

# Web Conference – *The Speed of Change*

## Hay and Forage Industry Current Conditions and Issues

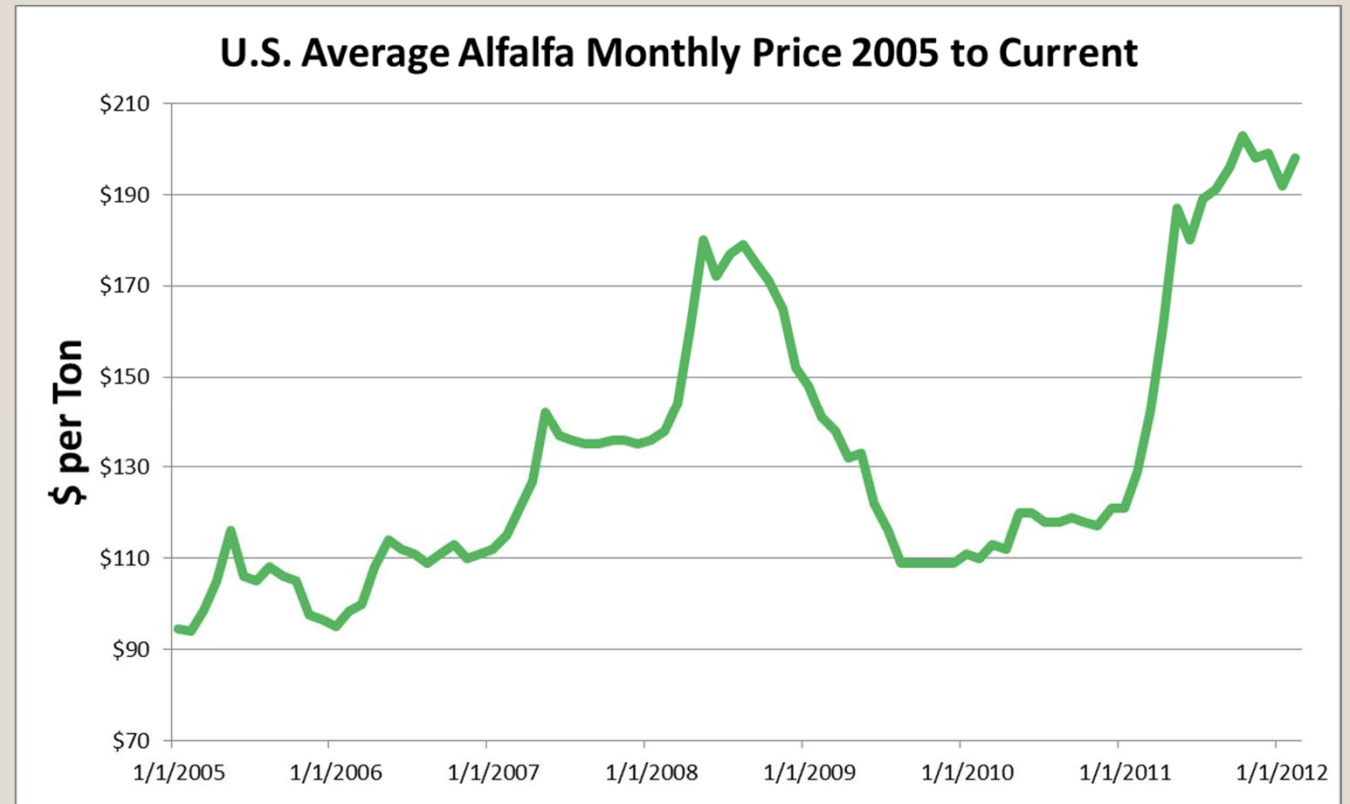
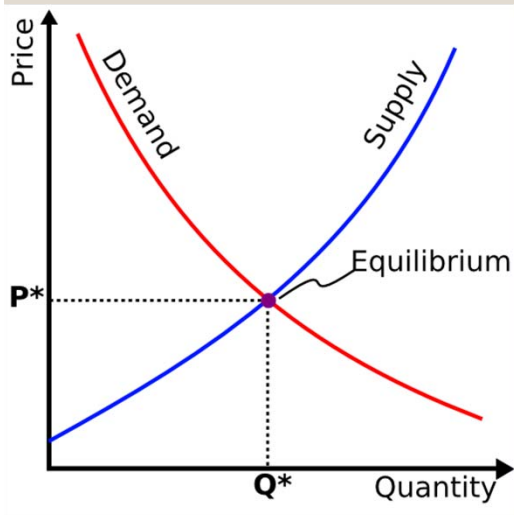
March 14, 2012

J. Shannon Neibergs

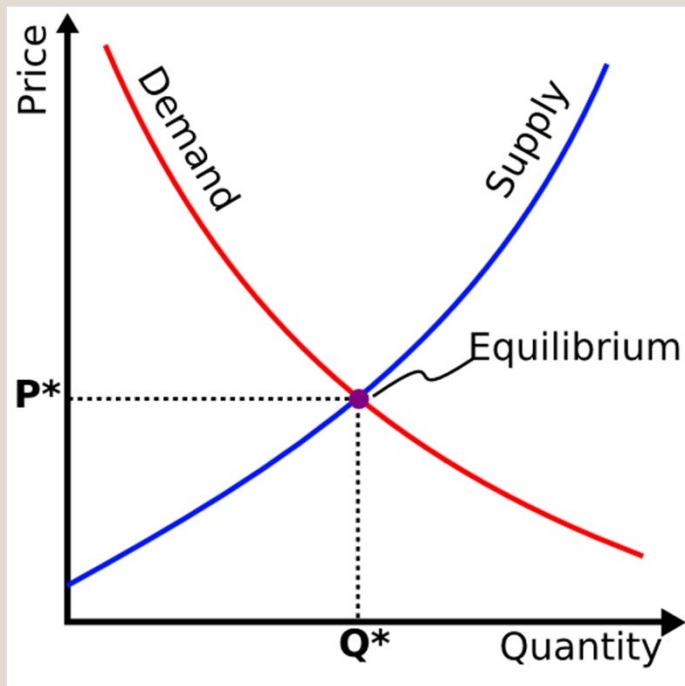
[sneibergs@wsu.edu](mailto:sneibergs@wsu.edu)

