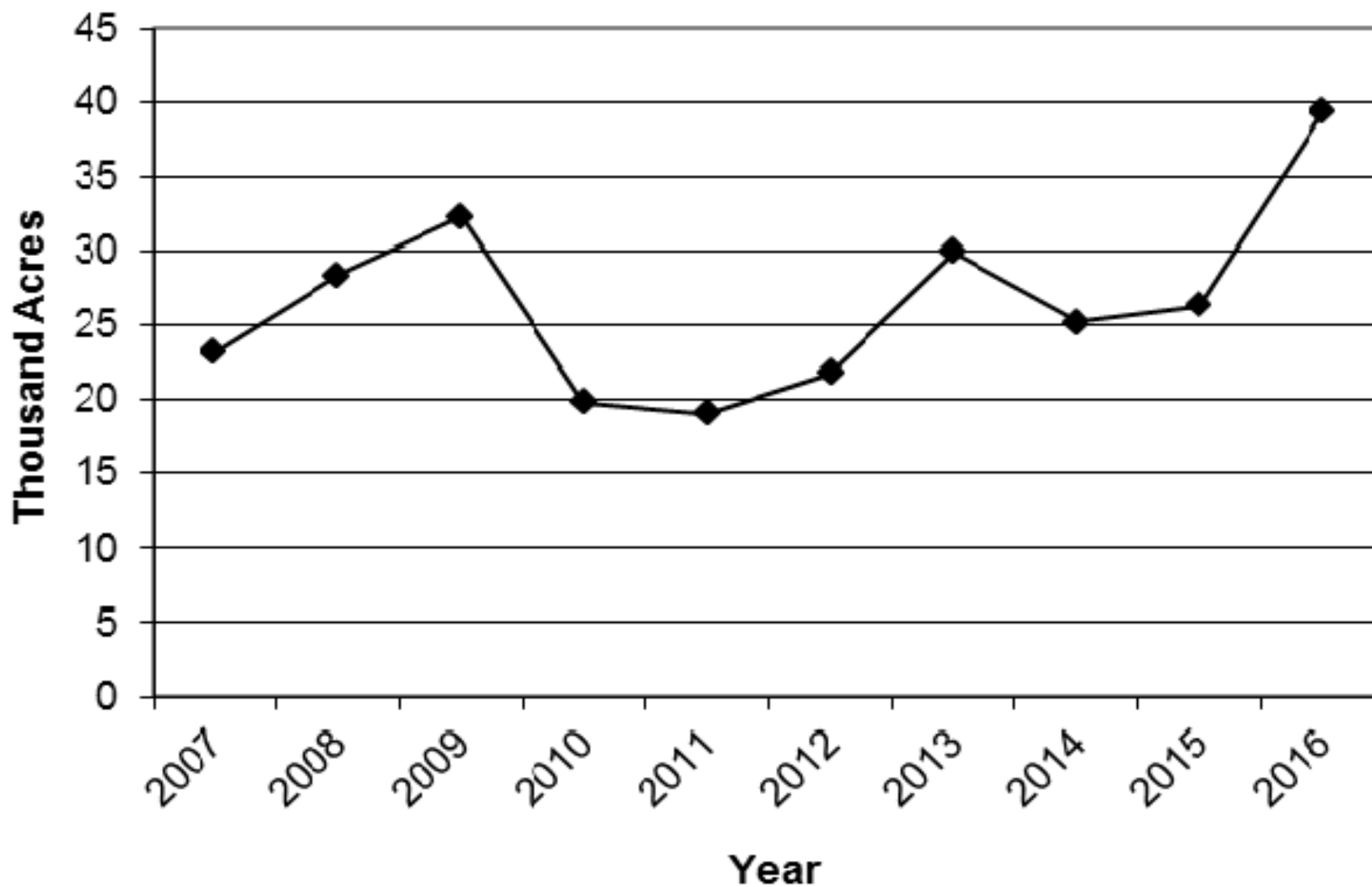
Source: USDA/NASS

**Alfalfa
Hay Production
2016/2015 % CHANGE**



Source: USDA-NASS

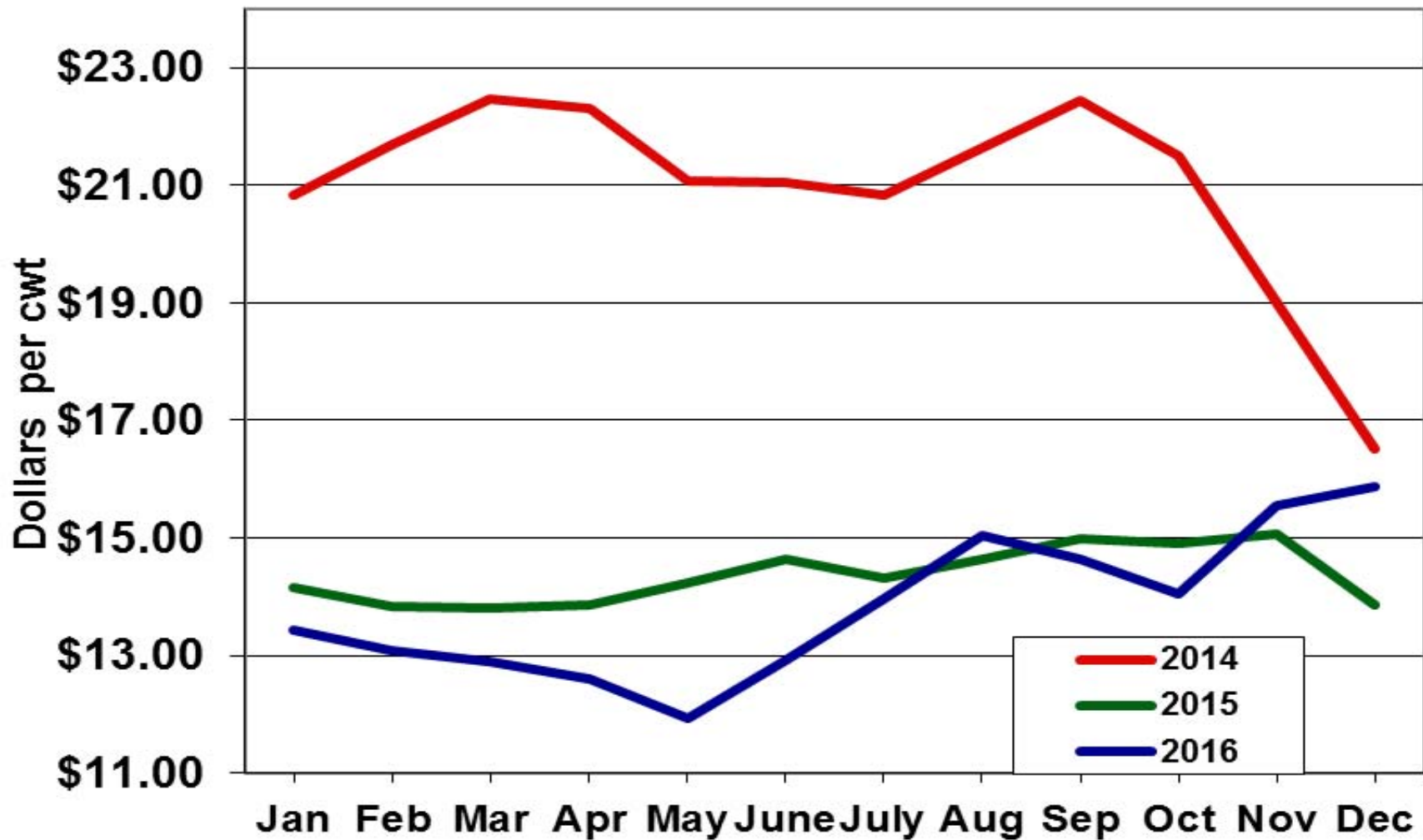
Imperial Valley Alfalfa Seed Acreage in July, 2007 - 2016



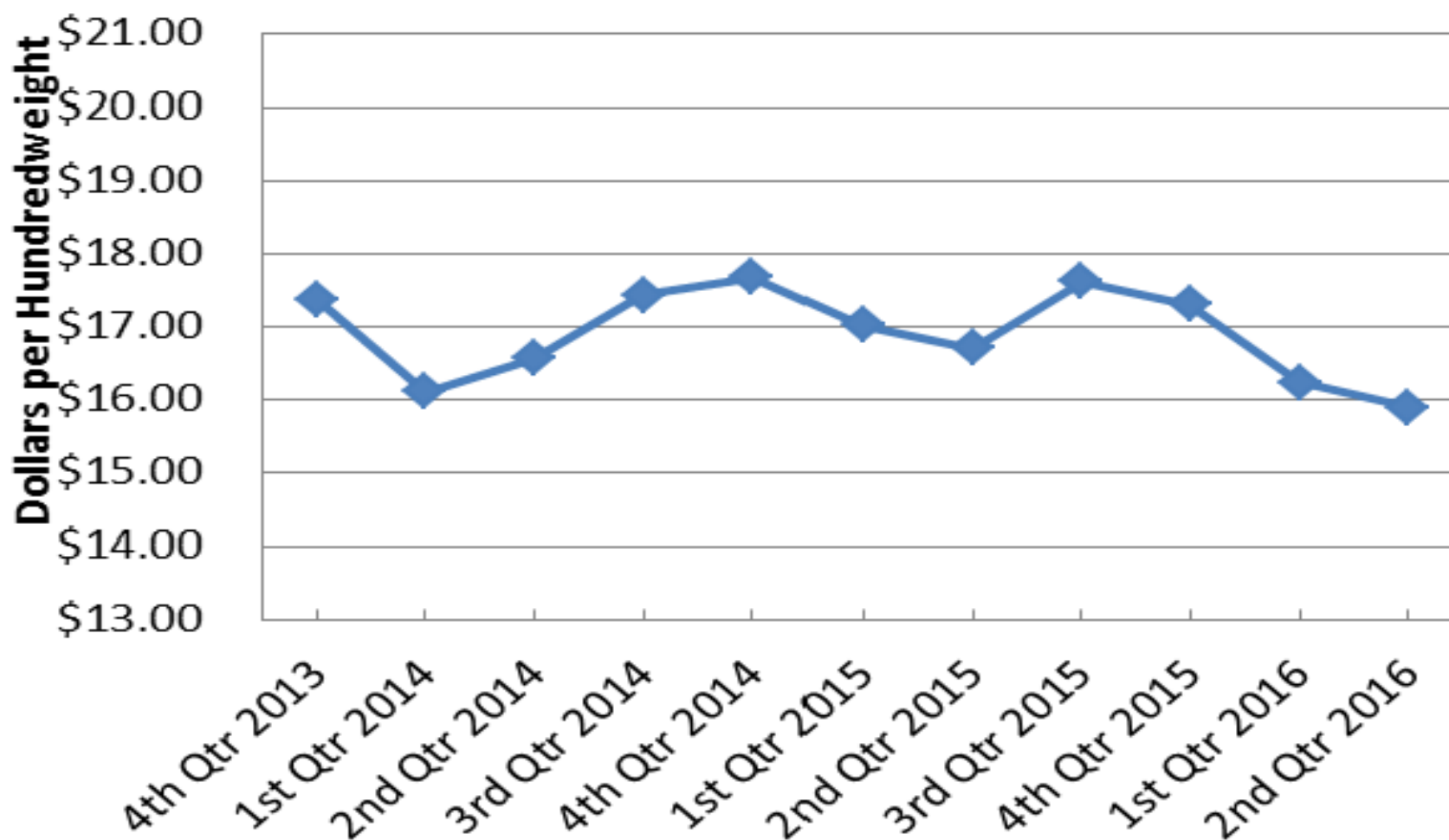
Source: Imperial Irrigation District

California Milk Prices (2014-2016)

Milk Pooling - Statewide Overbase

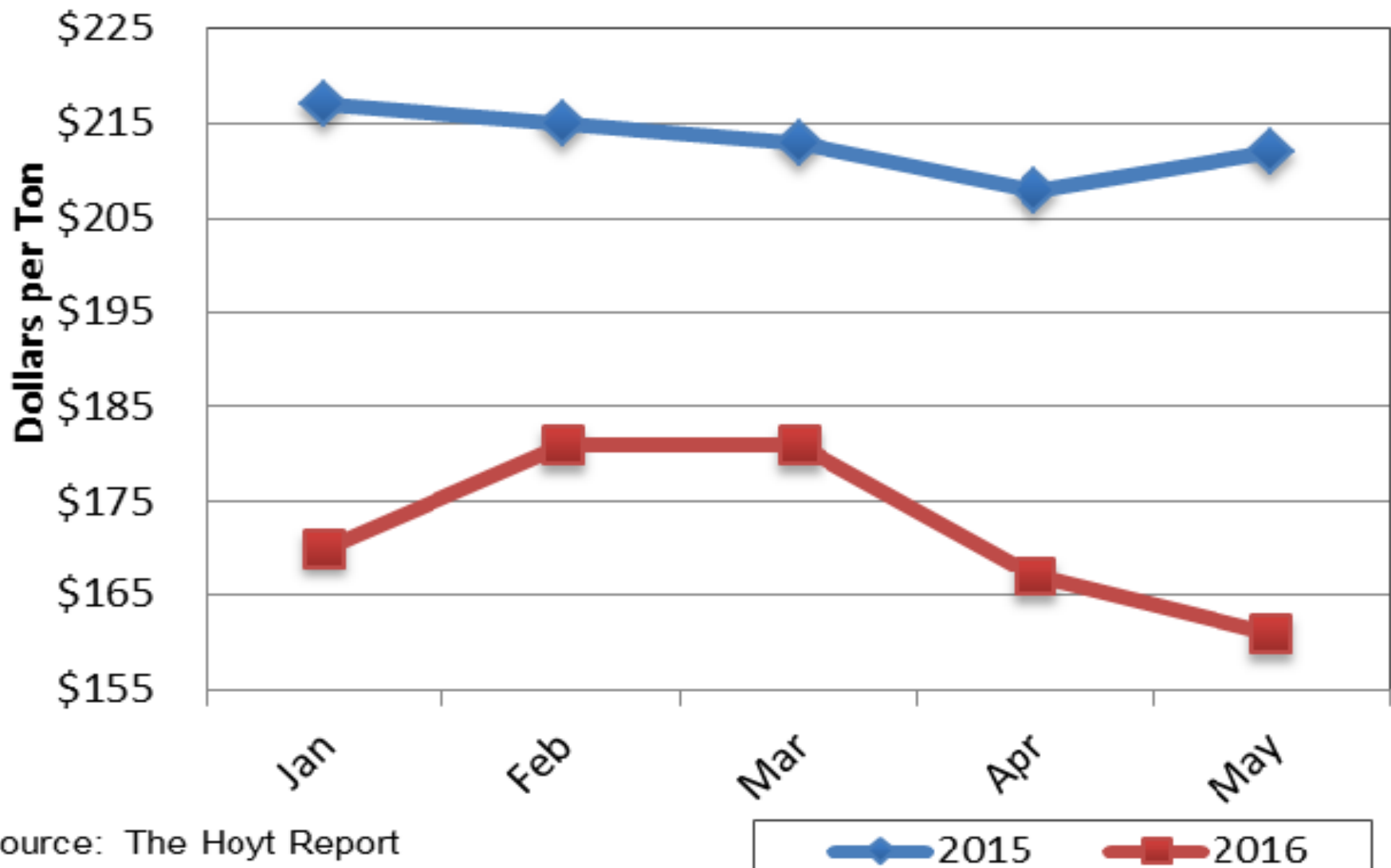


Cost of Milk Production at Holstein Daries in California, 1st Quarter 2014 - 2nd Quarter 2016

