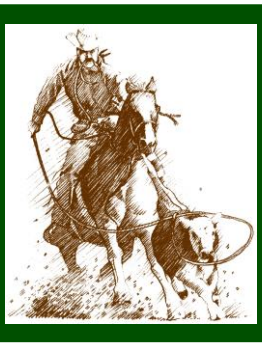

Analysis & Comments

Livestock Marketing Information Center

State Extension Services in Cooperation with USDA

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National Hay Situation and Outlook

The 2014 calendar year provided favorable growing conditions for hay producers across most of the U.S. Even drought-struck California produced more hay than anticipated, according to the USDA-NASS reports. This has contributed to a general story in the national hay complex of trending towards normal (pre 2010 and 2011 drought) production, stock levels, and prices.

Hay is a highly regionalized crop, and drought can have varying impacts depending on the region. The highest hay acreage is typically in the middle of the U.S. spanning a direct line from Texas up to North Dakota. However, these are not necessarily the highest producing states. Texas, California, Missouri, South Dakota and Kansas are the top five in average total hay production for the time period of 2004-2014.

U.S. hay production in 2014 was the largest since 2010, and prices, although trending slightly lower throughout the marketing year, continued to be supported by an increasing disappearance level and lagging increase in harvested acres as the industry continues to work its way back to pre-2011 drought levels. The increasing disappearance can be attributed to first a growing national dairy herd in 2014, and second the growth of the national beef herd which is forecasted to continue into 2015.

Over the past 20 years harvested acres of alfalfa has been on a decreasing trend, down 24% compared to 1994. Since 2012 however, there has been a reversal of this trend and harvested acres of alfalfa have gradually increased year-over-year. Compared to calendar year 2013, 2014 recorded a 4% increase in alfalfa acres harvested, putting the total number at 18 million acres – the highest level since 2011.

Looking at the same time frame for harvested acres of other hay, in the past 20 years they followed an increasing trend line until 2002 where the peak was experienced at 41 million acres. Since 2002 harvested acres have stayed in a steady range of 39 million to 41 million acres, except during the drought in 2011. Year-over-year, 2014 posted a 4% decrease in harvested acres to 38 million.

Production in 2014

According to USDA-NASS Annual Crop report, national alfalfa production increased 7% in 2014 compared to 2013 to sit at 62 million tons. This was the result of a 4% increase in national harvested acres and a 3% increase in national yield. As shown in Table 1, the top 5 alfalfa hay producing states in 2014 were California, South Dakota, Idaho, Wisconsin, and Montana. Notable changes in production took place in South Dakota and Wisconsin, up 16% and 44%, respectively, in terms of production. Surprisingly, even though California experienced one of its worst droughts in history during 2014, alfalfa production only decreased by 2% in that state.

	2014 Alfalfa Production (thousand tons)	Percent of National Alfalfa Production	Year-Over-Year Percent Change In Alfalfa Production
California	**5688**	**9%**	**-2%**
South Dakota	**4370**	**7%**	**16%**
Idaho	**4251**	**7%**	**0%**
Wisconsin	**4125**	**7%**	**44%**
Montana	**3885**	**6%**	**-2%**

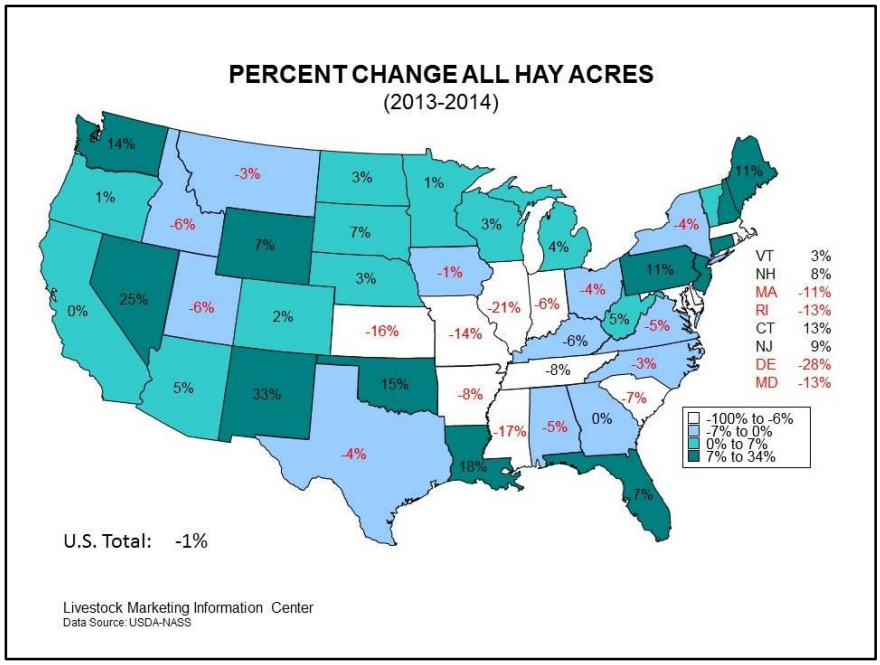
Table 1. Top 5 Alfalfa Hay Producing States.