509-335-6360

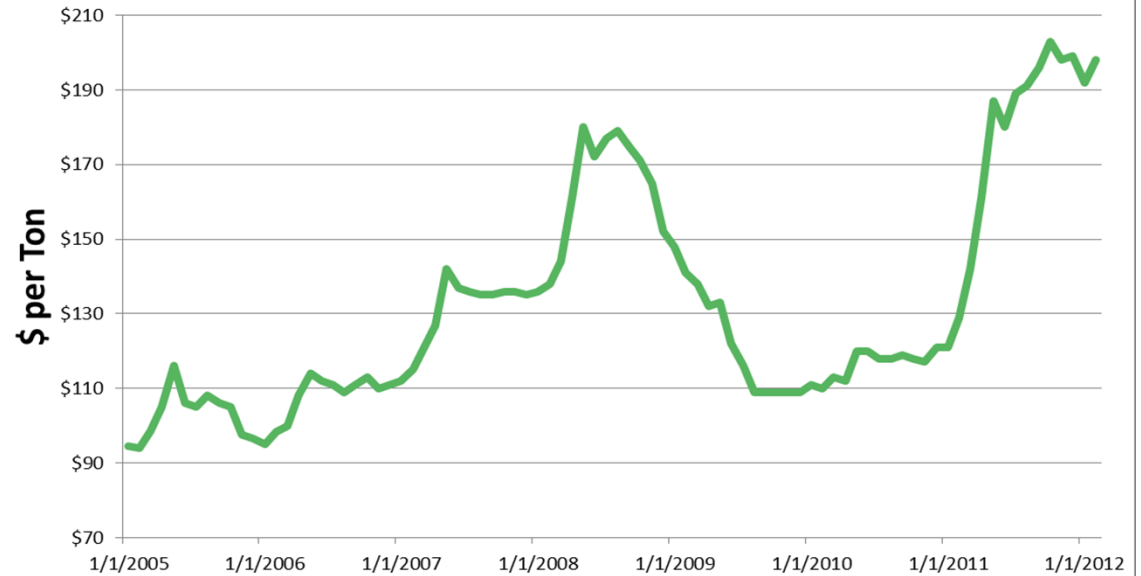
# Hay and Forage Supply and Demand Framework



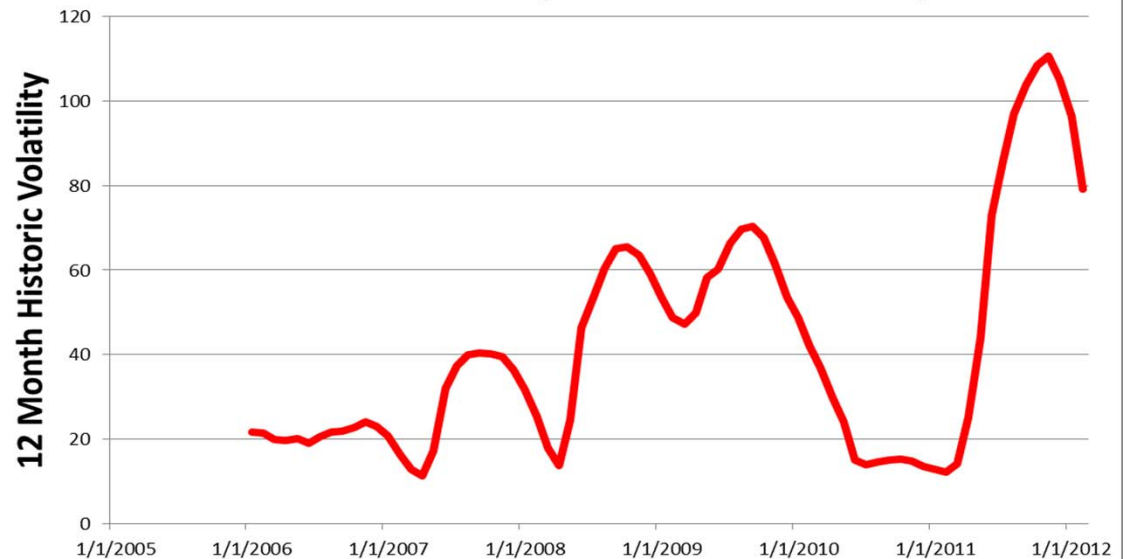
# Hay and Forage Supply and Demand Framework



