ECONOMICS OF WESTERN HAY AND MILK EXPORTS WITH HIGHER PRICES

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ABSTRACT

We show how hay exports have declined in 2014 after rising for several years. Hay exports responed to lower local production and higher prices in California. Lower local production of silage and high dairy prices in California maintained California demand for alfalfa and hay was shipped into the dairy production region further reducing exports from what they would have been. Other factors may also have contributed. We also use provide calulations of the hay content of dairy product exports to arrive at a measure of hay exports imdedded in dairy product exports based on typical feed rations reported by the California Department of Food and Agriculture.

Key words: Hay exports, dairy product exports, hay in dairy rations, economics of alfalfa exports

INTRODUCTION

Alfalfa hay exports were a growing part of hay demand in California and western states for several years. As dairy and other large animal production expanded and local hay production has declined in some regions (Middle East), markets in Asia have demanded more hay imports from the Western United States. This demand was a part of the long-term shift to consumption of more animal protein, including dairy products, some of which were imported directly and some produced in locally in Asia using imported feed.

At the same time California cow numbers was flat or declining since 2008 and silage became a more important part of the ration. These factors caused hay demand for use in dairies to be flat to declining in California. Western dairy production and thus hay demand has grown in Idaho and other regions, but dairy production, hay acreage and hay production has not grown in California under these conditions and competition from other crops.

This paper explores with a series of charts how hay exports have responded to drought and price-driven economic factors by declining in 2014. Exports are likely to be further down when the data for the last few months of 2014 export data becomes available. We further show how to approximate exports of Western hay imbedded in the dairy products such as milk powder or cheese that are produced with hay as an ingredient of the dairy cow rations. Dairy exports to Asia also grew until the latter half of 2014.