National other hay production increased 1% year-over-year to 78 million tons. In 2014 other hay recorded a 4% decrease in harvested acres but a 5% increase in yield. The top 5 other hay producing states in 2014 were Texas, Missouri, Oklahoma, Kentucky, and Tennessee (shown in Table 2). The decreased production in Missouri, Kentucky, and Tennessee was the result of fewer acres harvested and lower yields. 2014 hay production numbers in Texas and Oklahoma are indicative of continued and significant improvement in production following the 2011 drought. The increase in production in Texas stemmed from a 140% increase in other hay yield compared to 2013, and Oklahoma saw a 400,000 acre increase in harvested acres with a 7% increase in yield.

	2014 Other Hay Production (thousand tons)	Percent of National Other Hay Production	Year-Over-Year Percent Change In Other Hay Production
Texas	**11130**	**14%**	**35%**
Missouri	**6400**	**8%**	**-9%**
Oklahoma	**5280**	**7%**	**21%**
Kentucky	**4200**	**5%**	**-13%**
Tennessee	**3850**	**5%**	**-12%**

Table 2. Top 5 Other Hay Producing States.

Other notable year-over-year total hay production changes include Kansas down 24%, Nebraska was up by 22%, Colorado up 21%, and Minnesota up by 15%. Kansas experienced a significant reduction in hay production, the result of a 450,000 harvested acres decrease and a 9% decrease in yield. Nebraska harvested an additional 80,000 acres with a 19% yield increase. Colorado's hay production increase came from an additional 30,000 harvested acres on an 18% yield increase. Minnesota added 10,000 harvested acres and had a 15% yield increase overall.