### U.S. Average Alfalfa Monthly Price 2005 to Current

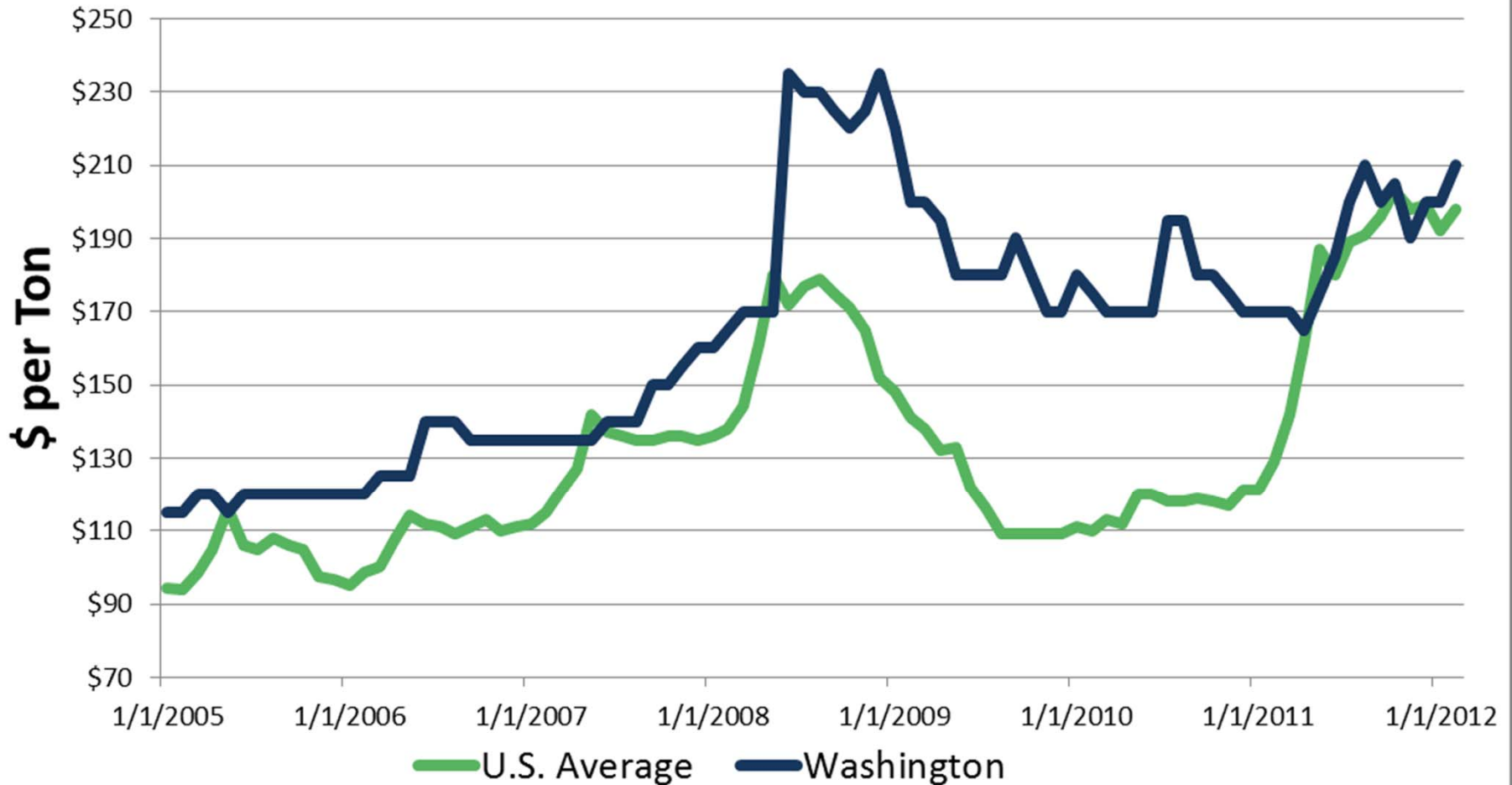


### U.S. Alfalfa Monthly Historic Price Volatility



# Importance of regional price difference - Washington

## U.S. Versus Washington Alfalfa Monthly Price 2005 to Current



# Hay and Forage Supply

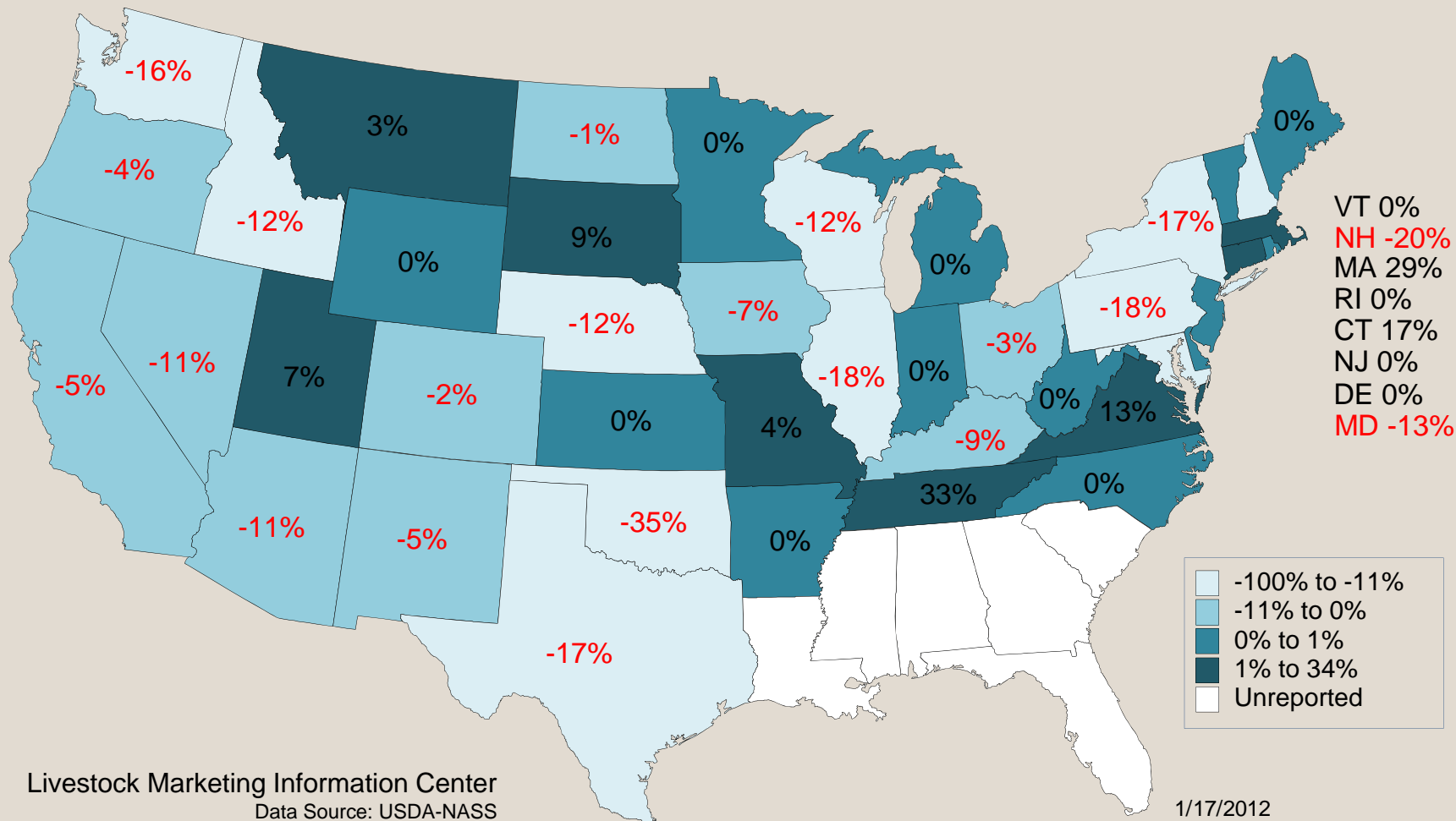
## Primary Supply Factors

- Alfalfa acres
- All hay acres
- Hay inventory stocks
- Corn silage acres
- Weather
- Irrigation water
- Pasture and range outlook