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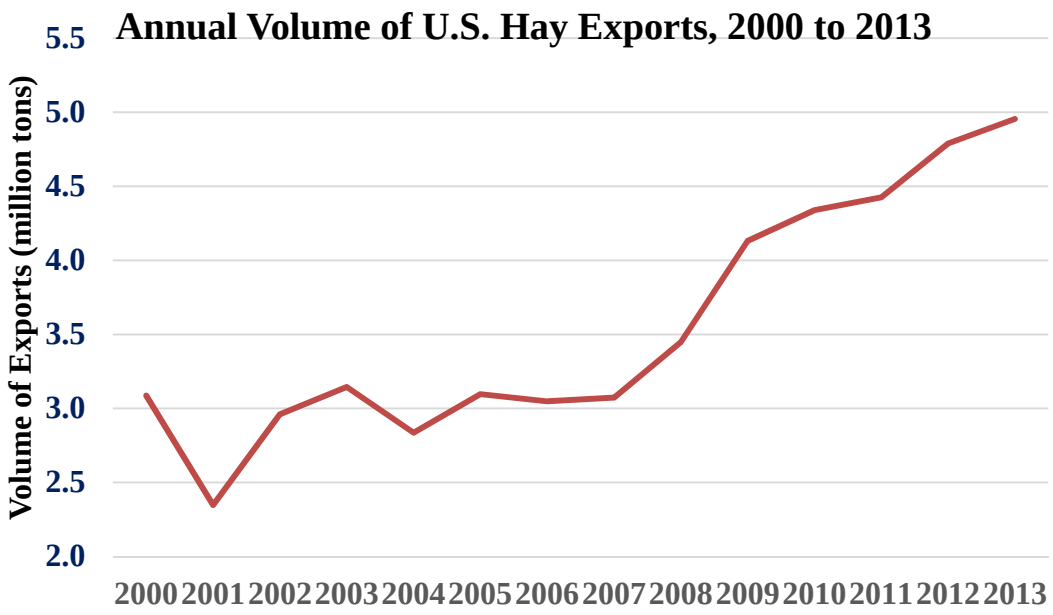
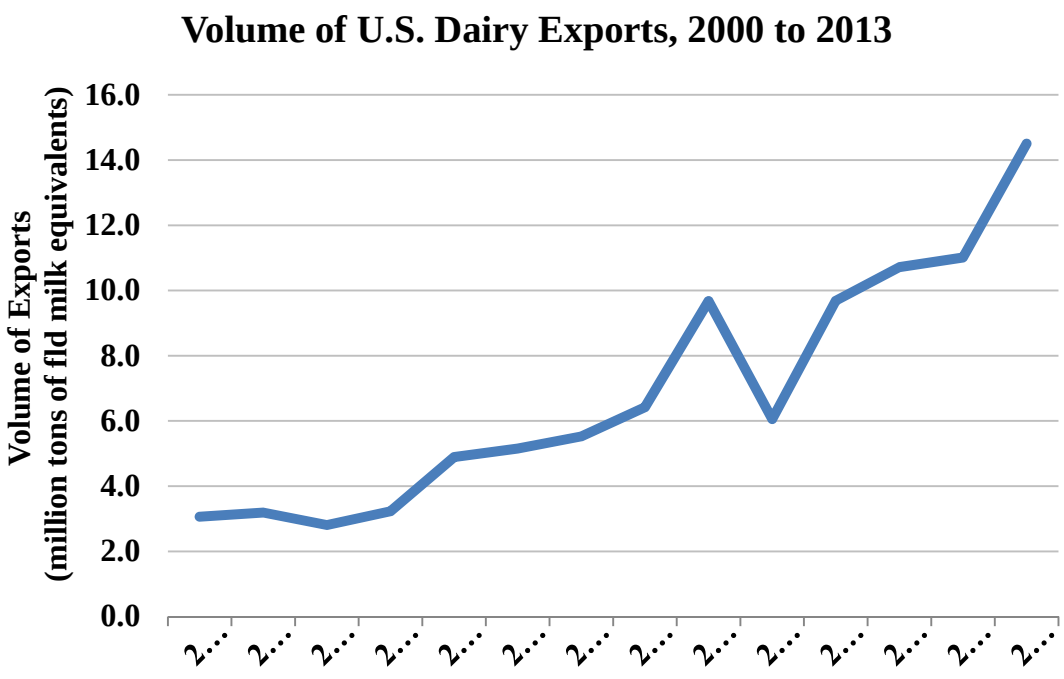
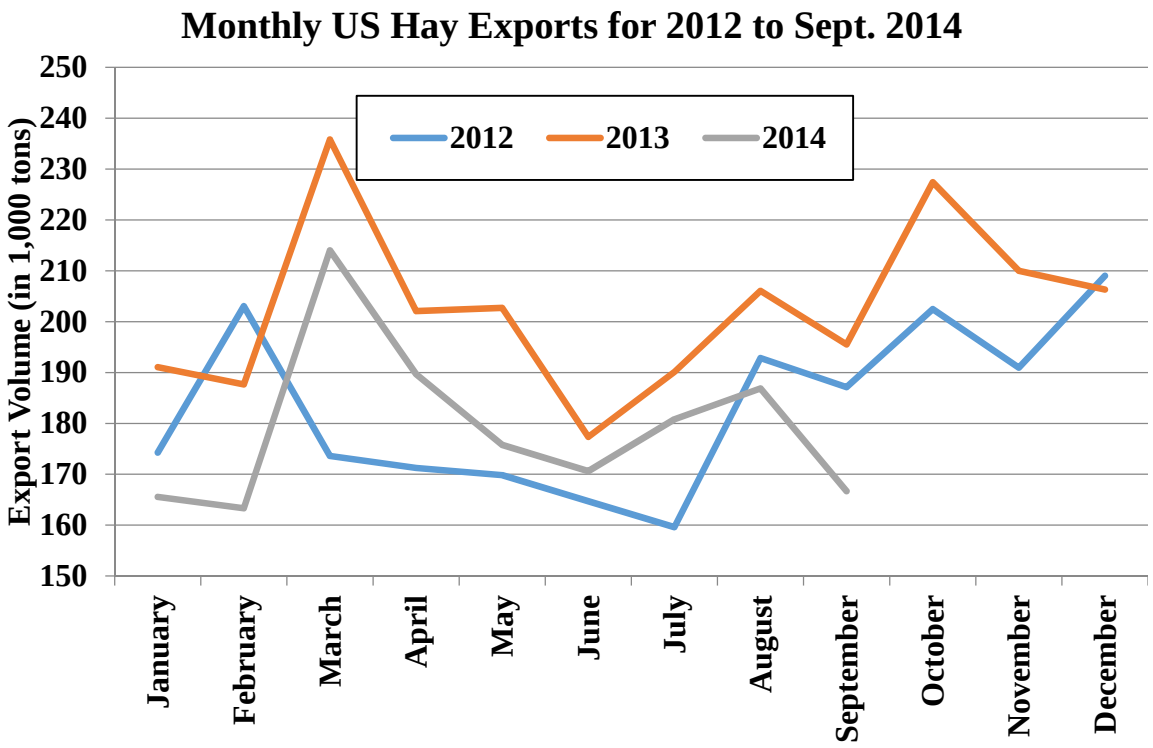
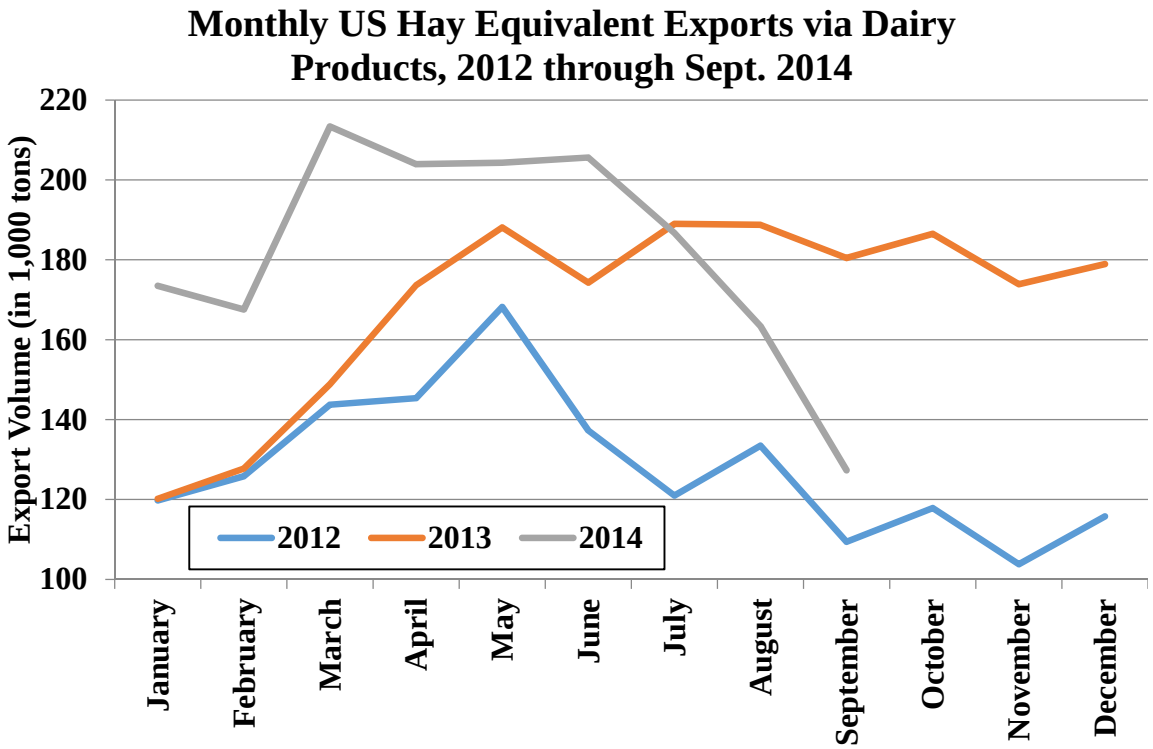
HAY EXPORTS