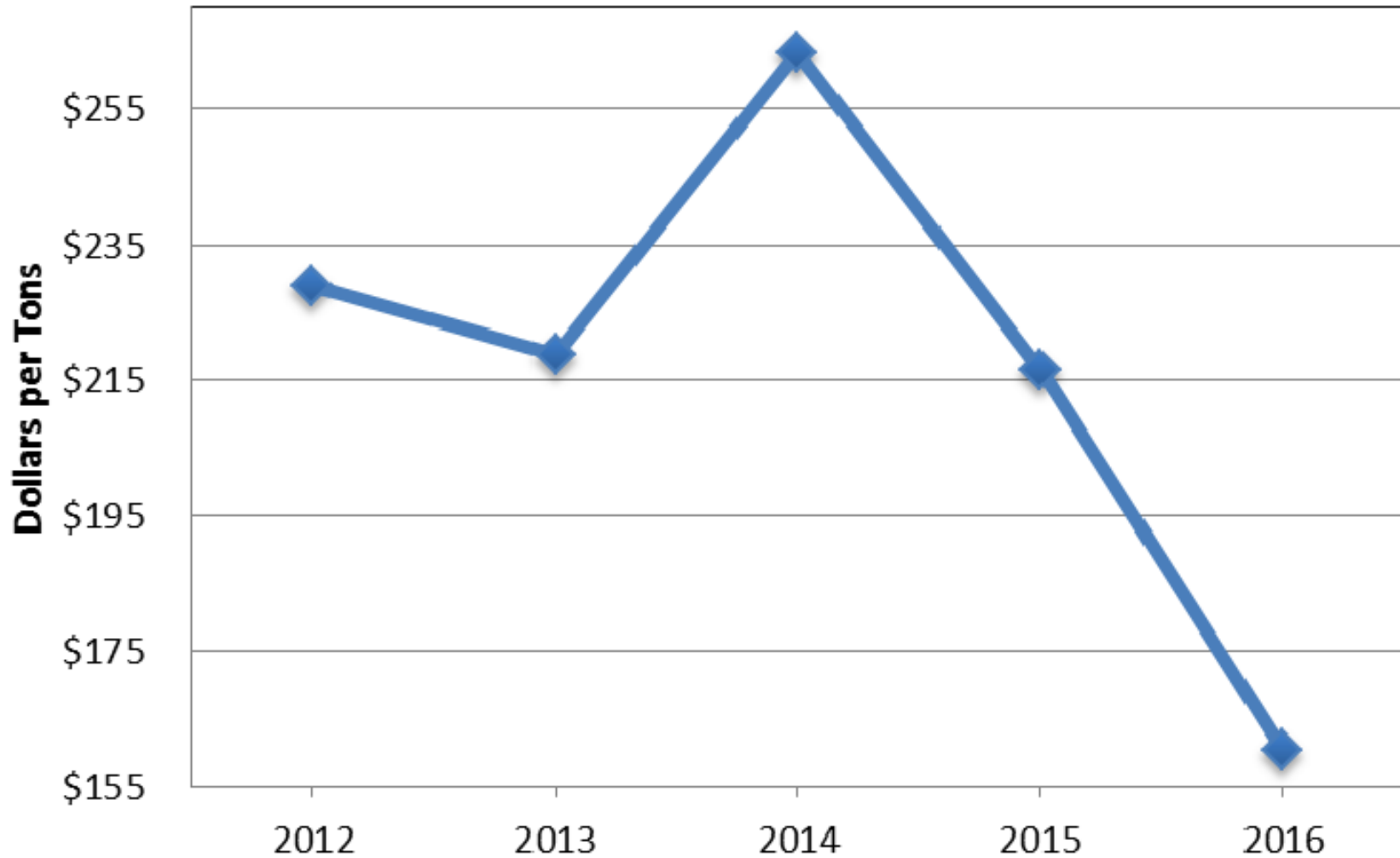


Source: CDFA Dairy Marketing * Does not include return on Investment & mgt. costs

Premium/Supreme Alfalfa Hay in Poston/Parker January through May 2015-2016

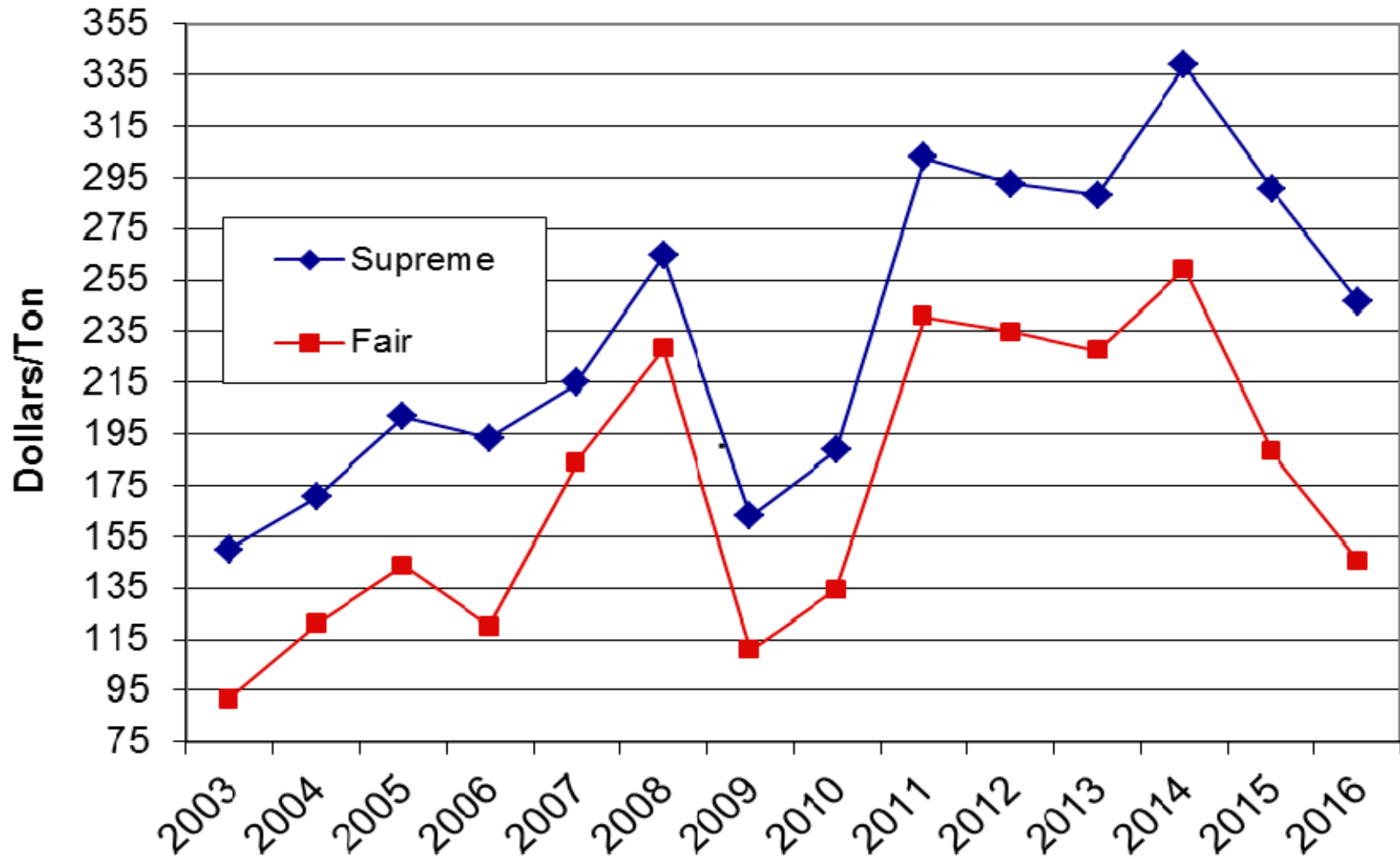


Washington Premium/Supreme Alfalfa Hay Prices FOB Prices on Big Bales for Dairies May/June Average 2012- 2016

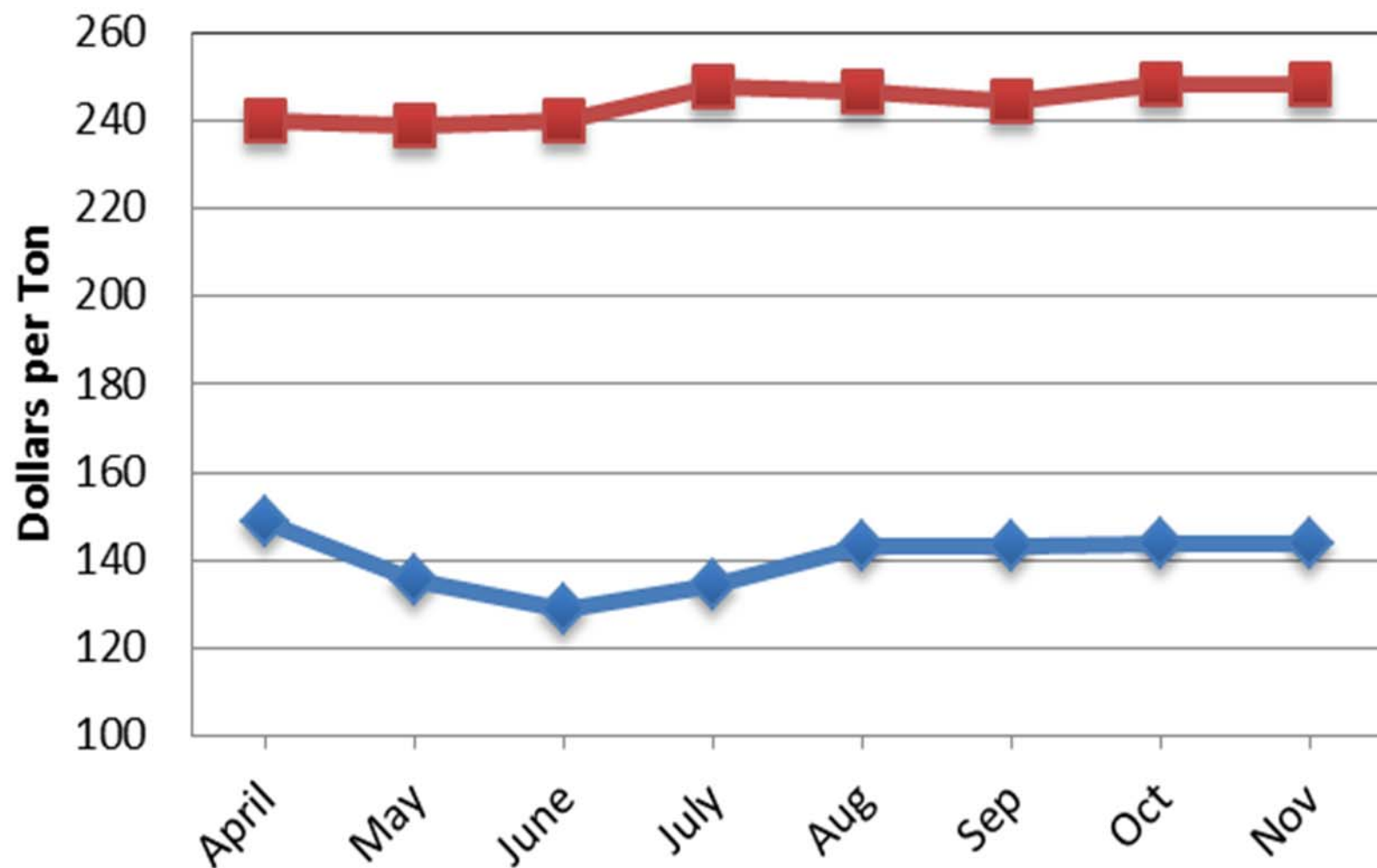


Source: The Hoyt Report

Tulare-Visalia-Hanford Delivered Alfalfa Hay Prices
Market News Yearly Avg. Price, 2003-2010, The Hoyt Report 2011-2016
Supreme and Fair Quality



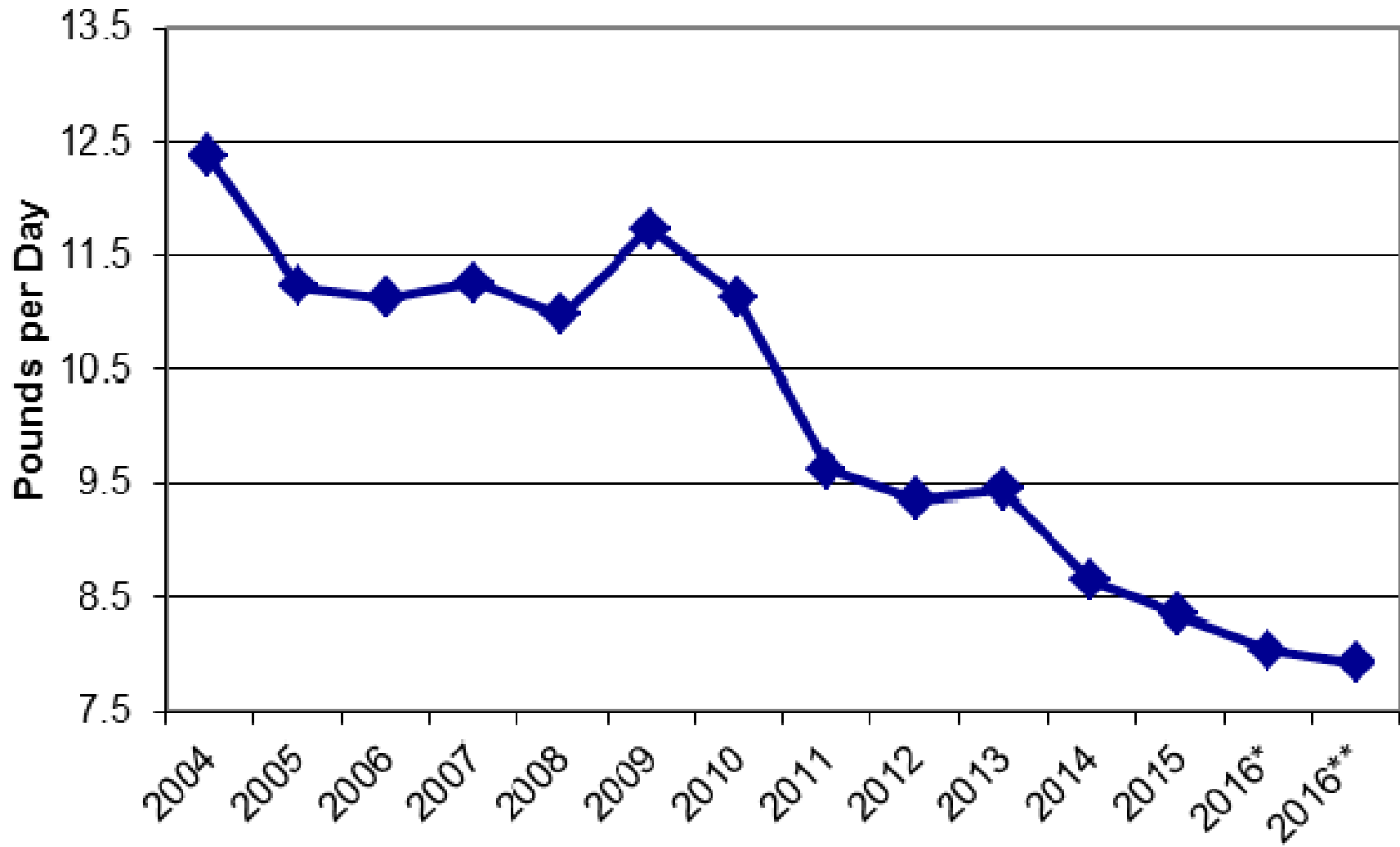
Supreme and Fair Alfalfa Hay Delivered to Tulare-Hanford Dairies, April to November 2016