# PERCENT CHANGE ALFALFA HAY ACRES (2010 to 2011)

U.S. declines 3.7% in alfalfa acres

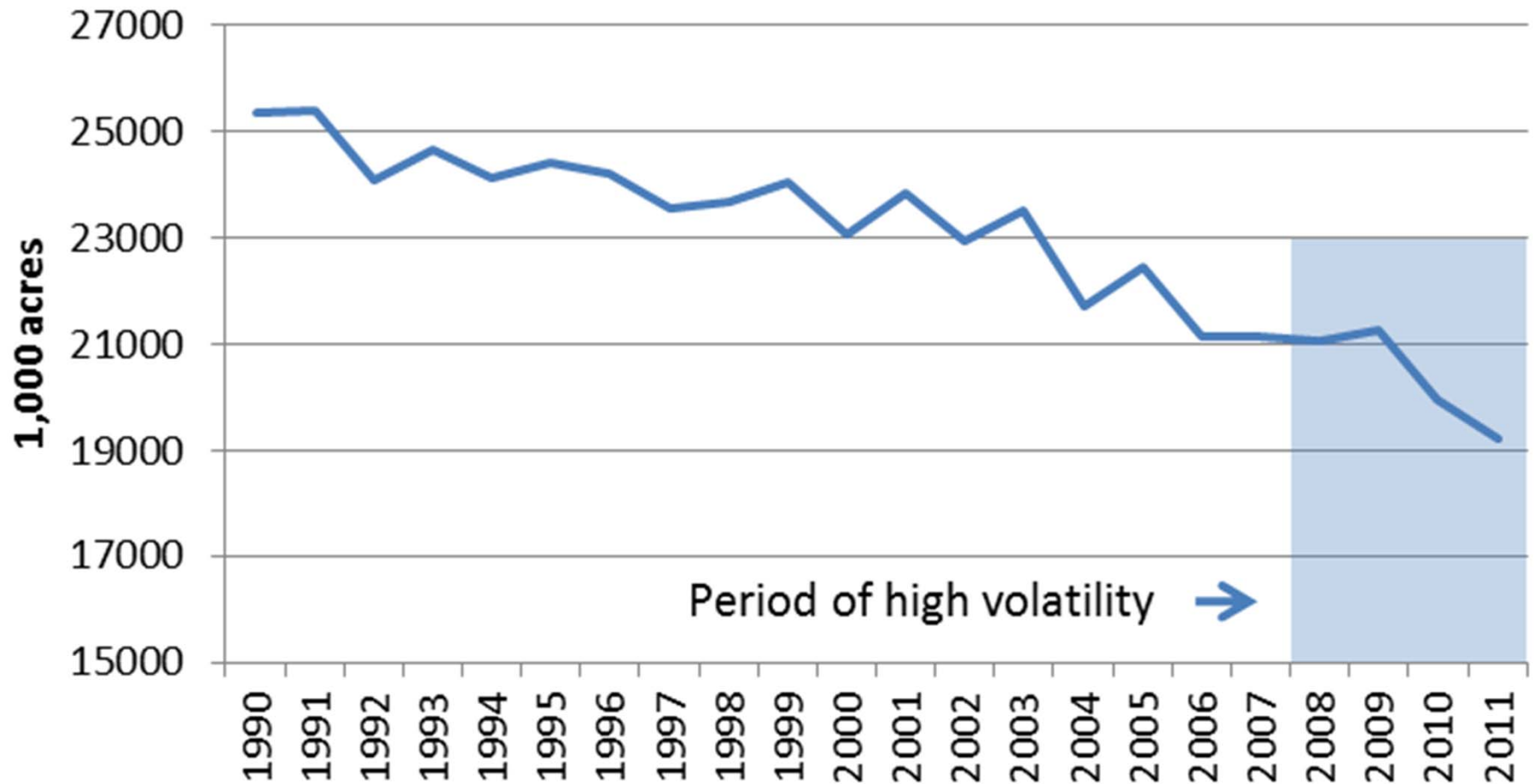


Livestock Marketing Information Center  
Data Source: USDA-NASS

1/17/2012

# Lower acres higher alfalfa price volatility

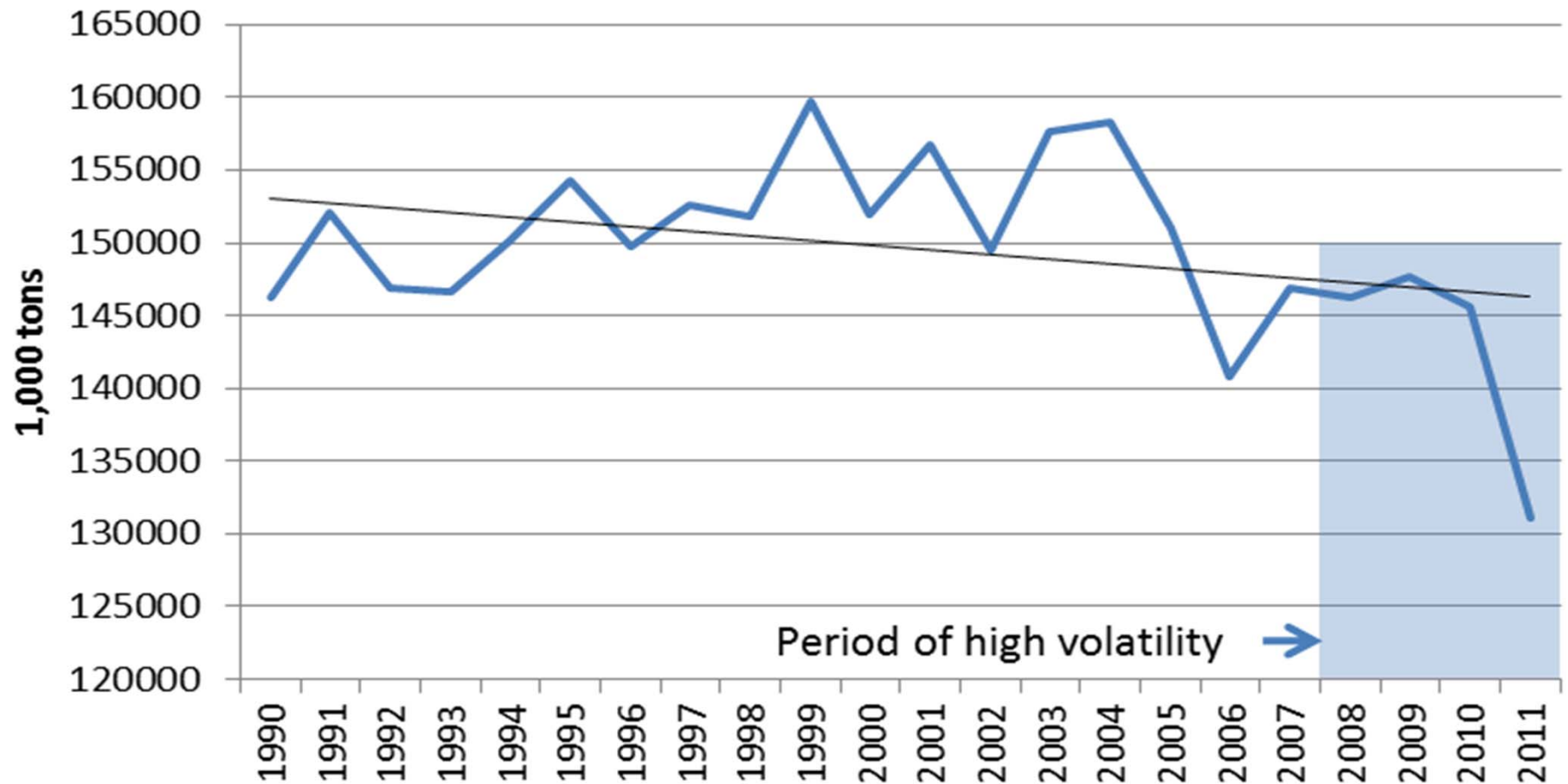