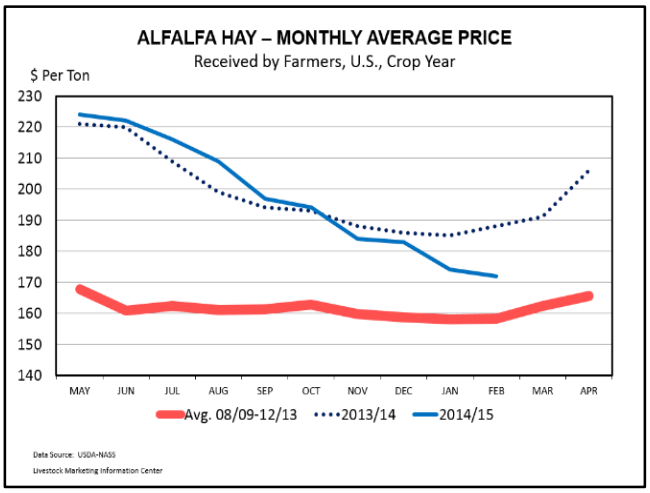


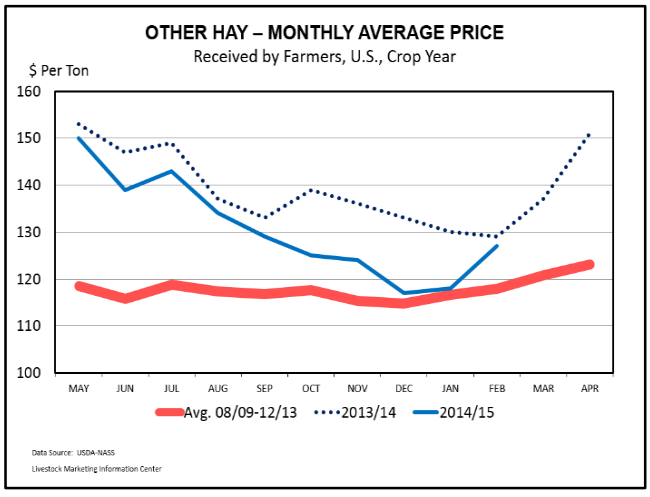
2014/15 Prices

Hay prices are tracked on a marketing year, and reported on a national monthly average basis by USDA-NASS. State specific annual average hay prices will be released in July. Increased annual hay production has helped lessen supply restrictions. Additionally most of the U.S. experienced favorable pasture and range conditions during the 2014 grazing season which allowed livestock producers to avoid sharp summer demand for hay, as seen during drought years.

As indicated in the graphs below both alfalfa and other hay are following a slowly decreasing price trend, due to the reasons listed above. In the most recent Agricultural Prices report by NASS, February alfalfa hay prices were at $172 per ton, $16 per ton below year ago prices (9% decrease). Other hay prices recorded a 2% year-over-year decrease, and were $127 per ton in February, $2 per ton less than February 2014.

This supports the general story in the hay complex of production and prices reverting back to historically normal levels, from the drought induced supply reductions, demand increases, and price spikes seen in the most recent years. Further, hay prices have begun the process of normalizing relative to



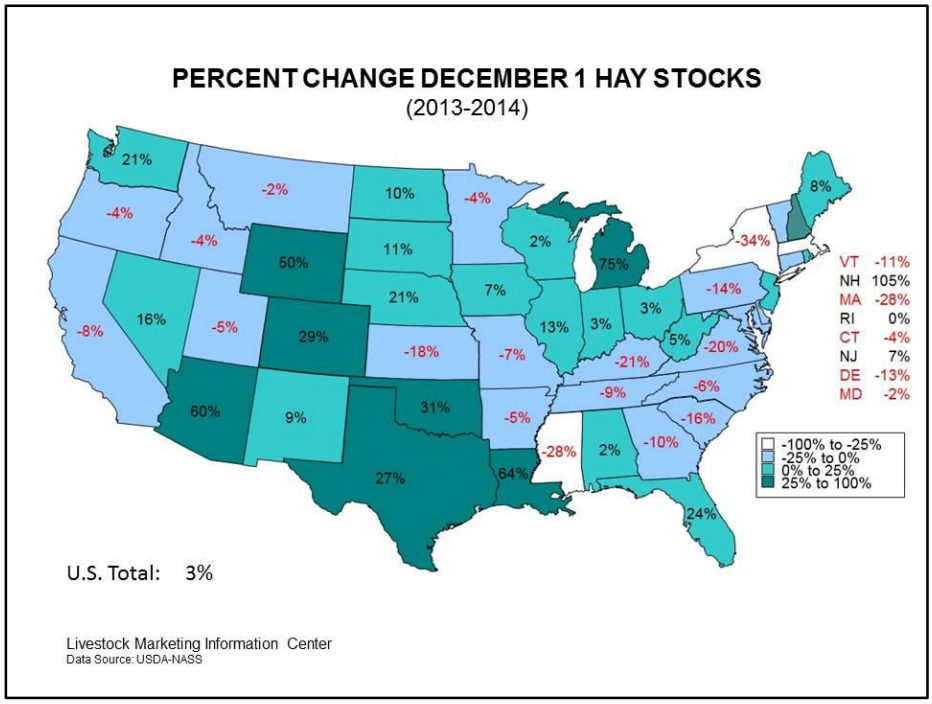


other feedstuffs with the dramatic drop in grain (e.g. corn) and plant-based protein costs (e.g. soybean and cottonseed meal). For the crop marketing year, May through April, prices have been reported monthly through February. Seasonally, prices tend to trend up at the end of the marketing year before the first new cutting comes in. For the 2014/15 marketing year, alfalfa prices are expected to average about $195 per ton and other hay prices around $130 per ton.