Source: The Hoyt Report

Fair Supreme

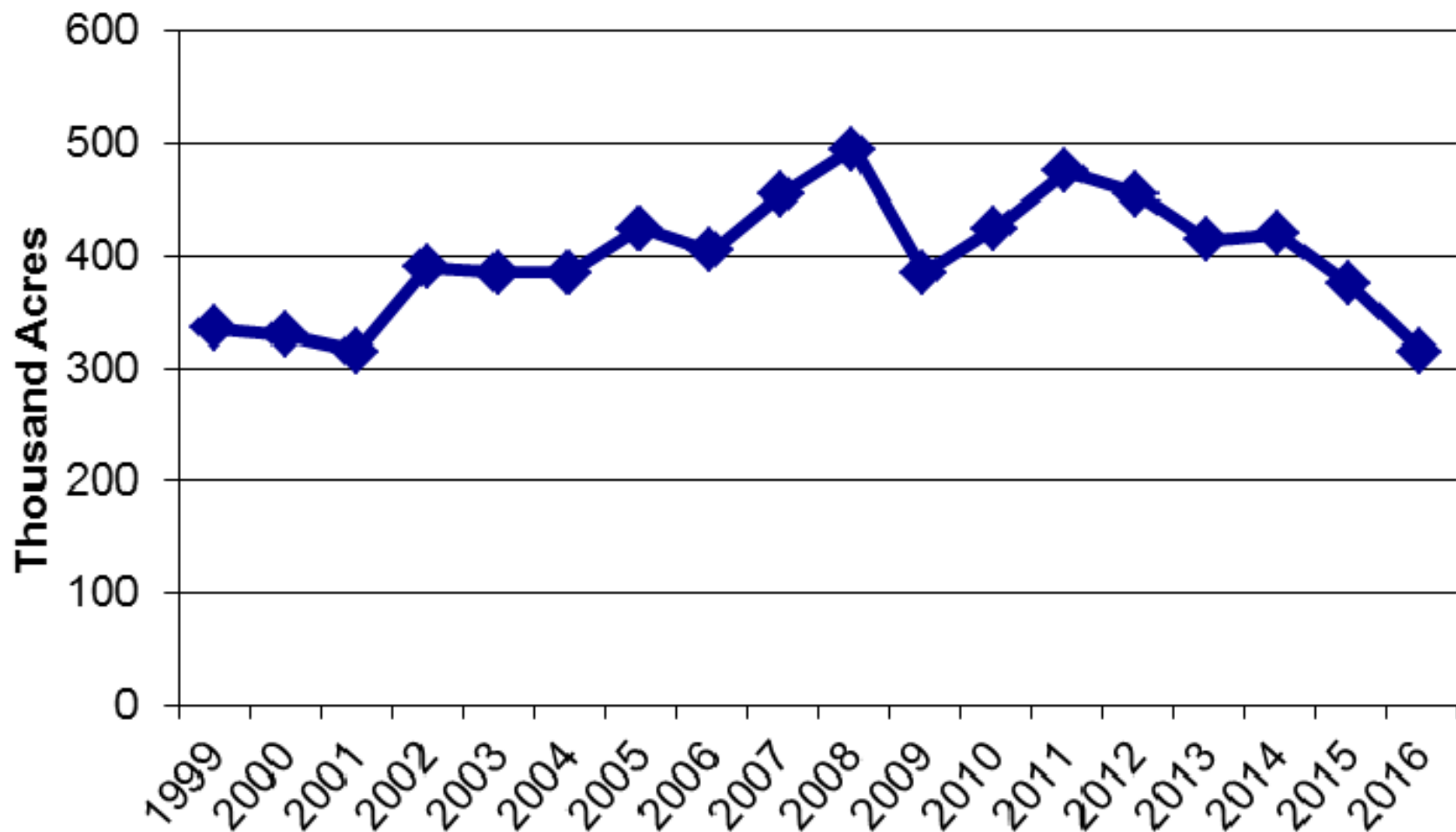
Average Pounds of Alfalfa Hay Fed per Head/per Day to Milk Cows in California, 2004-2016



Source: CDFA

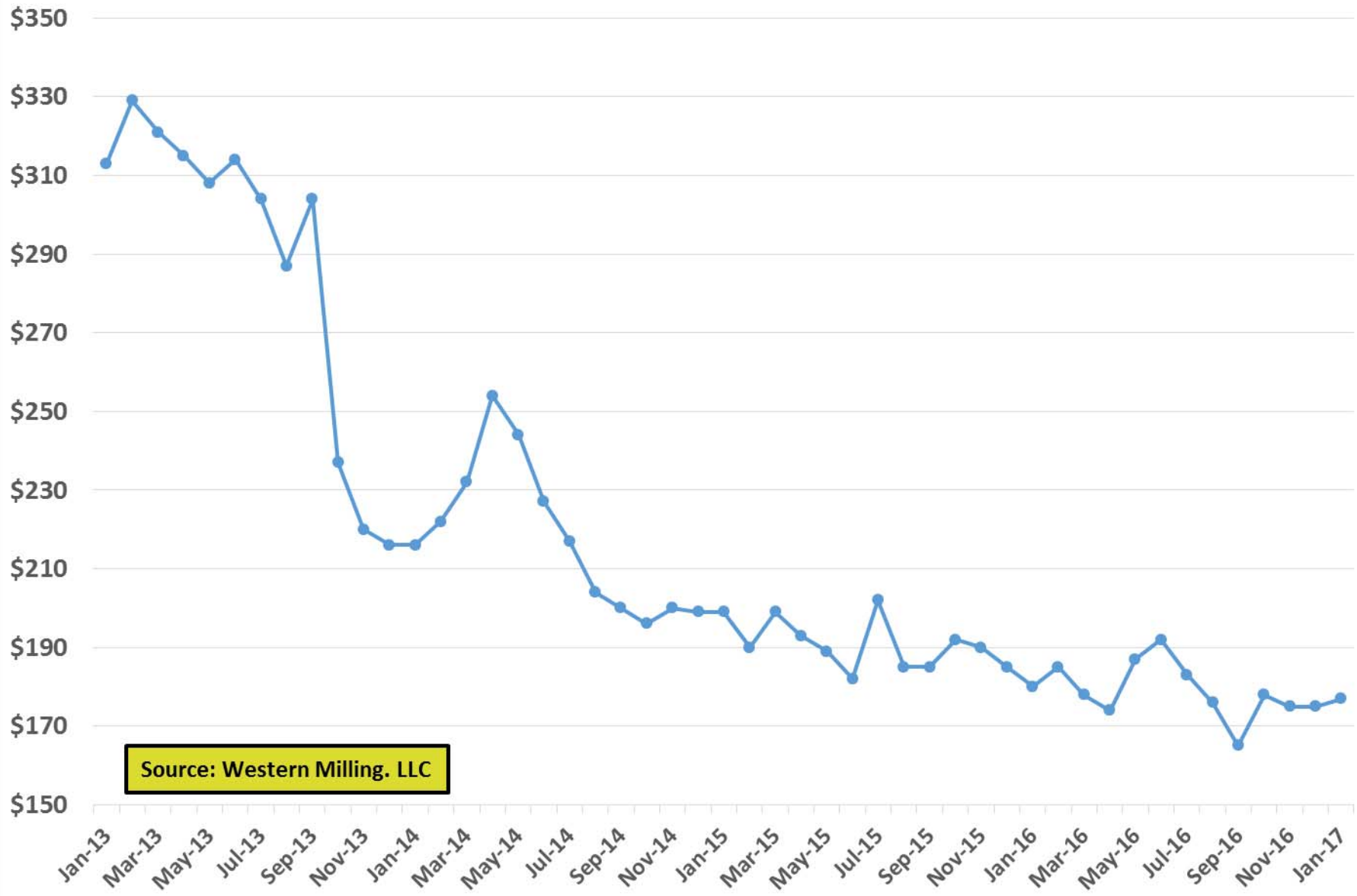
2016 - * Second Quarter ** Third Quarter

Corn For Silage Acres, California 1999-2016



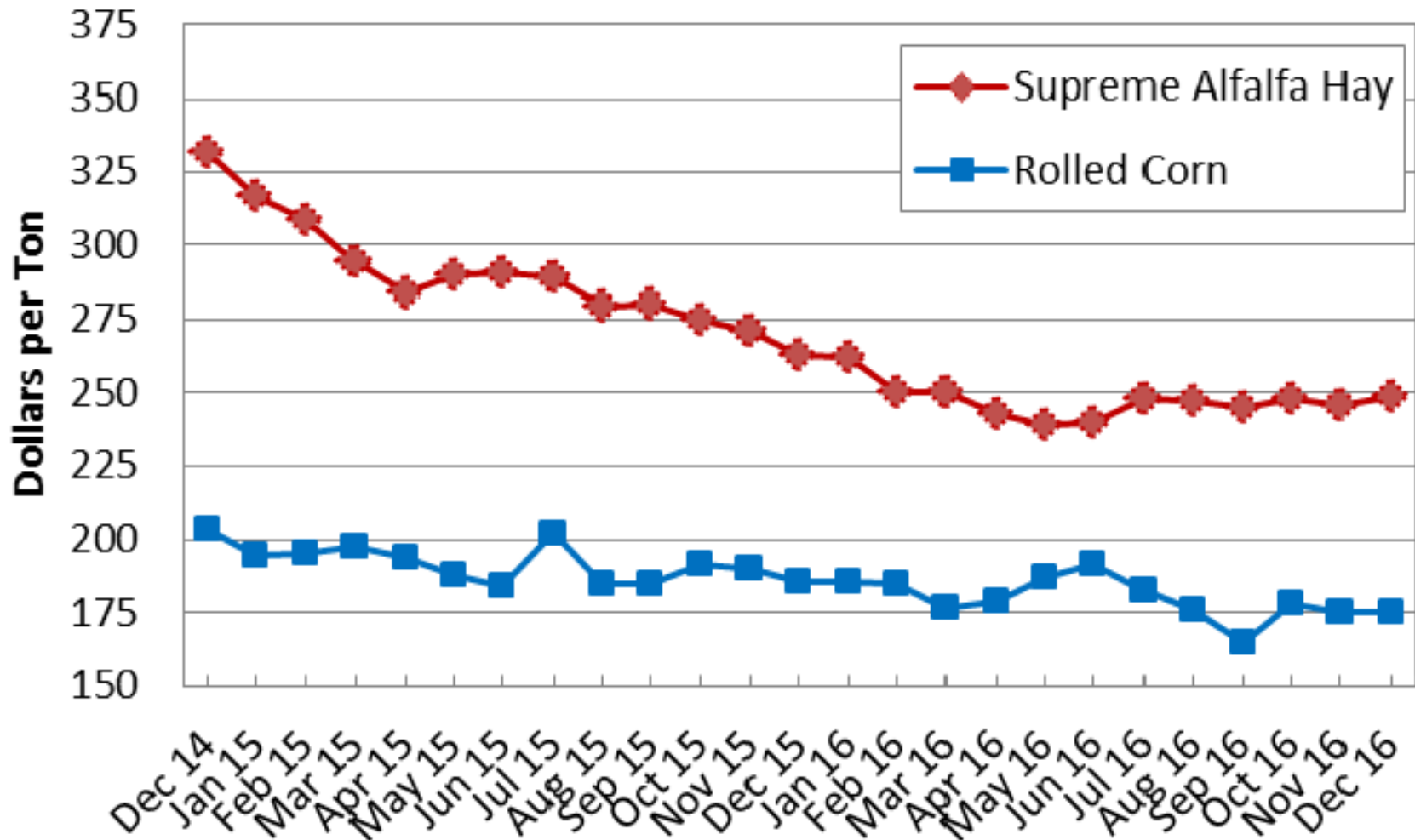
Source: USDA-NASS

Rolled corn in \$/ton basis HTV



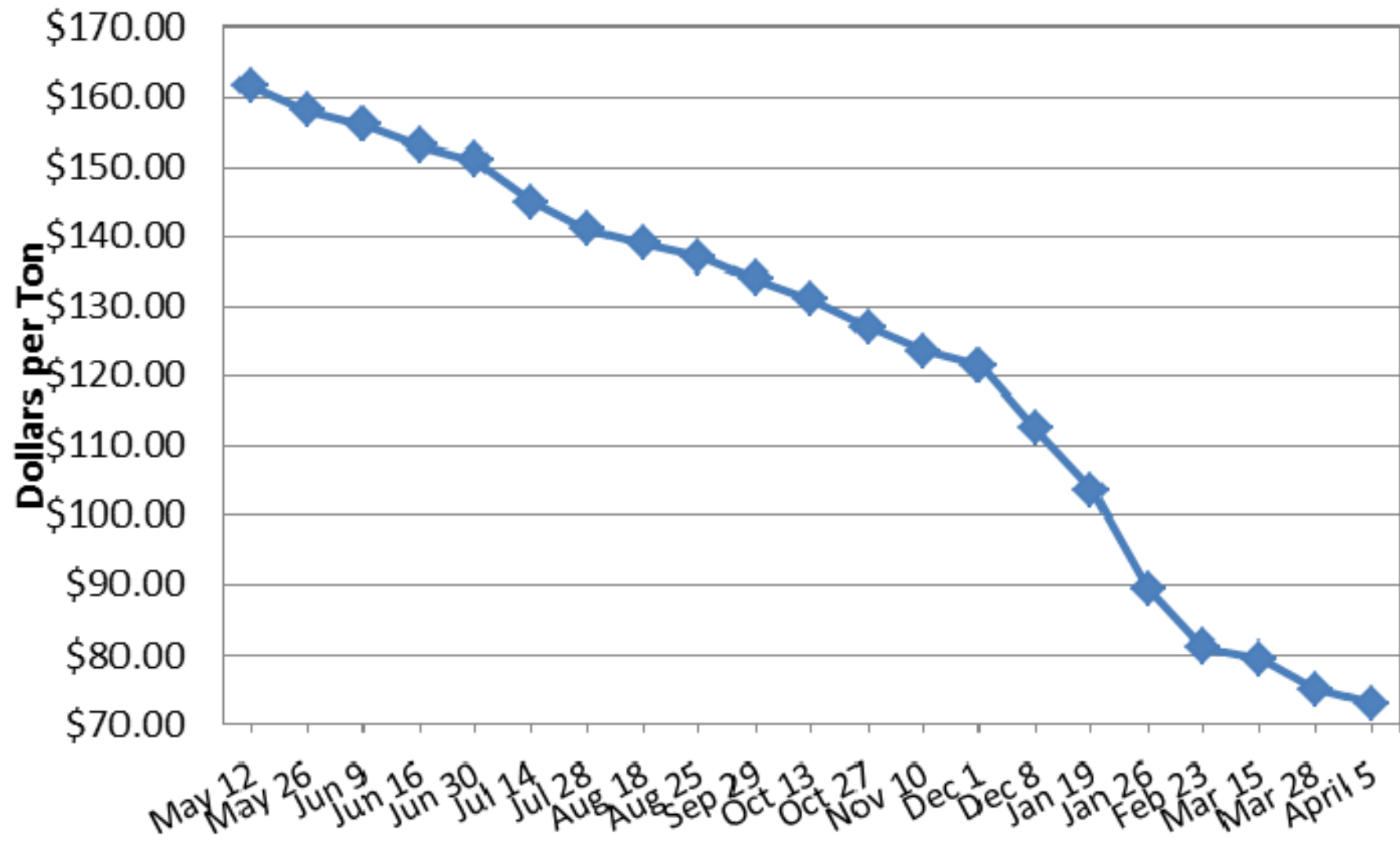
Source: Western Milling, LLC

Delivered Prices to Tulare-Hanford Dairies Supreme Alfalfa Hay vs Rolled Corn December 2014 to December 2016