## U.S. Alfalfa Acres 1990 to 2011





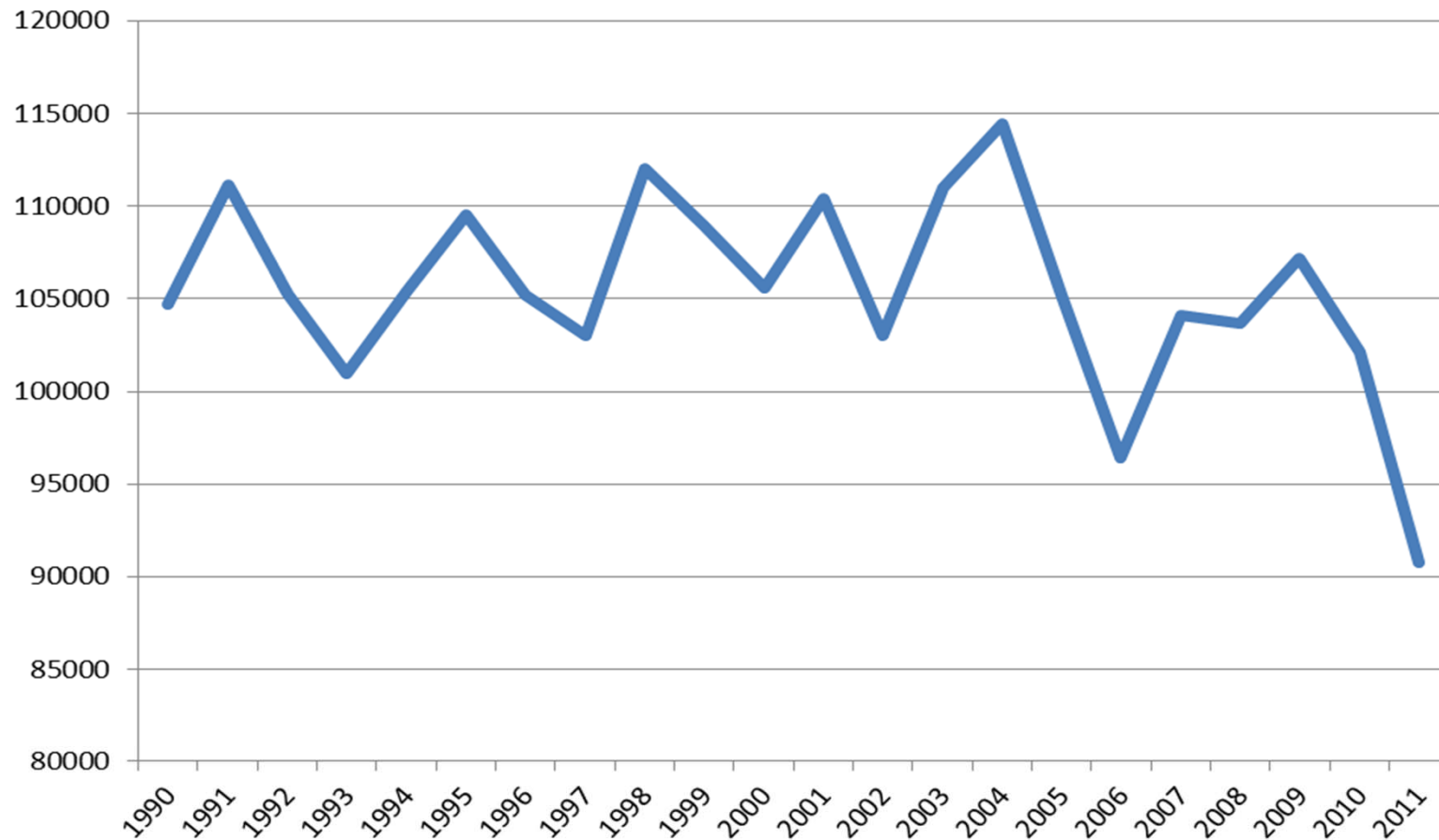
# Downward trend in all hay production

## U.S. All Hay Production 1990 to 2011



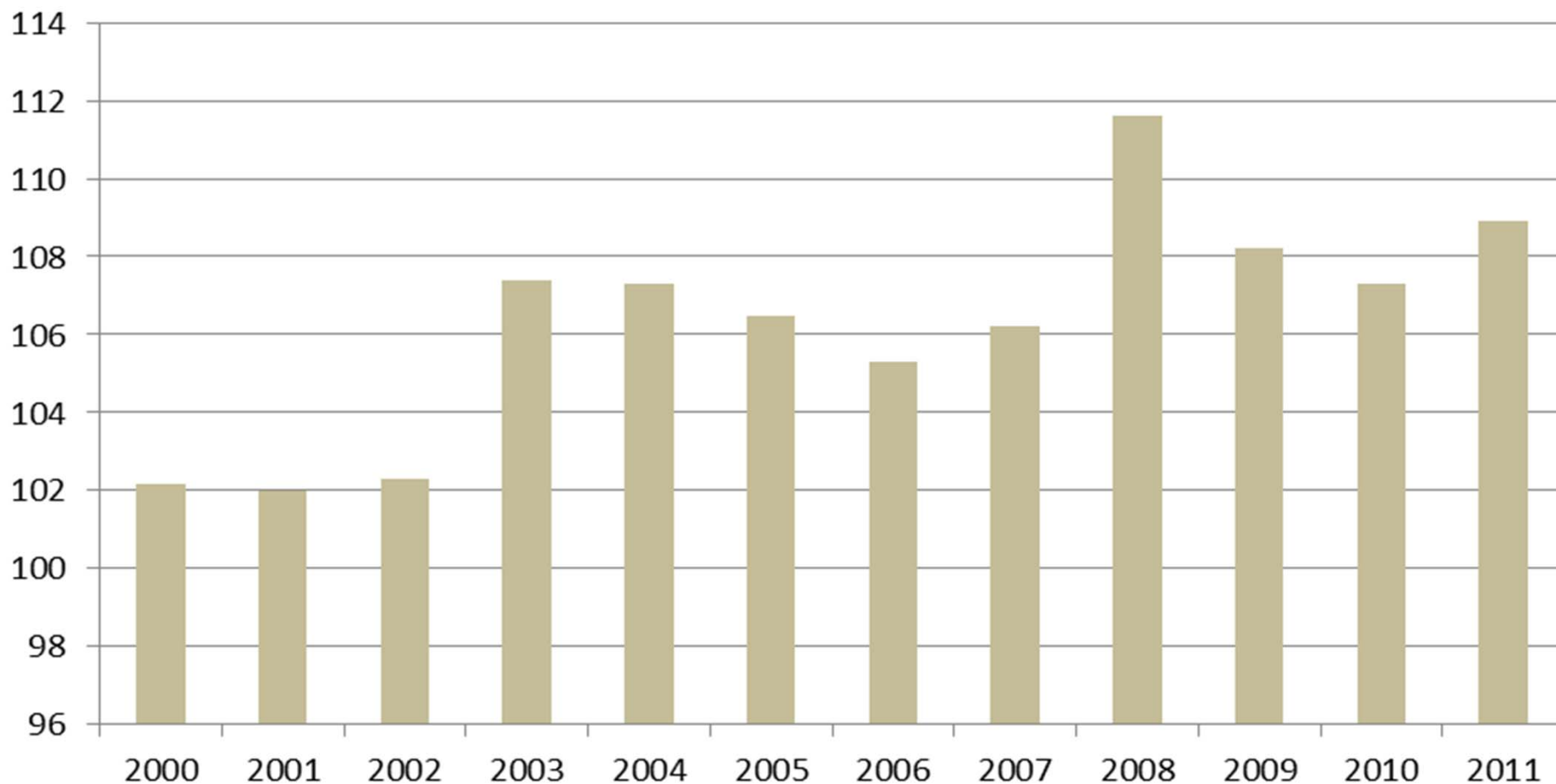
# Low all hay stocks

**U.S. All Hay Stocks - December 1**  
(1000 Tons)



# U.S. Corn Silage Production

## U.S. Corn Silage Production (Million Tons)



# Measuring Drought

The ***Palmer Drought Severity Index (PDSI)*** (known operationally as the *Palmer Drought Index (PDI)*) attempts to measure the duration and intensity of the long-term drought-inducing circulation patterns.