December 1 Stocks

Hay stock numbers are released in terms of all hay, even though different states produce varying levels of alfalfa and other hay. USDA-NASS conducts two hay stock surveys each year, the most recent was December 1, 2014. Total U.S. stocks for all hay were up 3% compared to 2013. This is the largest December 1 stocks have been since 2010.

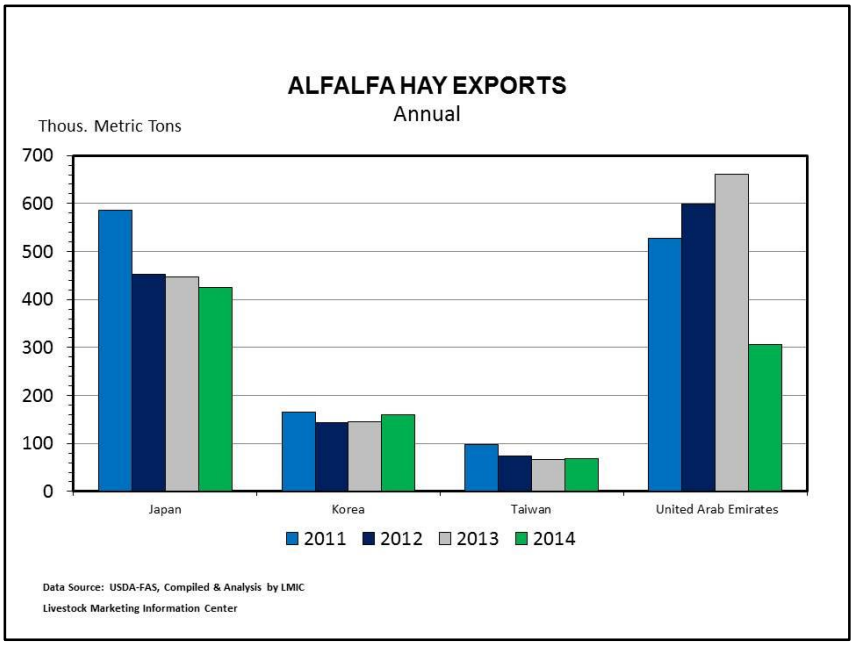
Most major cattle producing regions in the U.S. recorded a year-over-year increase in December 1 stocks. Compared to 2013, the Western region is up 1% (even with the California drought), Great Plains up 7%, Southern Plains up 29%, and the Cornbelt region up 4%. The Northeast and Southeast both experienced a decrease in December 1 hay stocks compared to year ago numbers by 20% and 10%, respectively. February saw some harsh winter weather across the U.S. and notably in the cattle region of the Midwest, but March turned out to be a milder month in general. December 1 hay stock numbers support hay availability for cattle producers should they need to rely on it more, depending on how late winter and early spring weather evolve. May 1 hay stock reports will be released with the Annual Crop Production report on May 12, 2015 by USDA-NASS.



Hay Exports

Total U.S. hay exports make up 3% of domestic hay production. Alfalfa hay exports account for 3% (1.8 million tons) of domestic alfalfa production and other hay exports make up 2% (1.7 million tons) of domestic other hay production. The top 5 countries U.S hay exports are destined for are China, Japan, Taiwan, South Korea, and the United Arab Emirates. These five countries account for 86% of total U.S. hay exports. Breaking out the categories, in the alfalfa export complex during 2014 China received 39%, Japan 25%, and the United Arab Emirates received 18% of U.S. alfalfa exports. For other hay exports, in 2014, Japan received 54%, South Korea 23%, and China 9% of U.S. other hay exports.

Compared to 2013, the 2014 U.S. hay export market was down 12% on a volume basis, with a 14% decrease on the alfalfa side and a 12% decrease in other hay. Significant changes in 2014 included a decrease in all hay exports to the United Arab Emirates by 33%, mainly due to a buildup of stocks in the country during 2013.



On a value basis, for the calendar year 2014, total hay exports totaled just over $1 billion, about 5% of domestic value of U.S. hay production ($21.8 billion). The total value is an estimate, calculated by averaging monthly national hay prices, on a calendar basis, and multiplying it by national hay production. The result is the sum of the previous calculation for both alfalfa and other hay. Compared to 2013, value of U.S. hay exports decreased by 12%. This was the result of a combination of fewer exports at lower prices.