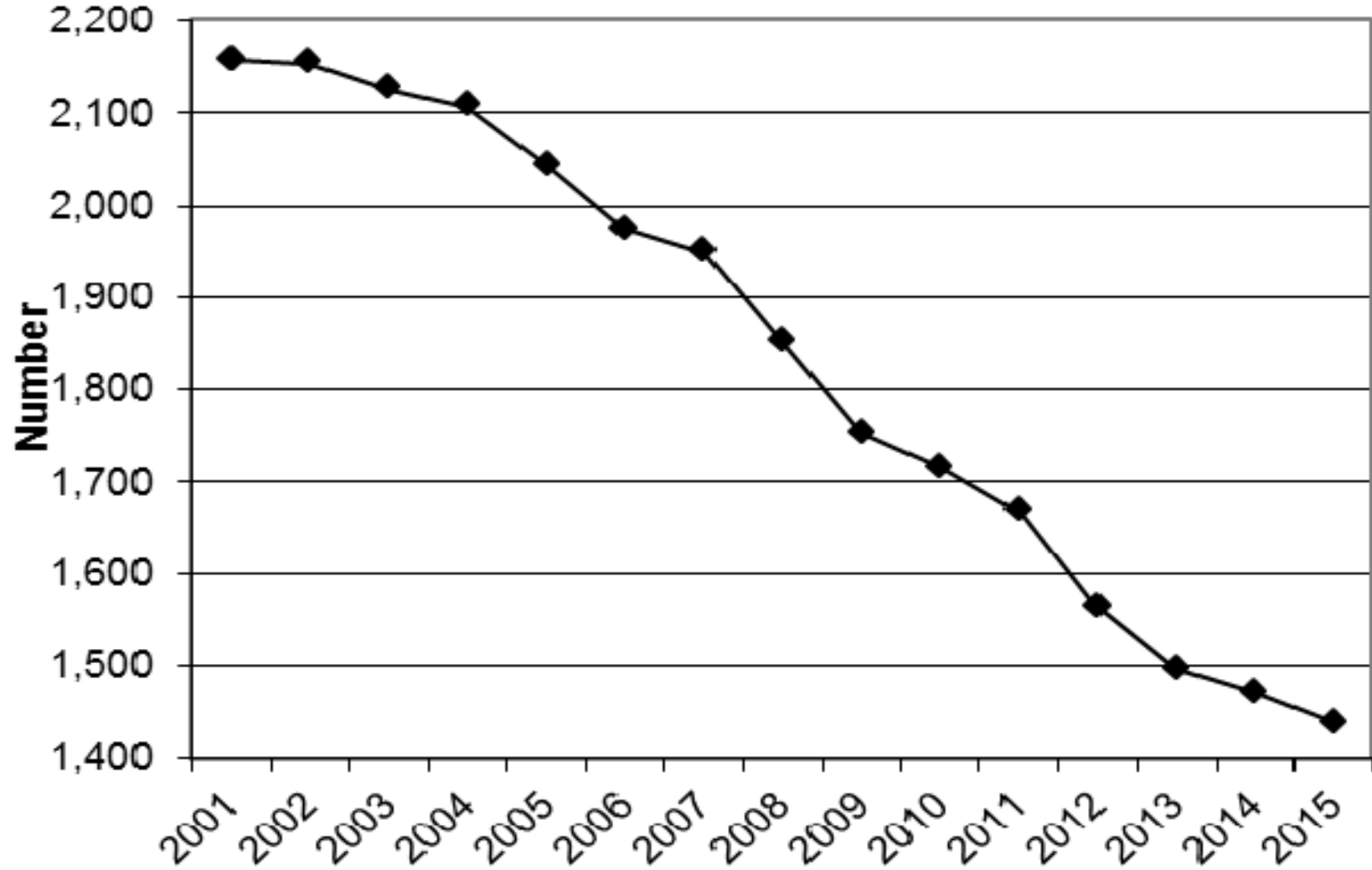
Sources: Rolled Corn - Western Milling , Alfalfa Hay-The Hoyt Report

Almond Hulls Delivered to Tulare-Hanford Dairies Weekly Average Price - May 12, 2015 to April 5, 2016



Source: USDA Livestock and Grain Market News

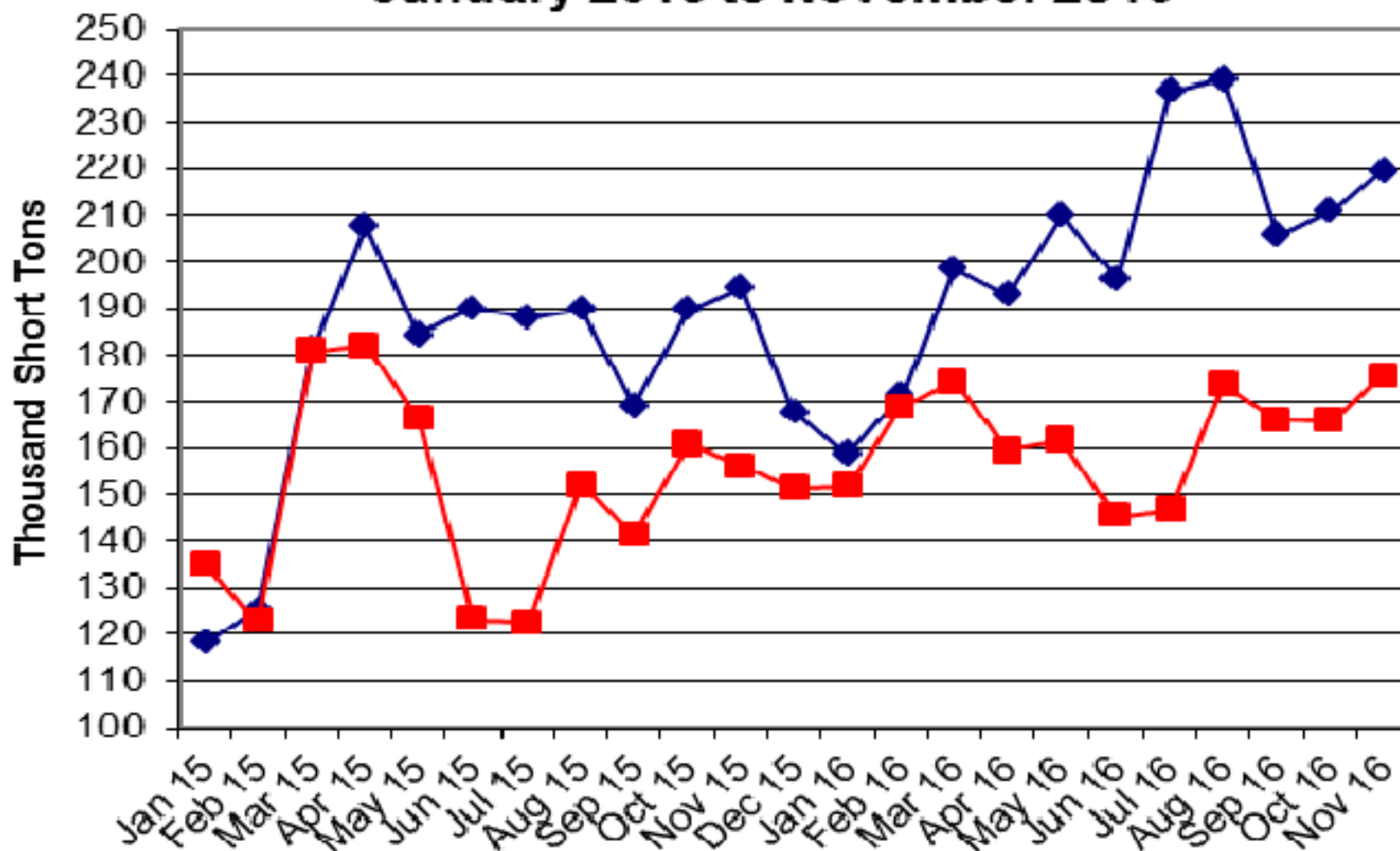
Number of Dairies in California (All Grades) from 2001 to 2015



Source: CDFA Milk and Dairy Foods Safety Branch

Hay Exports

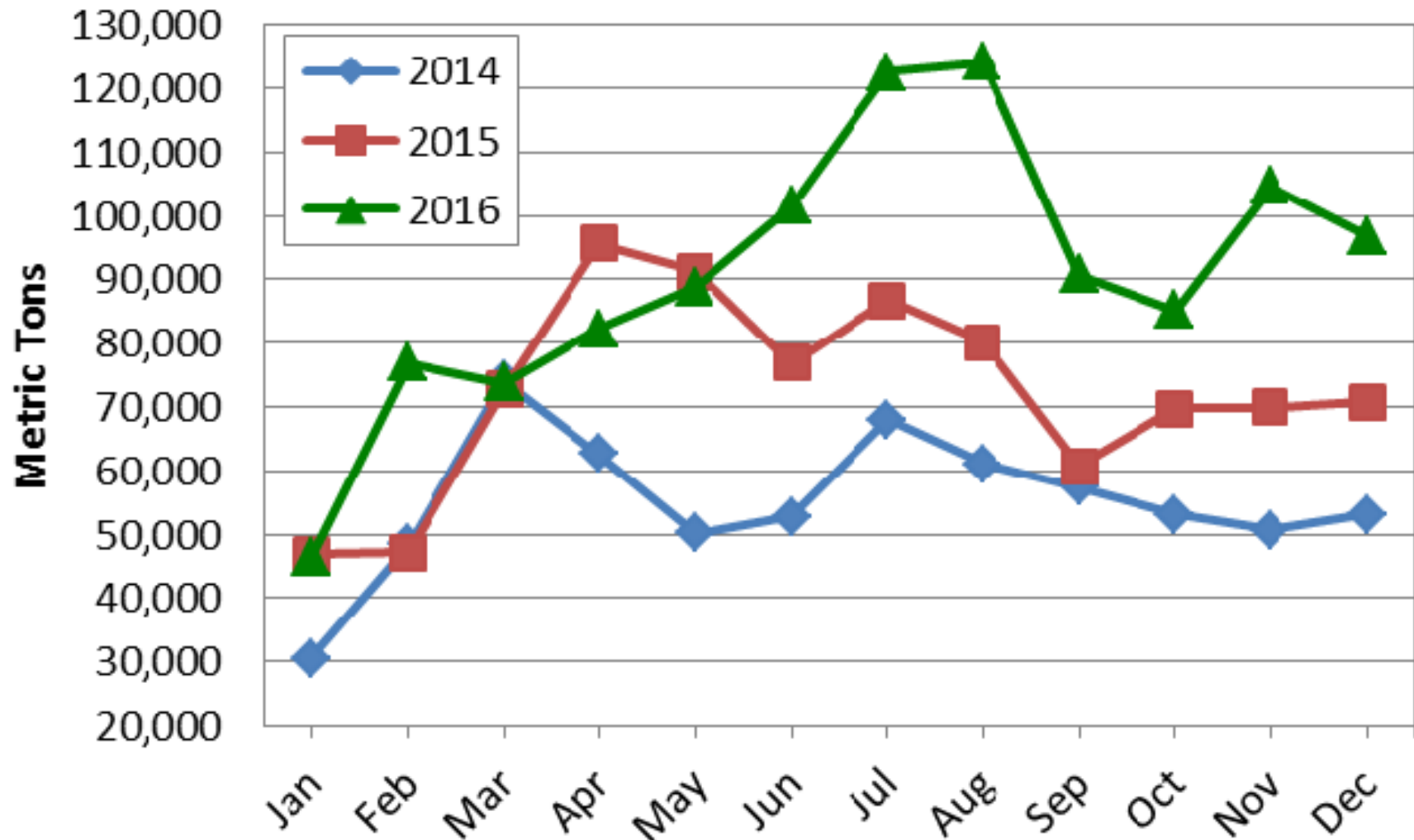
West Coast Baled Hay Exports January 2015 to November 2016