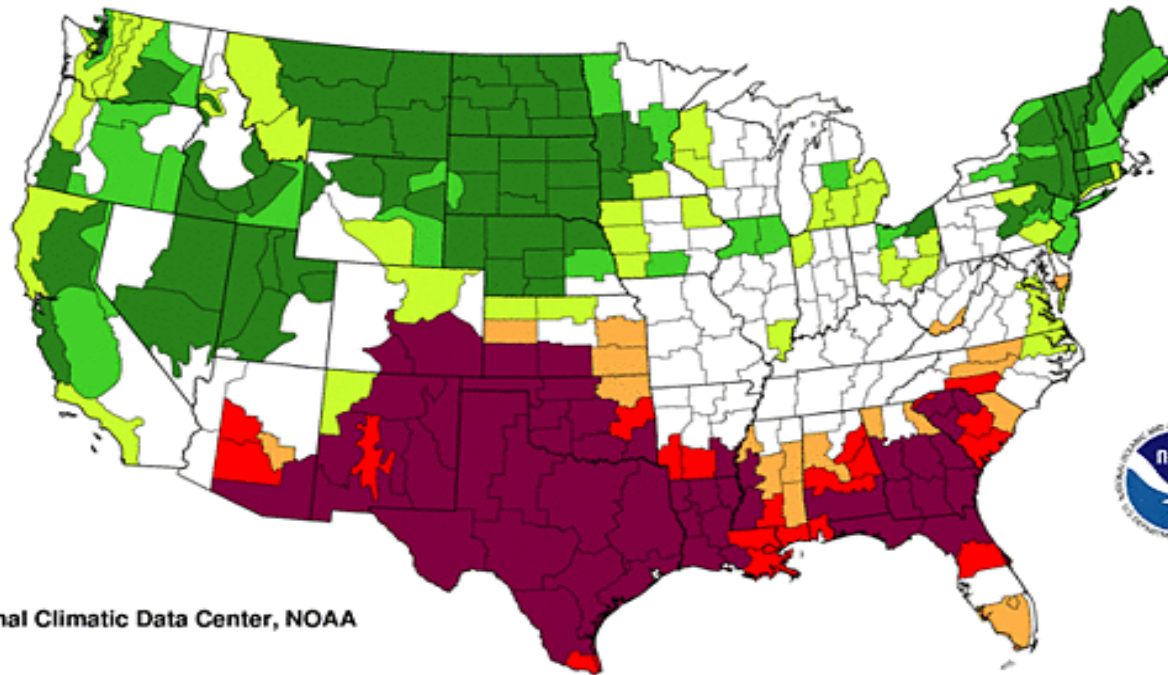
Long-term drought is cumulative, so the intensity of drought during the current month is dependent on the current weather patterns plus the cumulative patterns of previous months.

Since weather patterns can change almost literally overnight from a long-term drought pattern to a long-term wet pattern, the PDSI (PDI) can respond fairly rapidly.