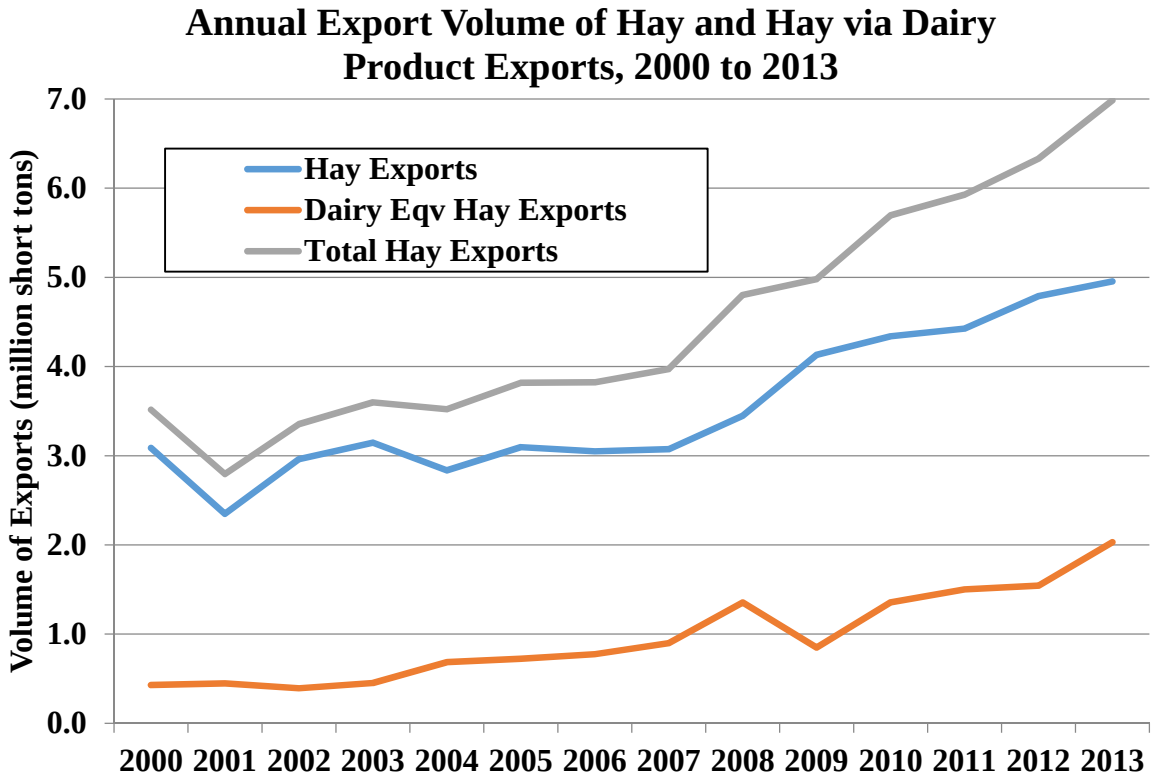
The following tables and figures show our calculations and the data for 2014 compared to earlier years. Dairy exports are aggregated on a total solids basis and reported as fluid milk equivalents