Source: U.S. Department of Commerce

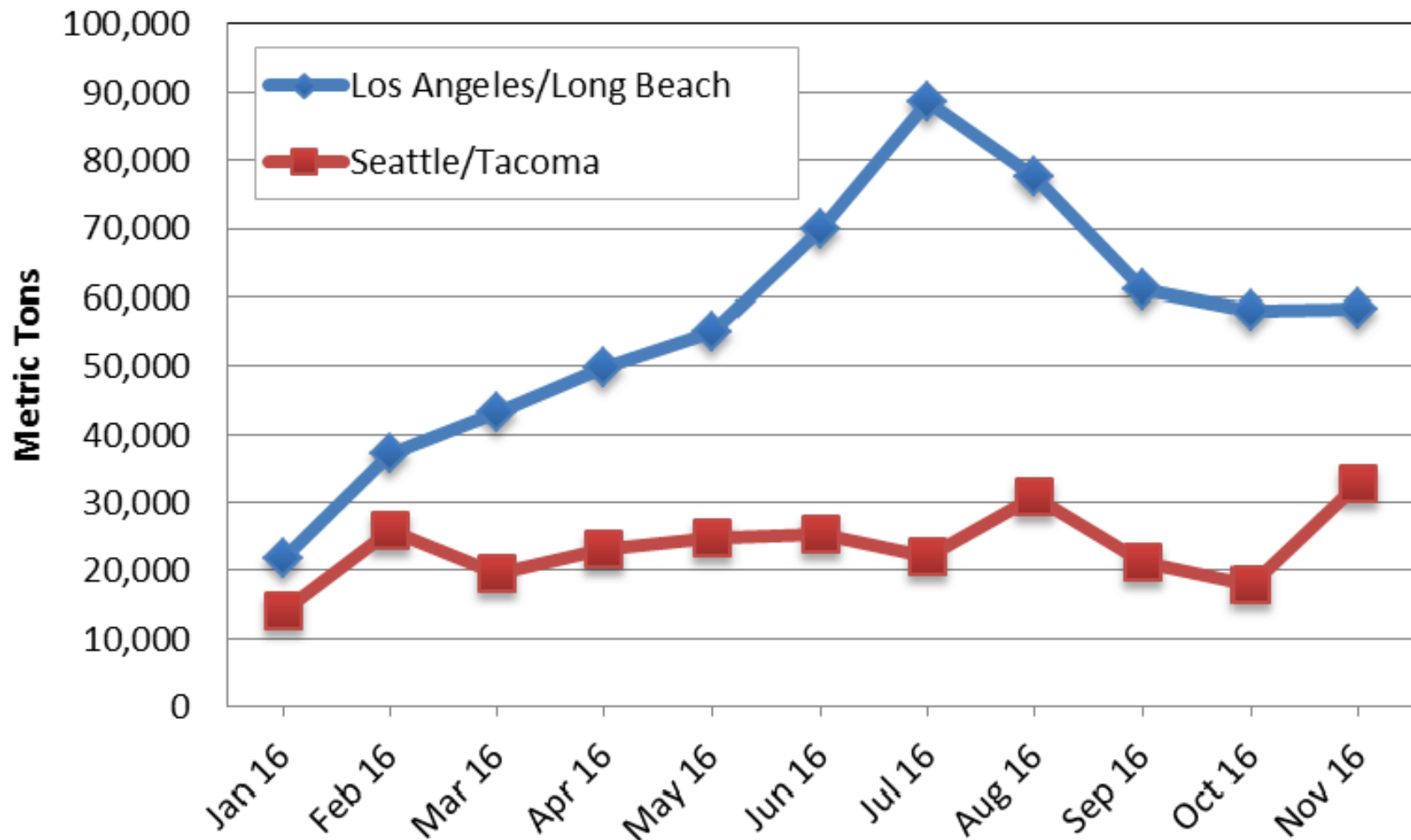
—◆— CA Ports —■— WA Ports

West Coast Alfalfa Hay Exports to China 2014-2016



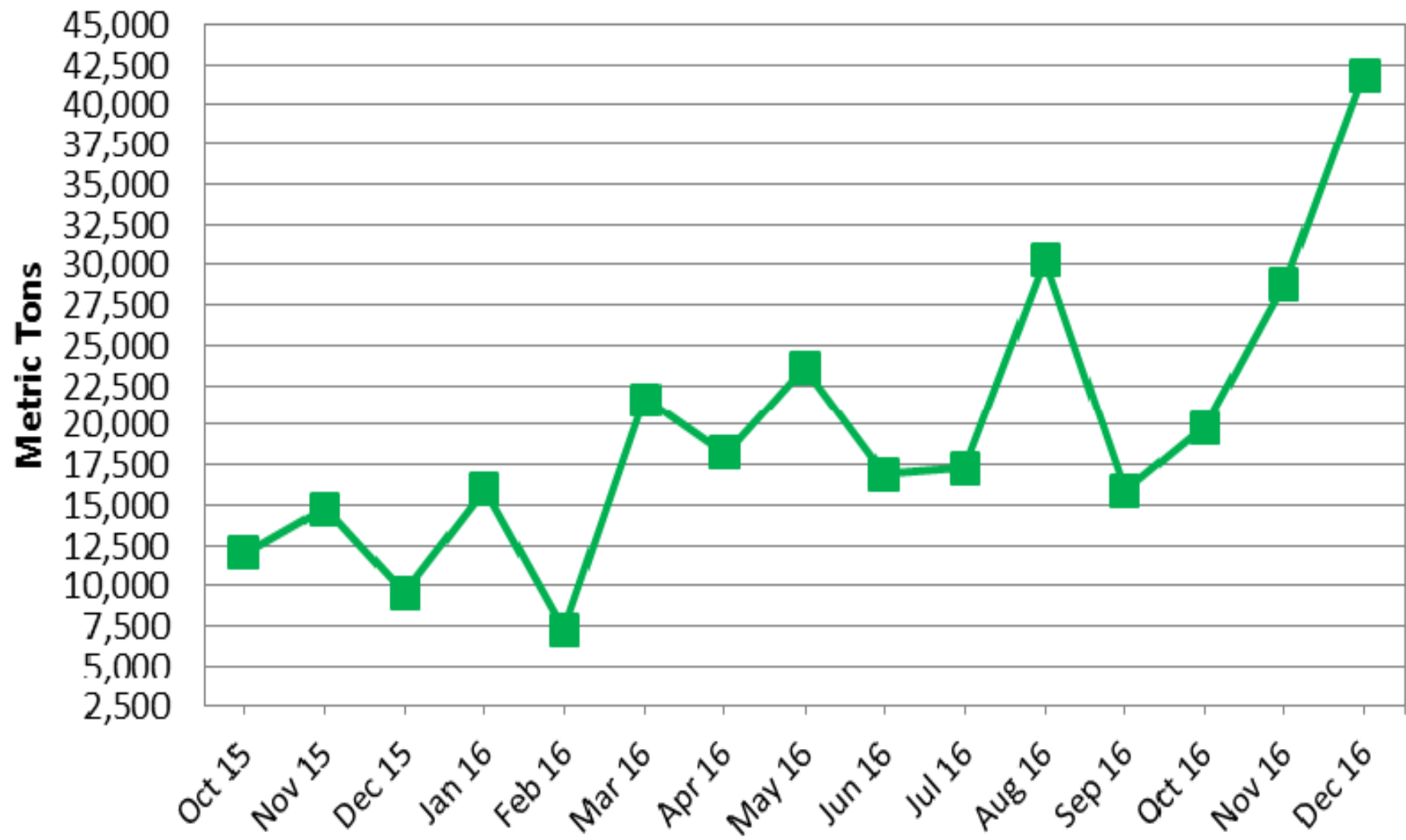
Source: U.S. Dept. of Commerce

Alfalfa Hay Exports to China from Los Angeles/Long Beach Ports and Seattle/Tacoma Ports January through November 2016



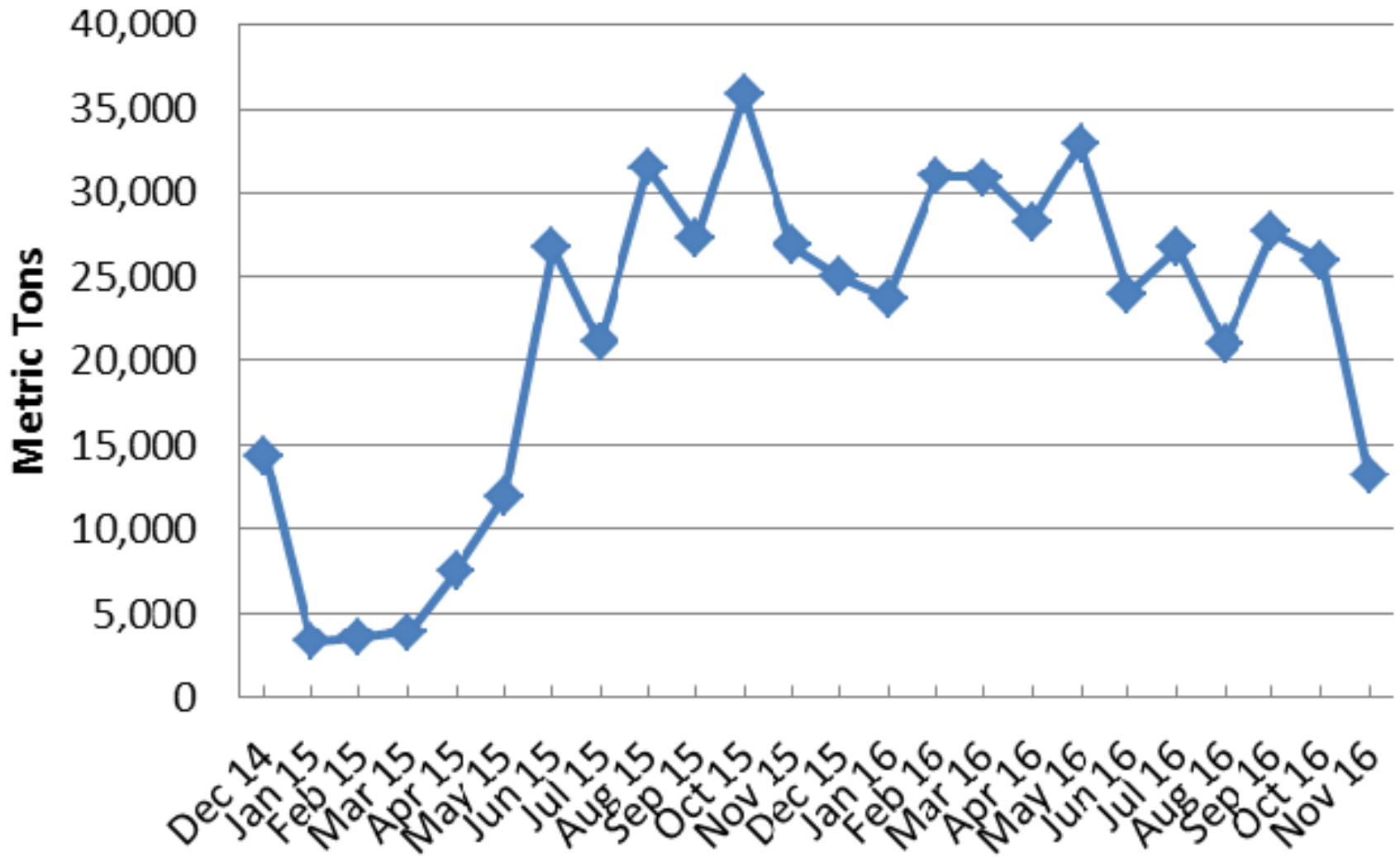
Source: U.S. Department of Commerce

Alfalfa Hay Exports to Saudi Arabia From Long Beach October 2015-December 2016



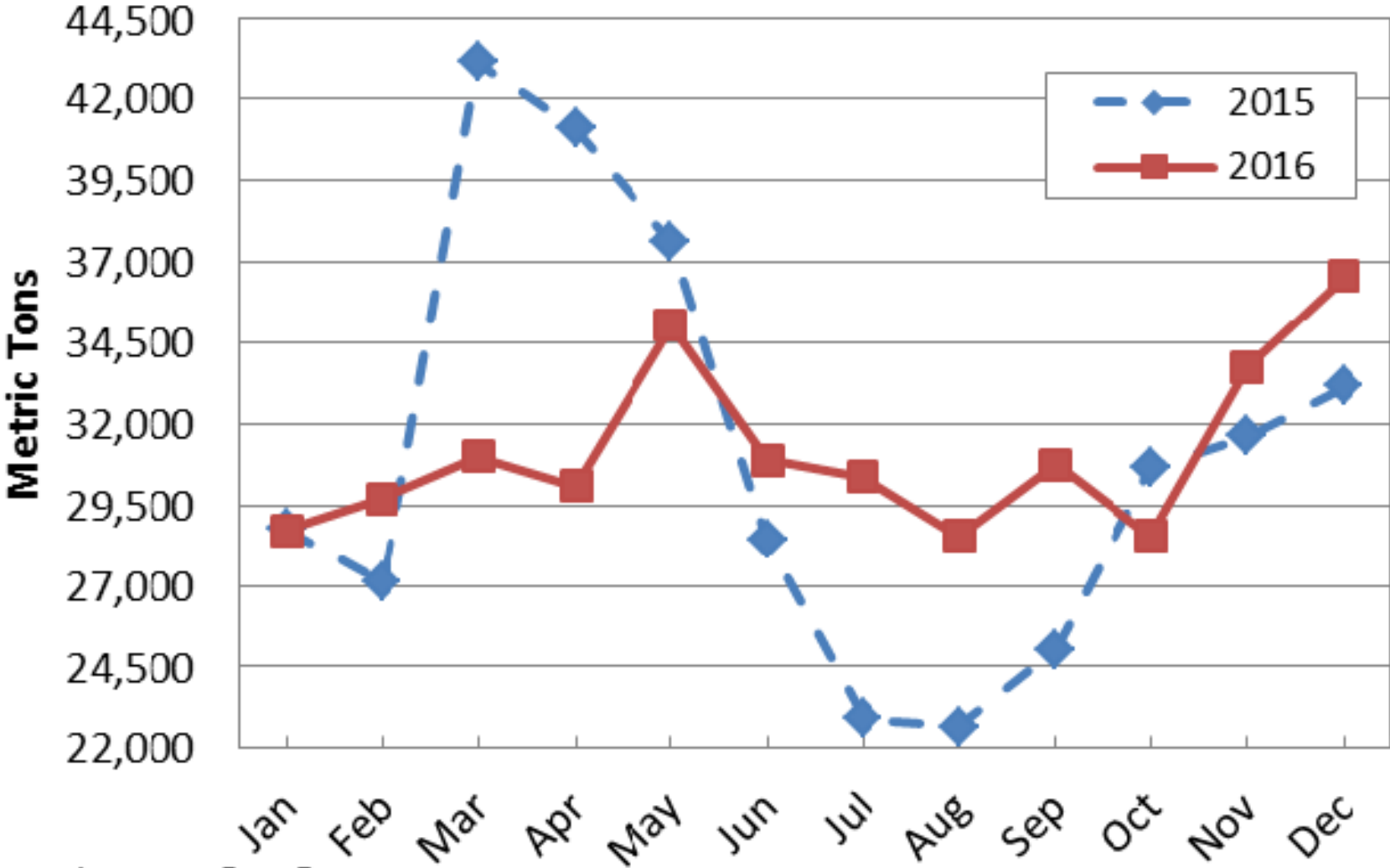
Source: U.S. Department of Commerce

West Coast Alfalfa Hay Exports to the UAE December 2014 through November 2016



Source: U.S. Dept. of Commerce

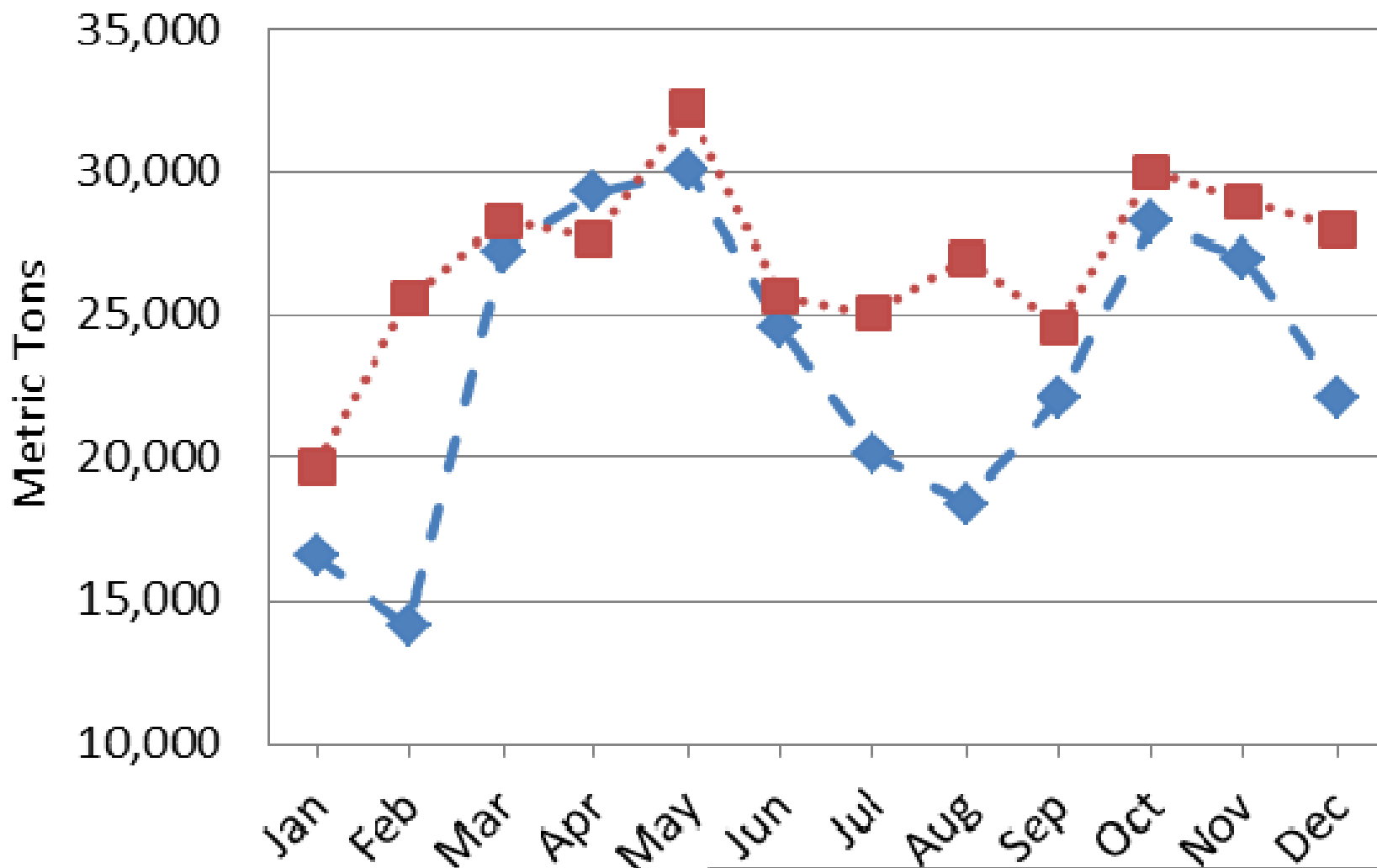
West Coast Alfalfa Hay Exports to Japan January 2015 through December 2016