California Drought: Comments on 2014

From 2009-2013 California on average represented 6% of total U.S. hay production, most of it in the alfalfa sector. In California, about 65% of total hay acres are harvested for alfalfa and the alfalfa acres make up 80% of total hay production in the state. California experienced one of its worst droughts in

history during 2014. Sitting in the D4 category of the drought monitor all year, rainfall was record low, and ground water (where available) unsustainably depleted.

Due to the drought, alfalfa production was the lowest it has been in California since USDA-NASS first recorded by state hay production data in 1974. News from California indicated alfalfa fields (along with other farm land) were left fallow, or only watered and cut early in the season then water resources were shifted to other crops. USDA-NASS reported a surprising increase in alfalfa acres harvested in 2014 compared to 2013, along with a surprisingly only slight decrease in yield per acre. There is the possibility that reports did not accurately capture the fewer cuttings per field during 2014 which would significantly decrease yield depending on calculation methods. Compared to average alfalfa production from 2009-2013, 2014 came in 9% lower on a tonnage basis, and only 2% lower compared to 2013.

The state relies heavily on the Sierra Nevada snowpack during dry summer months for water needs. According to the California Department of Water Resources, water content in the northern Sierra Nevada snowpack was just 16% of the early March historical average. There is only one other instance in history when the snowpack moisture content has been lower, in 1991. This result indicates another dry and difficult year ahead for many California farmers and ranchers.

2015/16 National Hay Market Outlook

Looking ahead to 2015/16 crop year, LMIC forecasts a slight decrease year-over-year in alfalfa production and a slight production increase in other hay. This is supported by the most recent Prospective Plantings report released by USDA-NASS on March 31st which estimates 2015/16 all hay acres to be even with 2014/15 levels. At state level, results from the report show a significant decrease in California hay acres (which will mostly be alfalfa) and slight harvested acreage increases in states that predominantly produce other hay. Prices are expected to continue trending down towards the historical five year average for both sectors, to the low $100's per ton for other hay and $170-$180 per ton for alfalfa.

Many factors will influence hay production and prices in the coming year. The biggest risk is that of drought, already expected in California during 2015 and always a possibility in many other hay growing regions. Although hay prices are expected to trend back towards five year averages, a growing livestock base will help support hay prices to prevent any steep drop in average price. In the January 2015 Annual Cattle Inventory report (USDA-NASS) the national all cattle and calves herd grew by 1.4%. Within those numbers, dairy cow and dairy replacement heifer inventory grew by 1% and 1.5%, respectively. Beef cow inventory grew by 2.1% and beef replacement heifers by 4.1%. Declining milk prices are likely going to curb growth in the dairy industry in the near future, but an impressive beef and cattle market during 2014 and tight supplies are expected to continue to encourage beef cattle inventory expansion across the nation. The price of competing feedstuffs, mainly corn, will have influence as well on hay demand. LMIC expects national average corn prices to be around $3.70 per bushel for 2015, this also depends heavily on drought conditions during the growing year.

On the export side, reduced shipments to China and the UAE were realized in 2014, along with the challenges created by the Western Port issues. The UAE's decrease in hay shipments can be explained by over-aggressive buying from 2008 through 2013. With regards to China, in 2014 the Chinese government began enforcing a zero tolerance GMO policy on imported hay, which decreased the volume of hay able to be shipped to China. In the long term international demand is forecasted to

increase as the world's middle class population increases, creating more demand for dairy and protein food bases. Many countries do not have the resource base to grow high quality forage, and this will be another factor that will support strong hay demand and prices into the future.