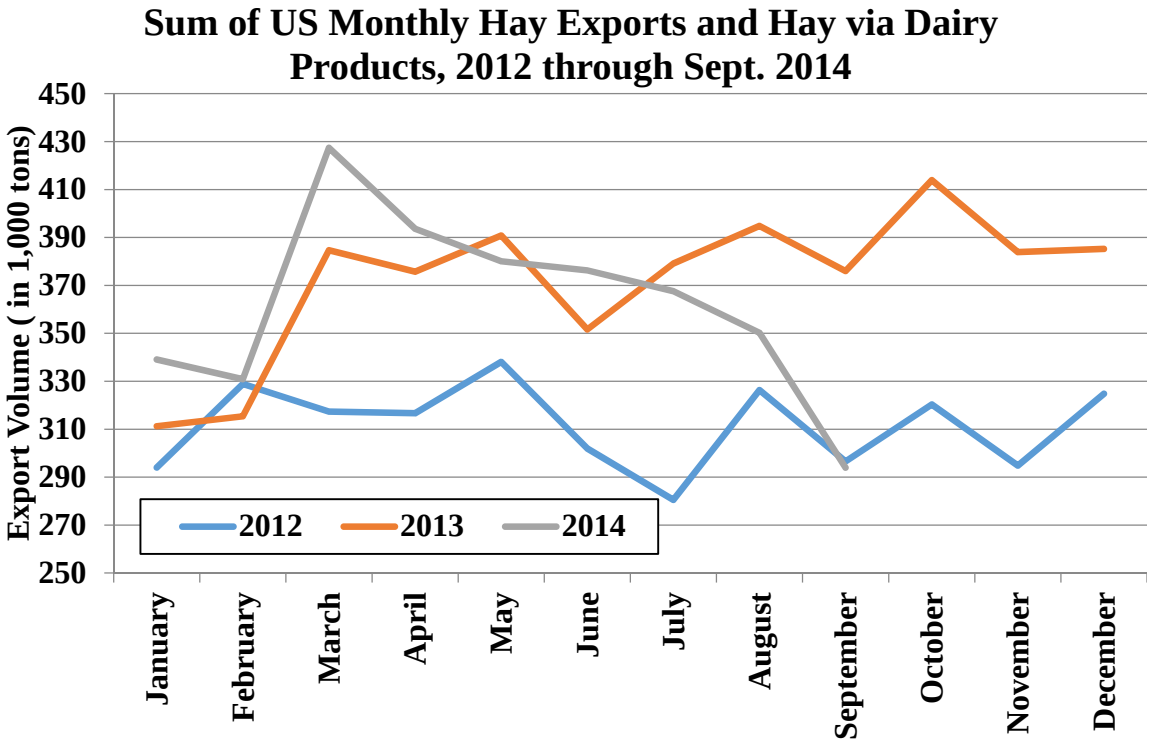



Volume of U.S. Dairy Exports, 2000 to 2013
Volume of Exports
(million tons of fld milk equivalents)
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0