Source: Japanese Port Data

PNW Timothy Hay Exports to Japan

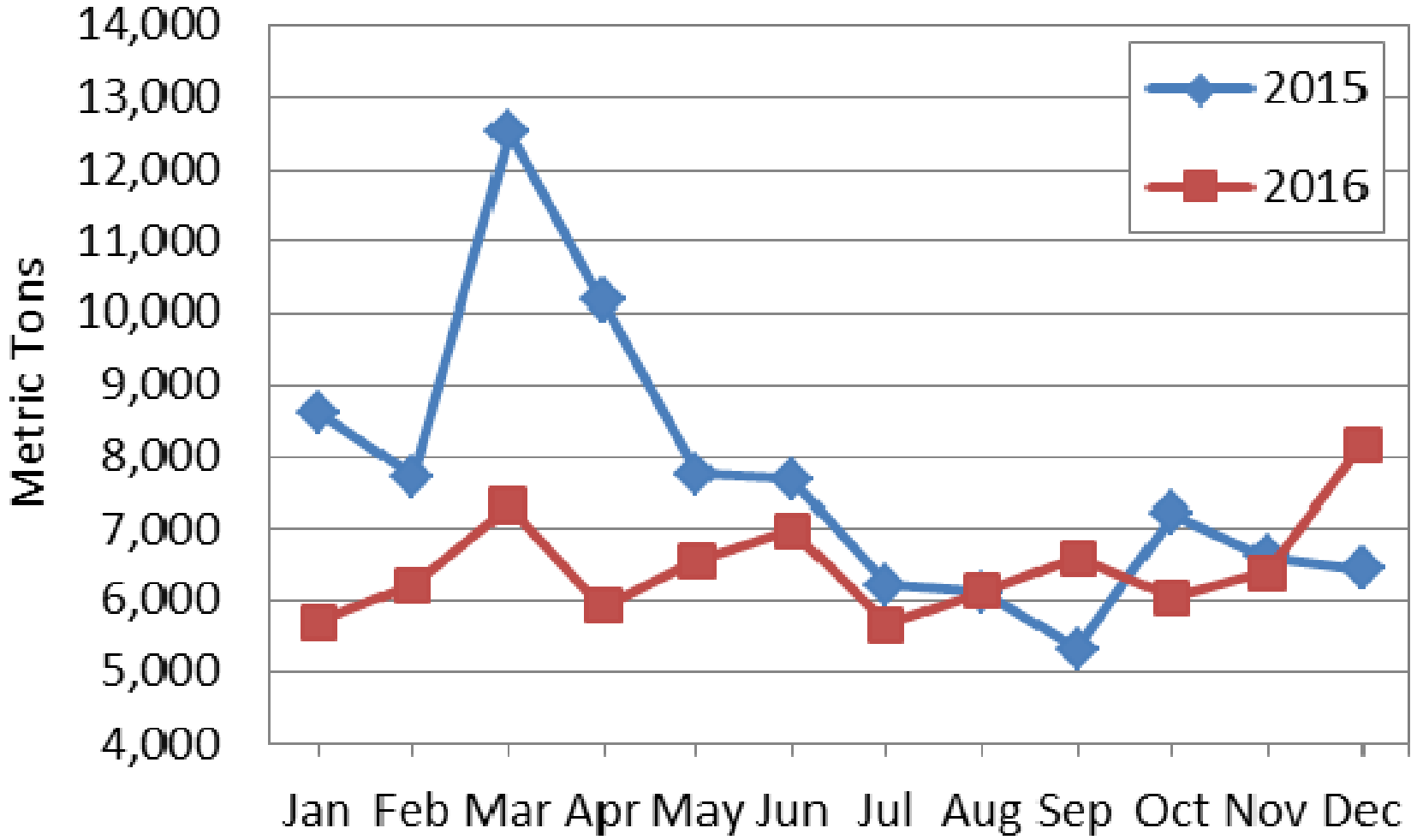
January 2015 through December 2016



Source: Japanese Port Data

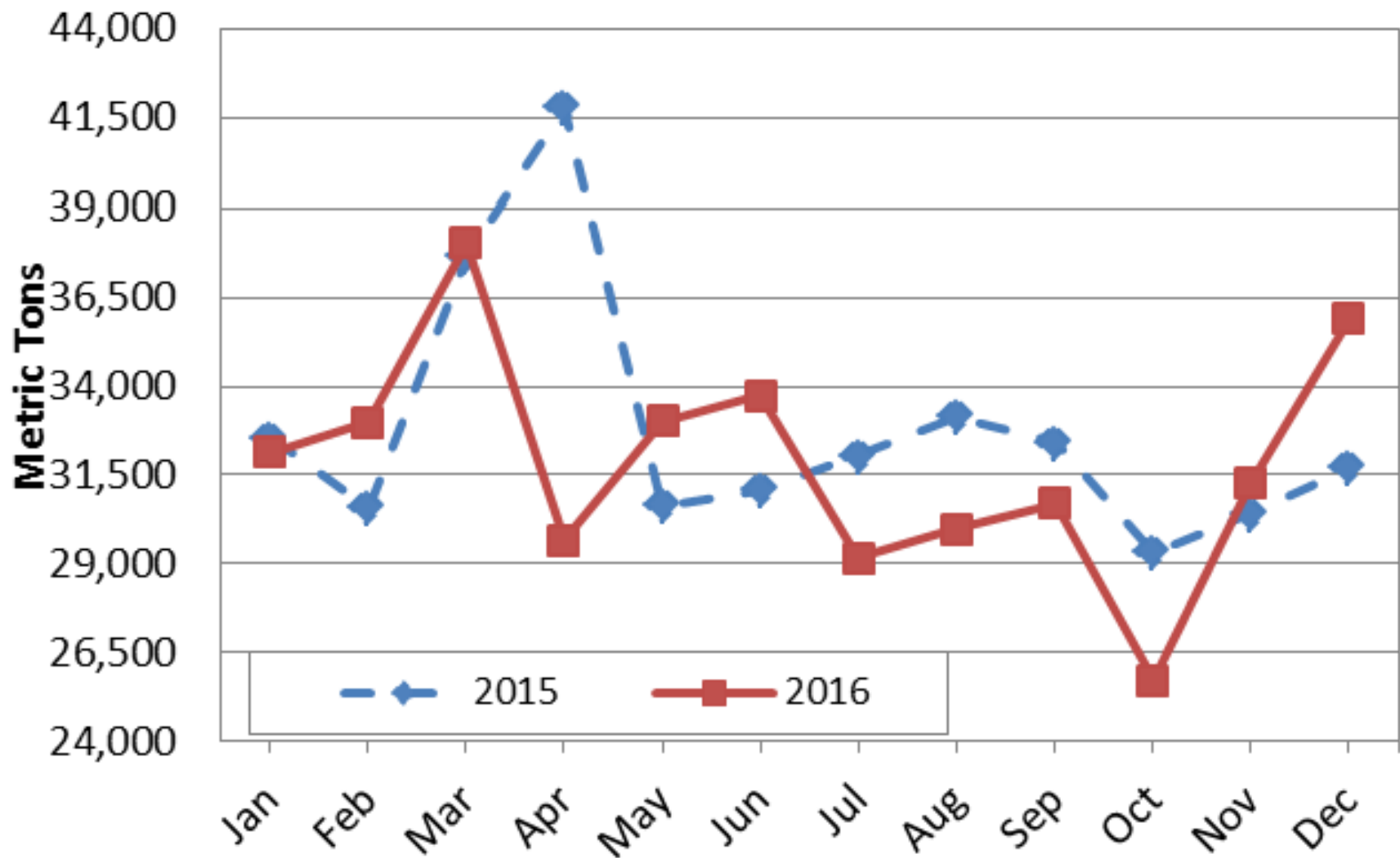
— ◆ — 2015 ··· ■ ··· 2016

Canadian Timothy Hay Exports to Japan January 2015 through December 2016



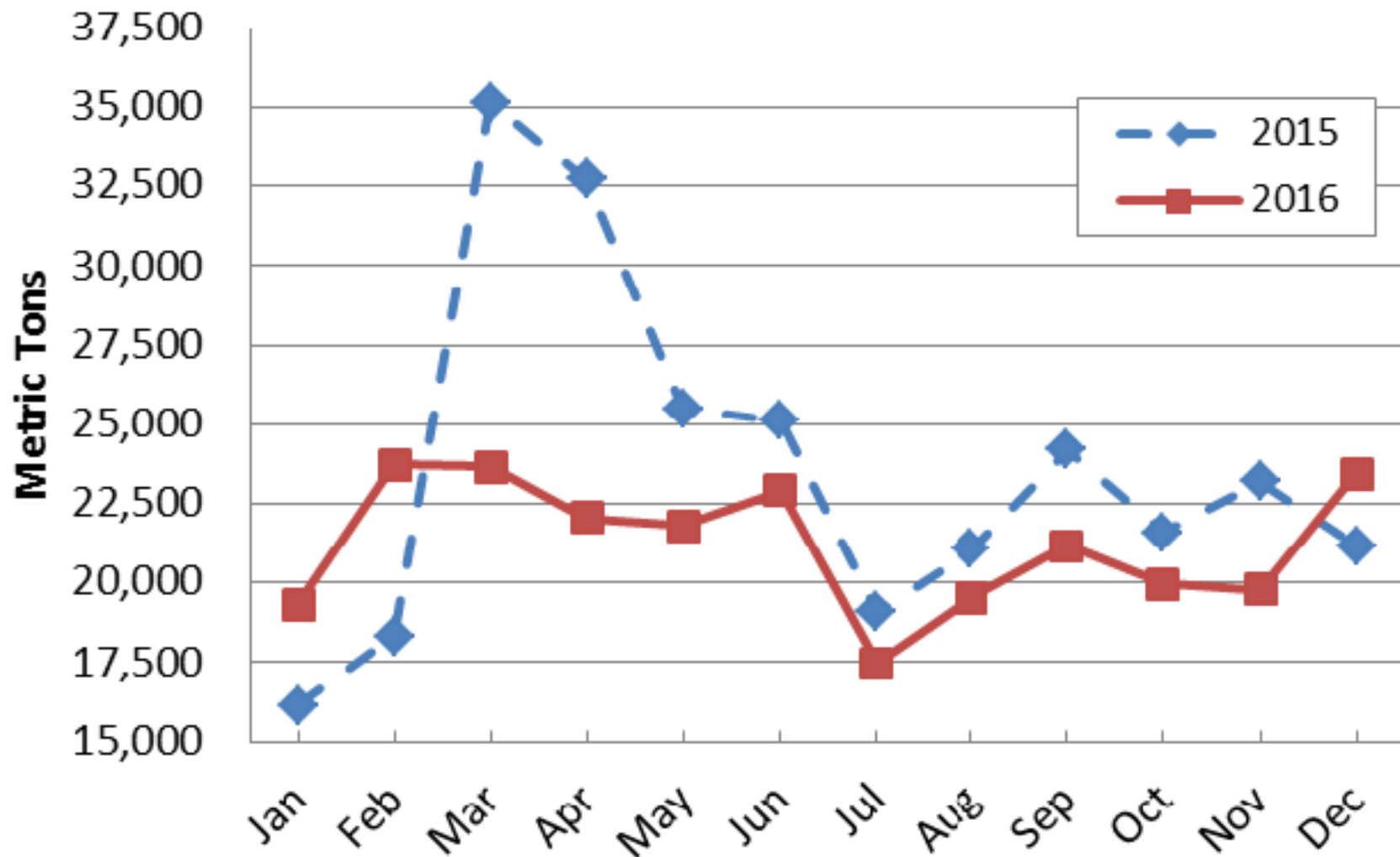
Source: Japanese Port Data

Australian Oaten Hay Exports to Japan January 2015 through December 2016



Source: Japanese Port Data

West Coast Sudan Hay Exports to Japan January 2015 through December 2016

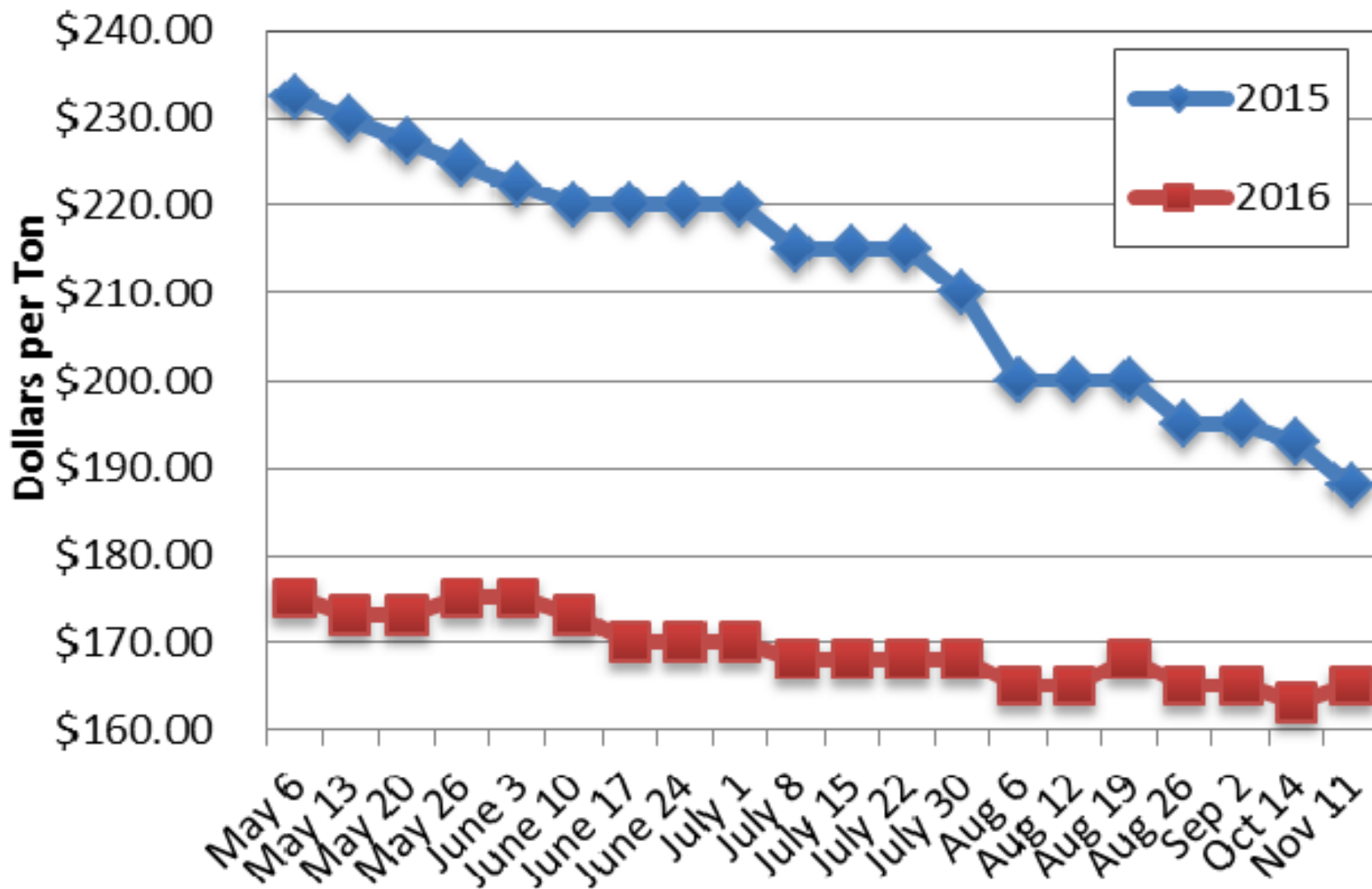


Source: Japanese Port Data

Retail

AlfaHay

Imperial Valley Premium Retail Alfalfa Hay May 6 to November 11, 2015 and 2016



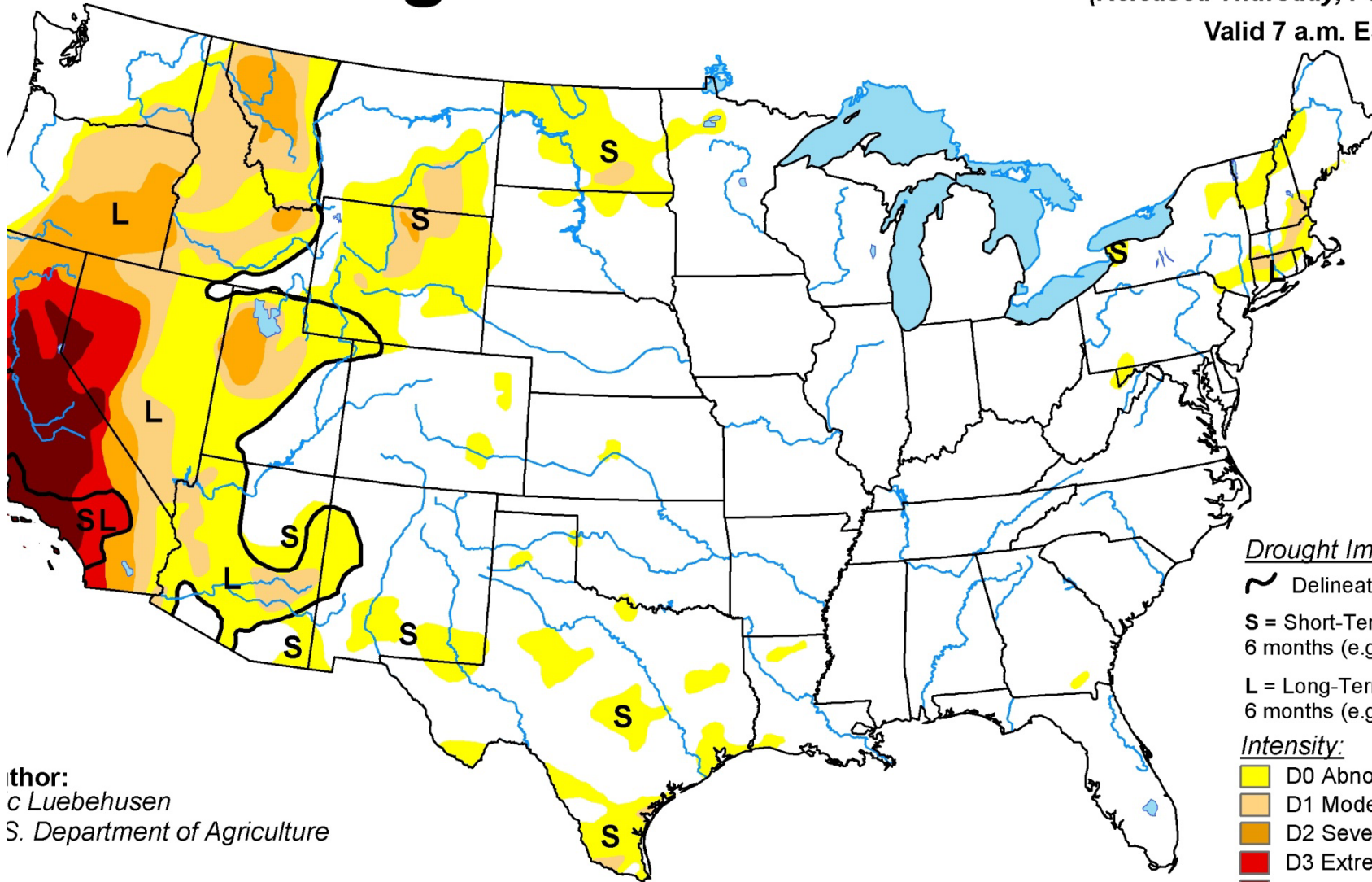
Source: The Hoyt Report

Outlook For 2017

U.S. Drought Monitor

February 20, 2016
(Released Thursday, Feb. 25, 2016)

Valid 7 a.m. EST



Author:
Eric Luebehusen
U.S. Department of Agriculture

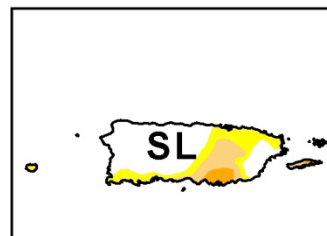
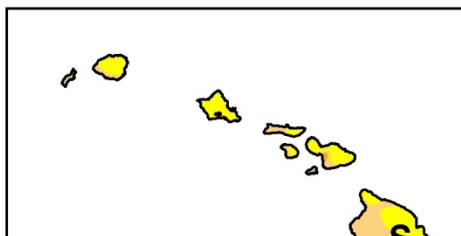
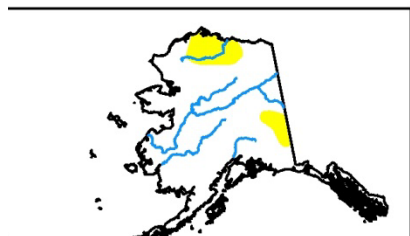
Drought Impact Types:

- ~ Delineates dominant impact:
- S = Short-Term, typically less than 6 months (e.g. agriculture, grassland)