ALFALFA HAY SUPPLY AND DEMAND BALANCE SHEET

04/01/15
4.111

Year Beginning May 1	Stocks May 1	Production	Supply	Disapp-earance	Ending Stocks	Acres Harvested	Yield	Season Average Price	RCAU [a]	Supply per RCAU	Disap. per RCAU
	Million Tons					Mill. Acres	Ton/Acre	$/Ton	Million		
1984/85	11.8	90.1	101.9	85.9	16.1	26.82	3.36	76.93	83.2	1.22	1.03
1985/86	16.1	85.1	101.2	85.9	15.3	25.65	3.32	71.86	80.5	1.26	1.07
1986/87	15.3	91.9	107.2	88.0	19.1	26.91	3.41	61.92	78.3	1.37	1.12
2005/06	13.2	76.1	89.4	78.6	10.8	22.44	3.39	104.00	71.6	1.25	1.10
2006/07	10.8	70.5	81.3	73.8	7.5	21.14	3.34	113.00	71.8	1.13	1.03
2007/08	7.5	69.9	77.4	67.1	10.3	21.13	3.31	137.00	71.5	1.08	0.94
2008/09	10.3	70.2	80.4	69.9	10.6	21.06	3.33	165.00	71.0	1.13	0.98
2009/10	10.6	71.1	81.7	71.6	10.1	21.25	3.35	113.00	70.5	1.16	1.02
2010/11	10.1	68.0	78.0	67.7	10.4	19.97	3.40	123.00	69.4	1.12	0.98
2011/12	10.4	65.3	75.7	65.1	10.6	19.21	3.40	196.00	68.0	1.11	0.96
2012/13	10.6	50.6	61.2	55.1	6.1	16.80	3.01	210.00	67.6	0.91	0.82
2013/14	6.1	57.2	63.3	55.2	8.1	17.67	3.24	200.00	66.3	0.96	0.83
2014/15 [b]	8.1	61.4	69.6	59.9	9.7	18.45	3.33	195.00	66.7	1.04	0.90
2015/16 [c]	9.7	59.5	69.1	60.7	8.4	18.08	3.29	176.00	67.4	1.03	0.90

[a] Roughage Consuming Animal Unit
[b] Projections [c] Forecasts

OTHER HAY SUPPLY AND DEMAND BALANCE SHEET

04/01/15
4.112

Year Beginning May 1	Stocks May 1	Other Hay Production	Supply	Disapp-earance	Ending Stocks	Acres Harvested	Yield	Season Average Price	RCAU [a]	Supply per RCAU	Disap. per RCAU
	Million Tons					Mill. Acres	Ton/Acre	$/Ton	Million		
1984/85	8.4	60.4	68.8	58.0	10.8	34.60	1.75	62.70	83.2	0.83	0.70
1985/86	10.8	63.6	74.4	62.9	11.4	34.81	1.83	56.50	80.5	0.92	0.78
1986/87	11.4	63.5	75.0	61.7	13.2	35.42	1.79	50.27	78.3	0.96	0.79
1987/88	13.2	63.2	76.4	64.8	11.6	34.70	1.82	52.09	76.3	1.00	0.85
1988/89	11.6	56.4	68.0	60.2	7.9	38.02	1.48	70.03	74.4	0.91	0.81
1989/90	7.9	67.6	75.5	62.9	12.6	36.93	1.83	65.50	73.6	1.03	0.85
2005/06	14.5	74.9	89.4	78.8	10.6	39.29	1.91	81.40	71.6	1.25	1.10
2006/07	10.6	70.2	80.8	73.3	7.5	39.49	1.78	102.00	71.8	1.13	1.02
2007/08	7.5	77.0	84.5	73.2	11.3	39.88	1.93	110.00	71.5	1.18	1.02
2008/09	11.3	76.1	87.4	75.9	11.5	39.09	1.95	118.00	71.0	1.23	1.07
2009/10	11.5	76.6	88.1	77.2	10.9	38.53	1.99	97.30	70.5	1.25	1.10
2010/11	10.9	77.7	88.5	76.7	11.8	39.91	1.95	97.00	69.4	1.28	1.11
2011/12	11.8	65.9	77.7	67.0	10.7	36.44	1.81	132.00	68.0	1.14	0.98
2012/13	10.7	66.5	77.2	69.2	8.0	37.86	1.76	142.00	67.6	1.14	1.02
2013/14	8.0	77.8	85.8	74.8	11.0	40.22	1.93	139.00	66.3	1.29	1.13
2014/15 [b]	11.0	78.4	89.4	77.1	12.3	38.65	2.03	130.00	66.7	1.34	1.16
2015/16 [c]	12.3	78.1	90.4	79.5	10.9	39.23	1.99	110.00	67.4	1.34	1.18

[a] Roughage Consuming Animal Unit
[b] Projections [c] Forecasts