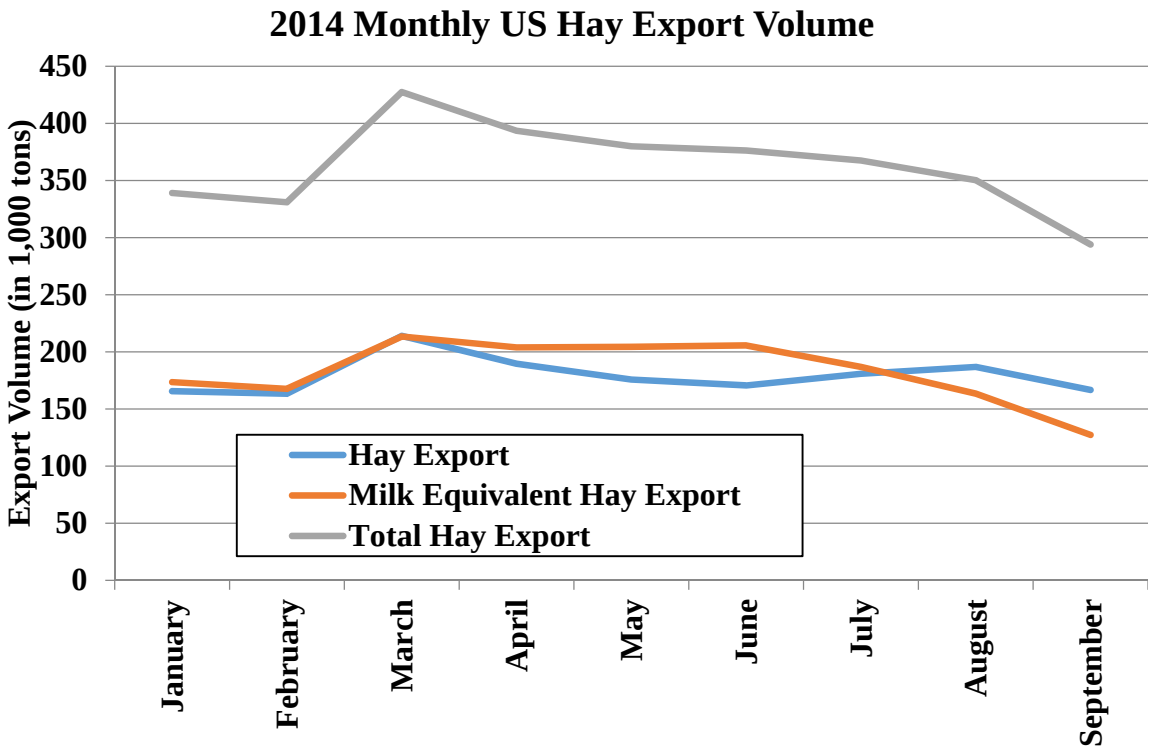

Monthly US Hay Exports for 2012 to Sept. 2014
Export Volume (in 1,000 tons)
250
240
230
220
210
200
190
180
170
160
150
2012
2013
2014
January
February
March
April
May
June
July
August
September
October
November
December