- L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

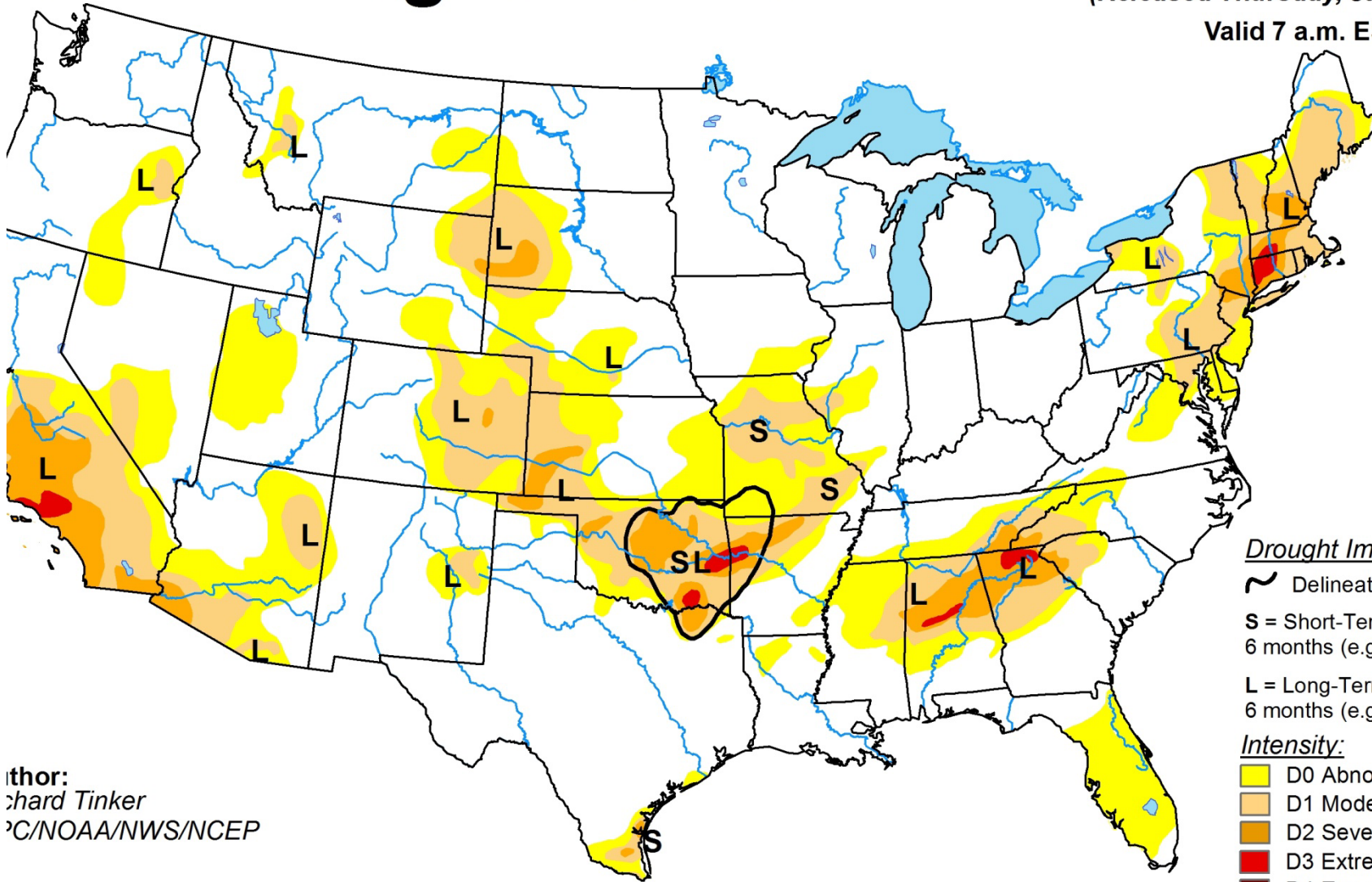
The Drought Monitor focuses on broad scale conditions. Local conditions may vary. See accompanying text summary, forecast statements.



U.S. Drought Monitor

January 24, 2017
(Released Thursday, Jan. 26, 2017)

Valid 7 a.m. EST



Drought Impact Types:

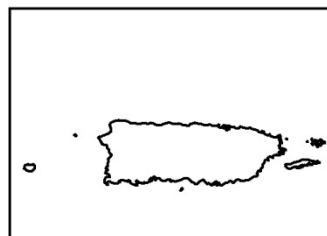
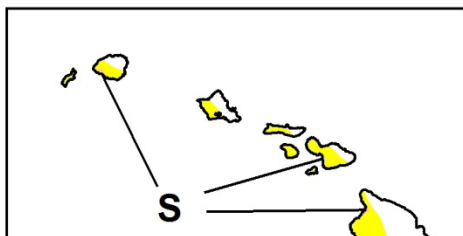
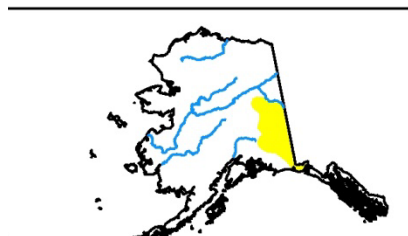
- ~ Delineates dominant impact:
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- L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

Intensity:

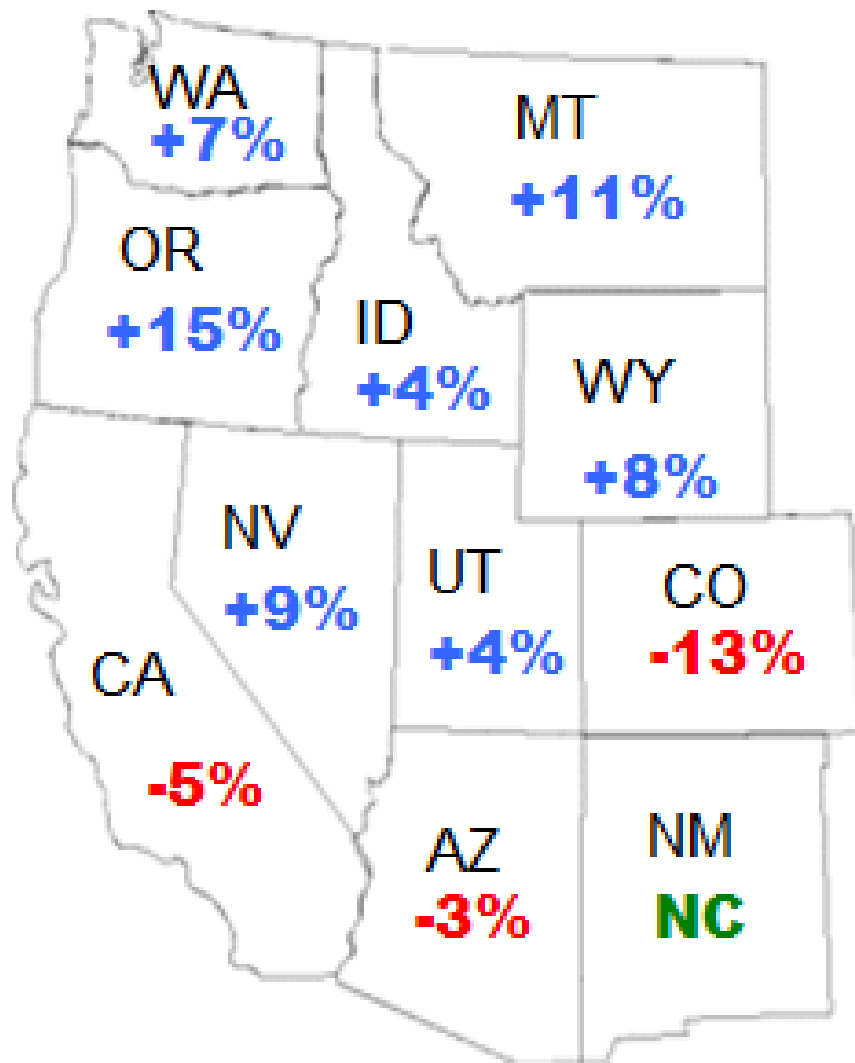
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

Author:
Richard Tinker
NOAA/NWS/NCEP

The Drought Monitor focuses on broad scale conditions. Local conditions may vary. See accompanying text summary, forecast statements.



December 1
Hay Stocks
2016/2015 % CHANGE

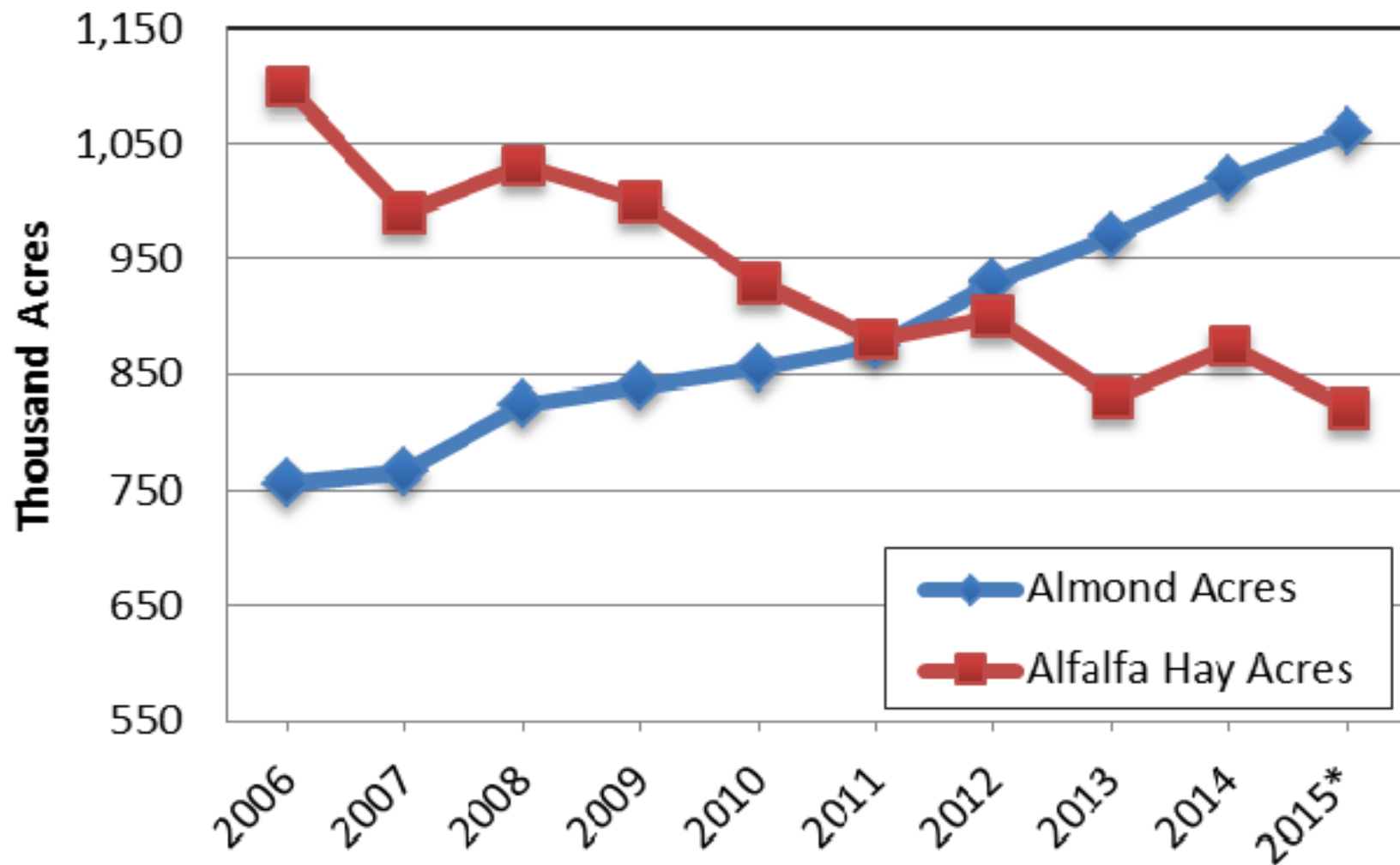


Source: USDA-NASS

Alfalfa Hay Acres in 2017

- Growers want to reduce alfalfa hay acres
- Early indications acres will be down in the west but
- More cotton in AZ & CA, more trees in CA
- More timothy hay will reduce alfalfa acres in WA but not many crop options in much of the west

Alfalfa Hay VS Almond Acres in California 2006 to 2015

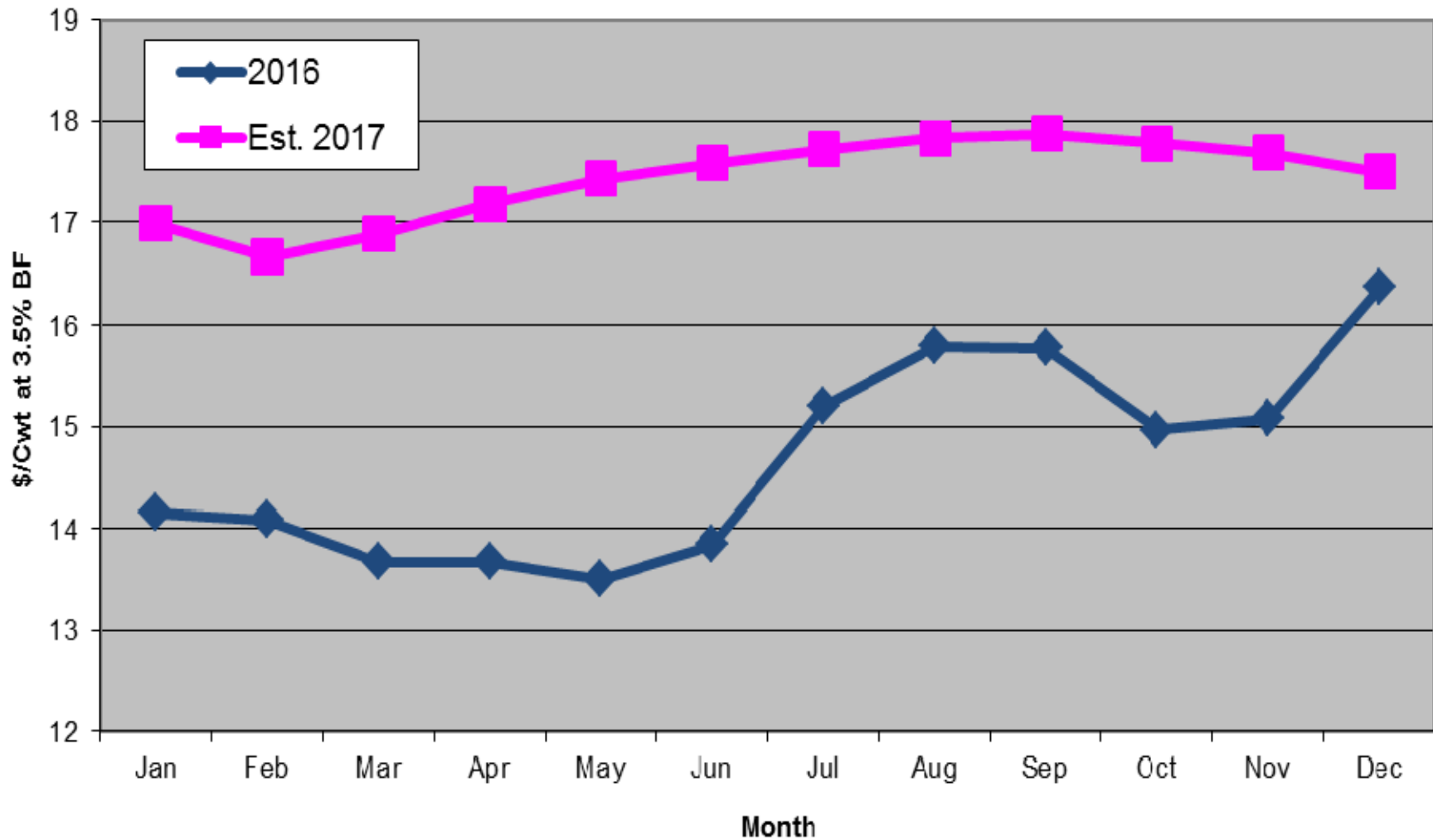


Source: USDA/NASS

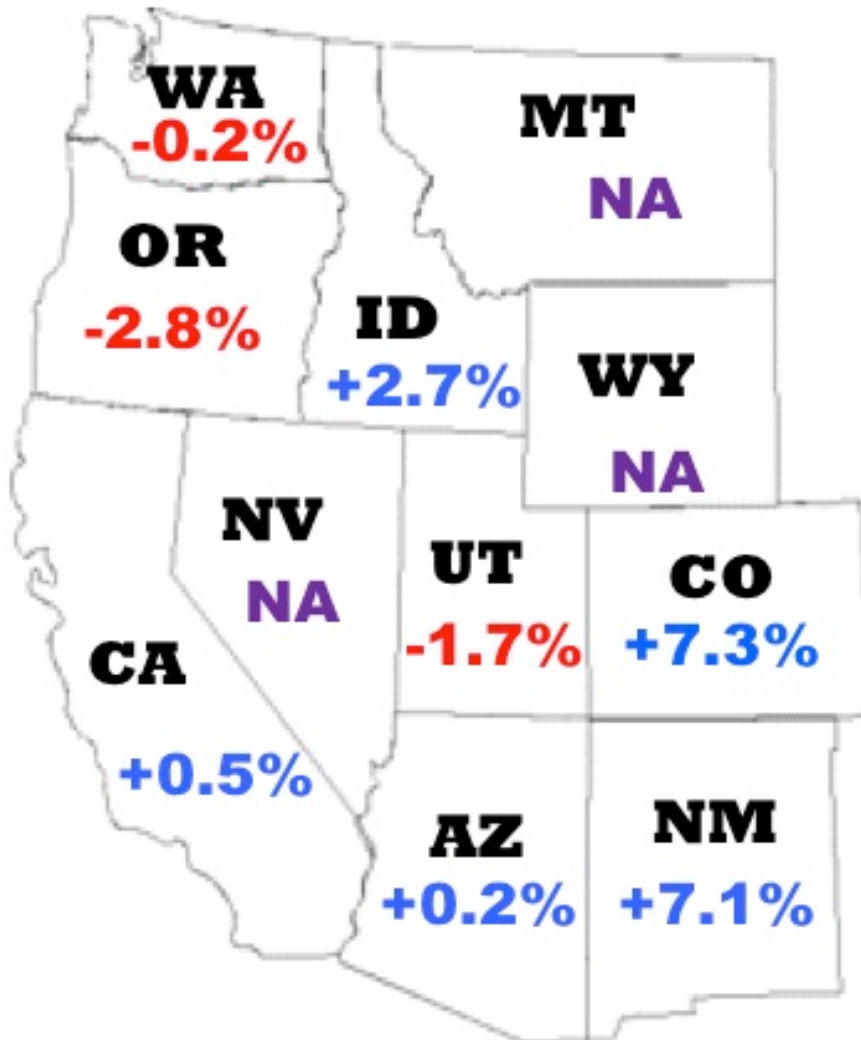
Dairy Situation in 2017

- Milk Prices projected to be higher
- Higher milk production and larger dairy cow inventory slowing U.S. recovery
- USDA forecasting 2.1% growth in U.S. milk production in 2017
- Higher world dairy product markets could help U.S. dairy exports

Actual and Estimated Uniform Prices: Pacific Northwest Order (FO 124)
(Estimates based on CME Futures as of 1/27/2017)
Market Administrator's Office, Bothell, WA

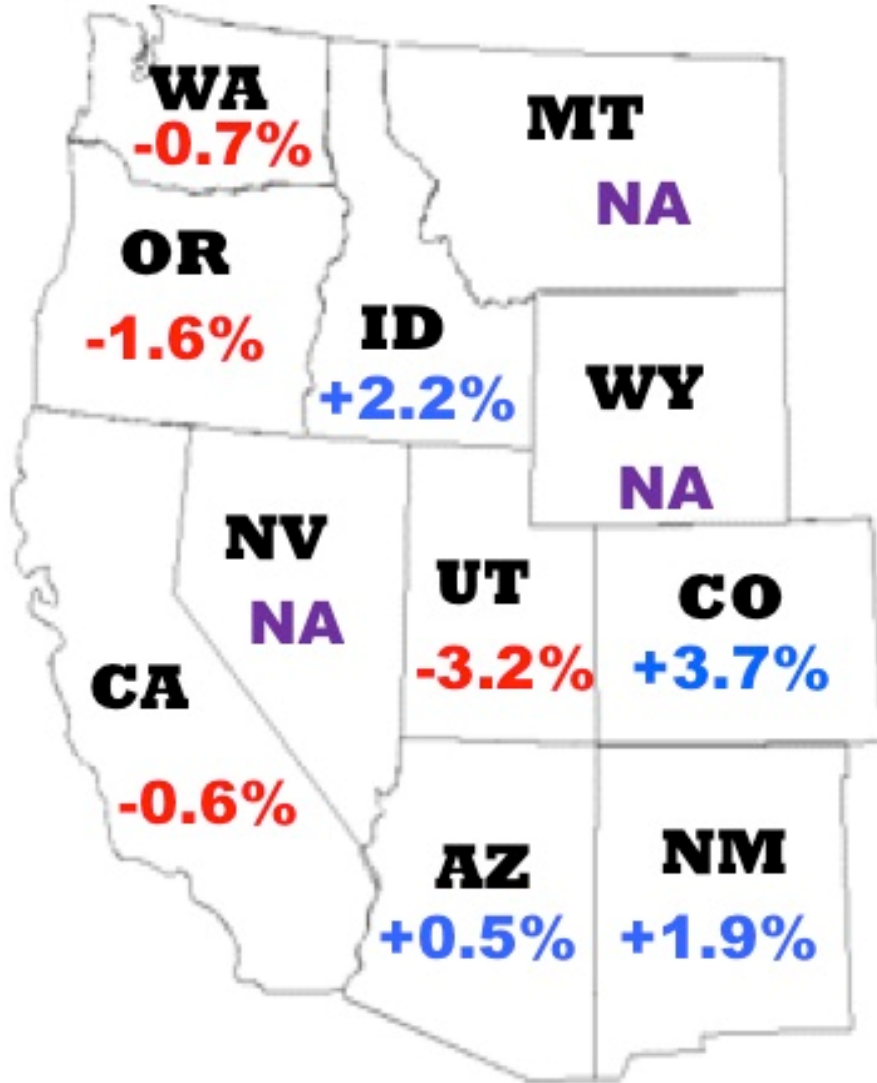


**December
Milk Production
2016/2015 % CHANGE**



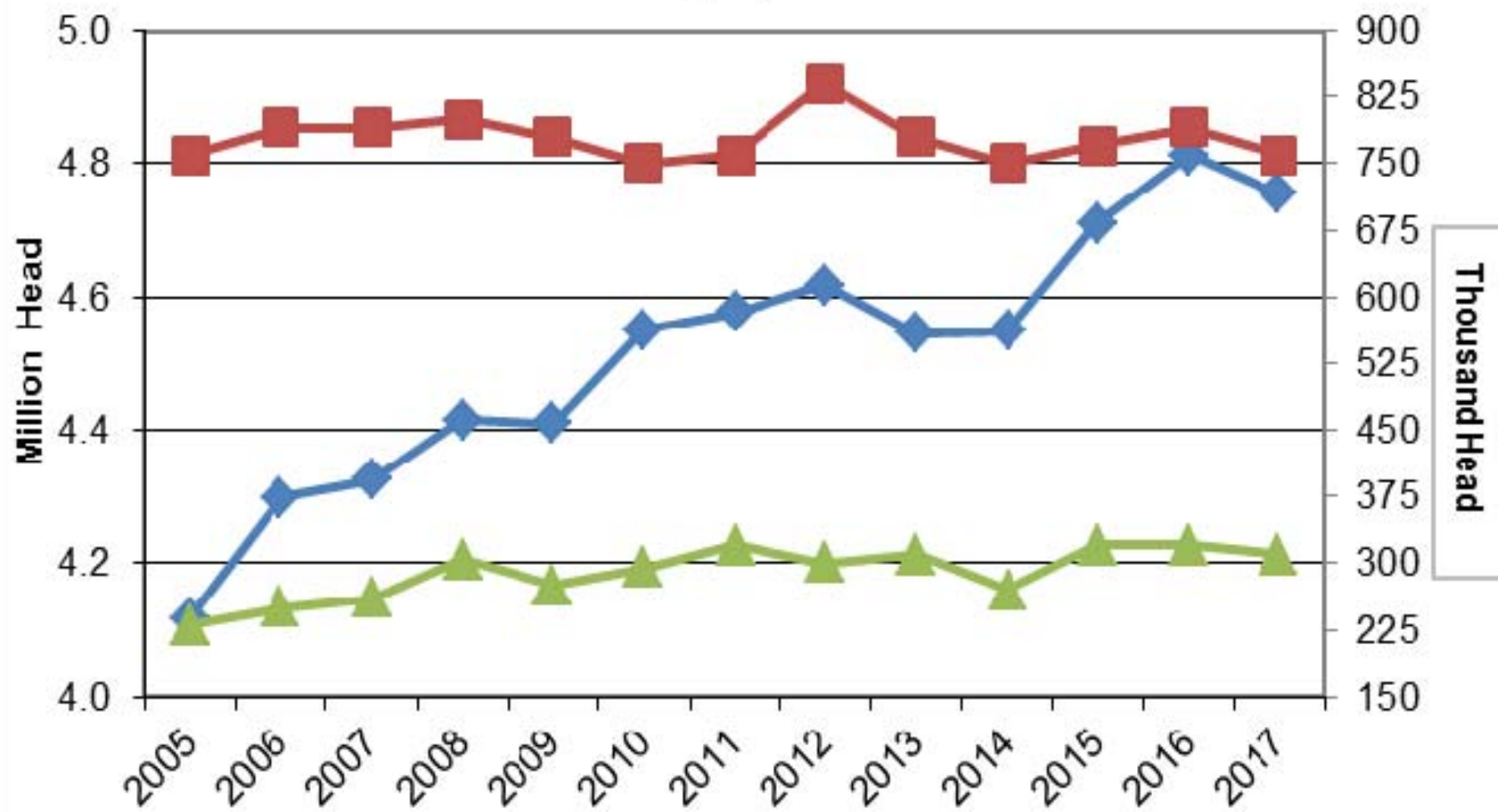
Source: USDA-NASS

**December
Milk Cow Numbers
2016/2015 % CHANGE**



Source: USDA-NASS

U.S. Milk Replacement Heifers Over 500 Lbs United States vs California and Idaho January 1, 2005-2017



Source: USDA/NASS

◆ US
 ■ CA
 ▲ ID

Hay Exports

- China and Saudi Arabia are growth markets for alfalfa hay from the west coast
- Japan, UAE, Korea are mature markets
- Ocean shipping rates climbing – went from overcapacity to tighter capacity after Hanjin bankruptcy
- Export timothy demand strong –will it continue in 2017?

Hay Market Trends

- Alfalfa hay market in the west in 2017 will depend on a lot of “if’s”
- If alfalfa hay acres are down, if milk prices are stronger than 2016, and if exports continue to grow to China & Saudi Arabia, alfalfa hay prices could be stronger in 2017
- Feeder/Dry cow hay market in the west will probably recover faster than expected

Best Wishes in 2017

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Hay Market Analysis and Insights



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