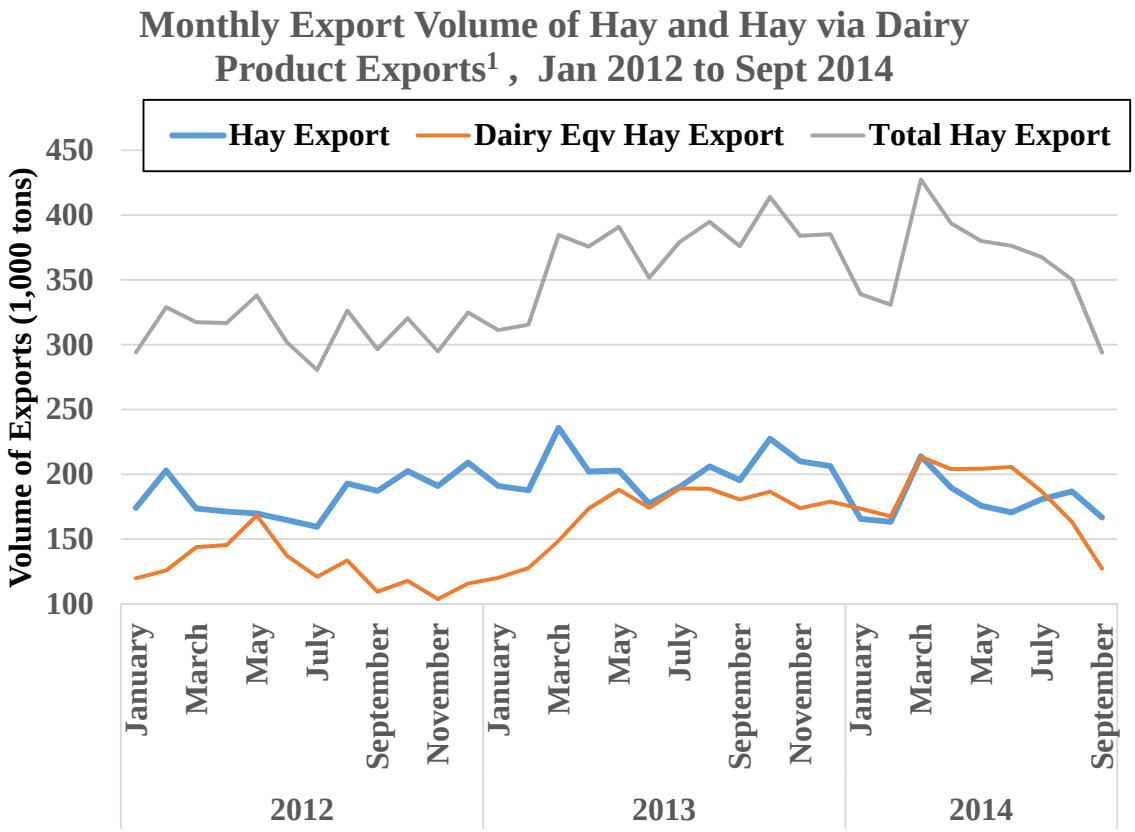

Monthly US Hay Equivalent Exports via Dairy Products, 2012 through Sept. 2014
Export Volume (in 1,000 tons)
220
200
180
160
140
120
100
2012
2013
2014
January
February
March
April
May
June
July
August
September
October
November
December





[1]Estimated using conversion factor of 0.14 pounds of hay per pound of fluid milk,


2014 Monthly US Hay Export Volume
Export Volume (in 1,000 tons)
450
400
350
300
250
200
150
100
50
0
Hay Export
Milk Equivalent Hay Export
Total Hay Export
January
February
March
April
May
June
July
August
September



[1]Estimated using conversion factor of 0.14 pounds of hay per pound of fluid milk,

Annual 2013-Weighted Average Pounds of Hay Consumed Per Cow Per Day[1]

	Jersey			Holstein		
	Milk Cows	*Dry Cows*	*Total Jersey*	*Milk Cows*	*Dry Cows*	*Total Holstein*
Alfalfa Hay	6.87	0.92	5.88	9.88	1.80	8.53
Other Hay	1.72	11.09	3.28	0.67	9.99	2.22
Total Hay	8.60	12.00	9.16	10.55	11.79	10.75

[1]Source: CDFA Feed Summary Data

Calculation of Hay Pounds Consumed per Milk Pound Produced

	Jersey	Holstein	Totals
Pounds of Milk Produced Per Cow-Per Day[1]	61.54	79.76	141.30
Total Hay Consumed Per Cow-Per Day[1]	9.16	10.75	19.92
Hay Pound/Milk Pound	0.15	0.13	0.14

[1]Source: CDFA Feed Summary Data

FINAL REMARKS

Many factors drive California and other western dairy and hay production and exports including competition from other regions, exchanged rates and market or government-led events that affect demand such as the recent GMO controversy.

That said underlying resource costs and production limits, such as reduced access to surface water can affect local supply, local demand and hence trade. We have seem the influence of such events in 2014.