# Widely reported drought in the south

## Palmer Drought Index Long-Term (Meteorological) Conditions

August 2011



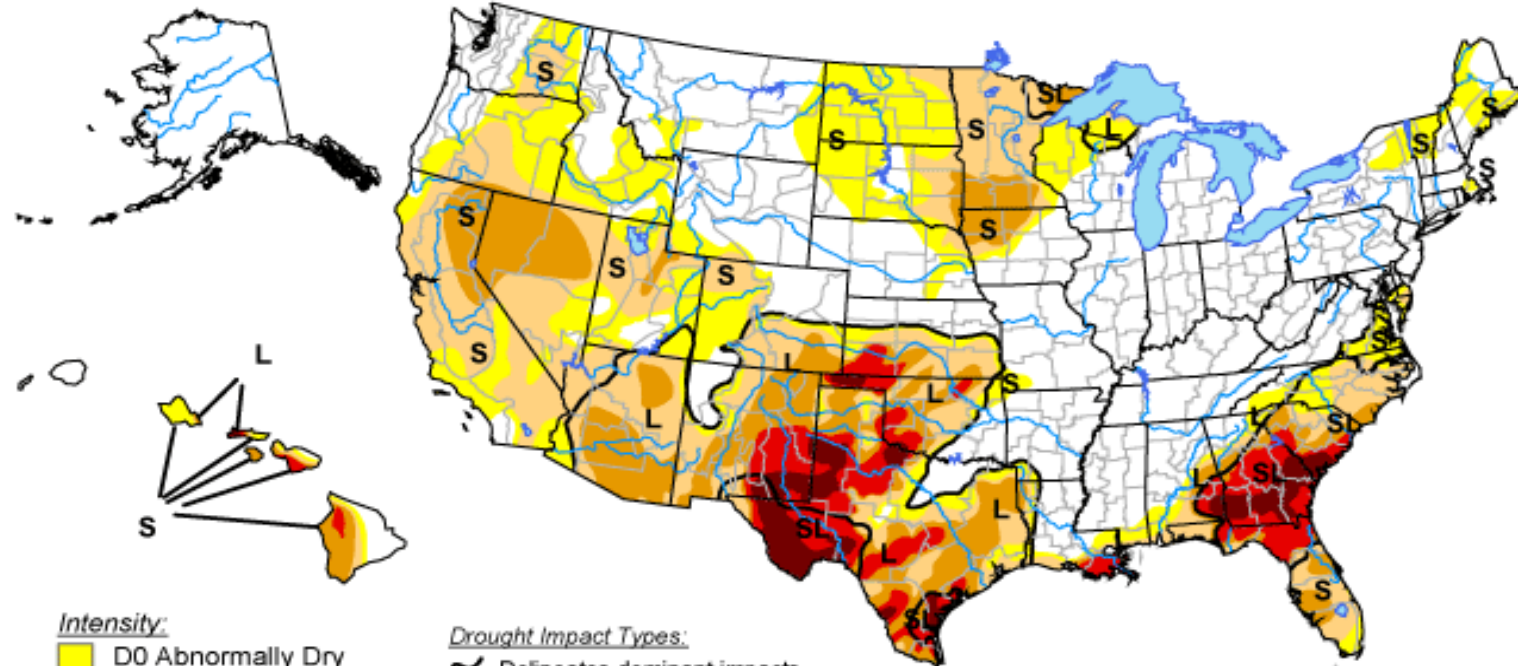
National Climatic Data Center, NOAA



# Current Drought Conditions

## U.S. Drought Monitor

February 28, 2012  
Valid 7 a.m. EST



### Intensity:

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

### Drought Impact Types:

- Delineates dominant impacts
- S = Short-Term, typically <6 months  
(e.g. agriculture, grasslands)
- L = Long-Term, typically >6 months  
(e.g. hydrology, ecology)

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

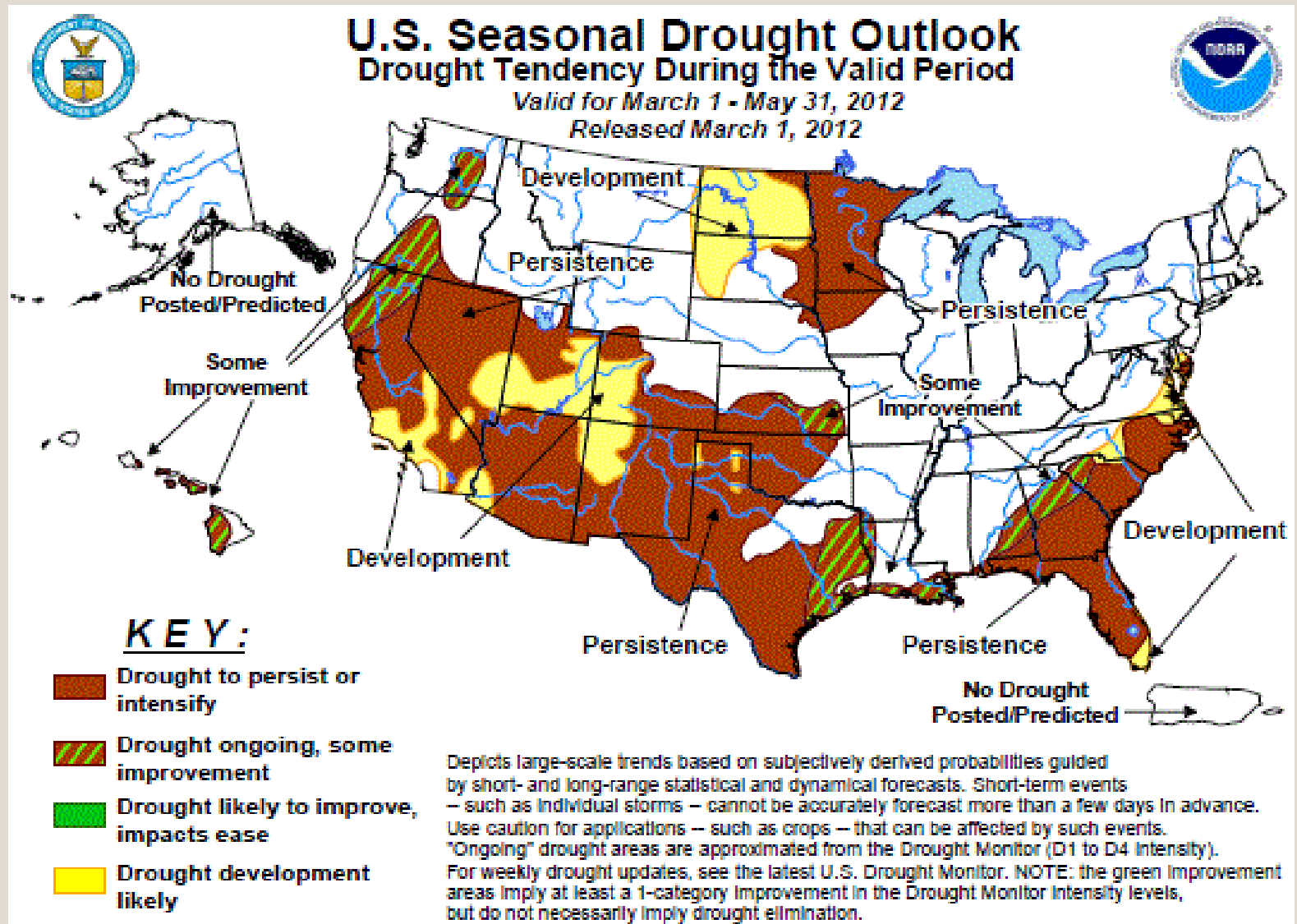
<http://droughtmonitor.unl.edu/>



Released Thursday, March 1, 2012

Author: Mark Svoboda, National Drought Mitigation Center

# Drought Outlook





# High prevalence of poor pasture conditions in 2011

## Beef Cows in states with 40% Poor to Very Poor

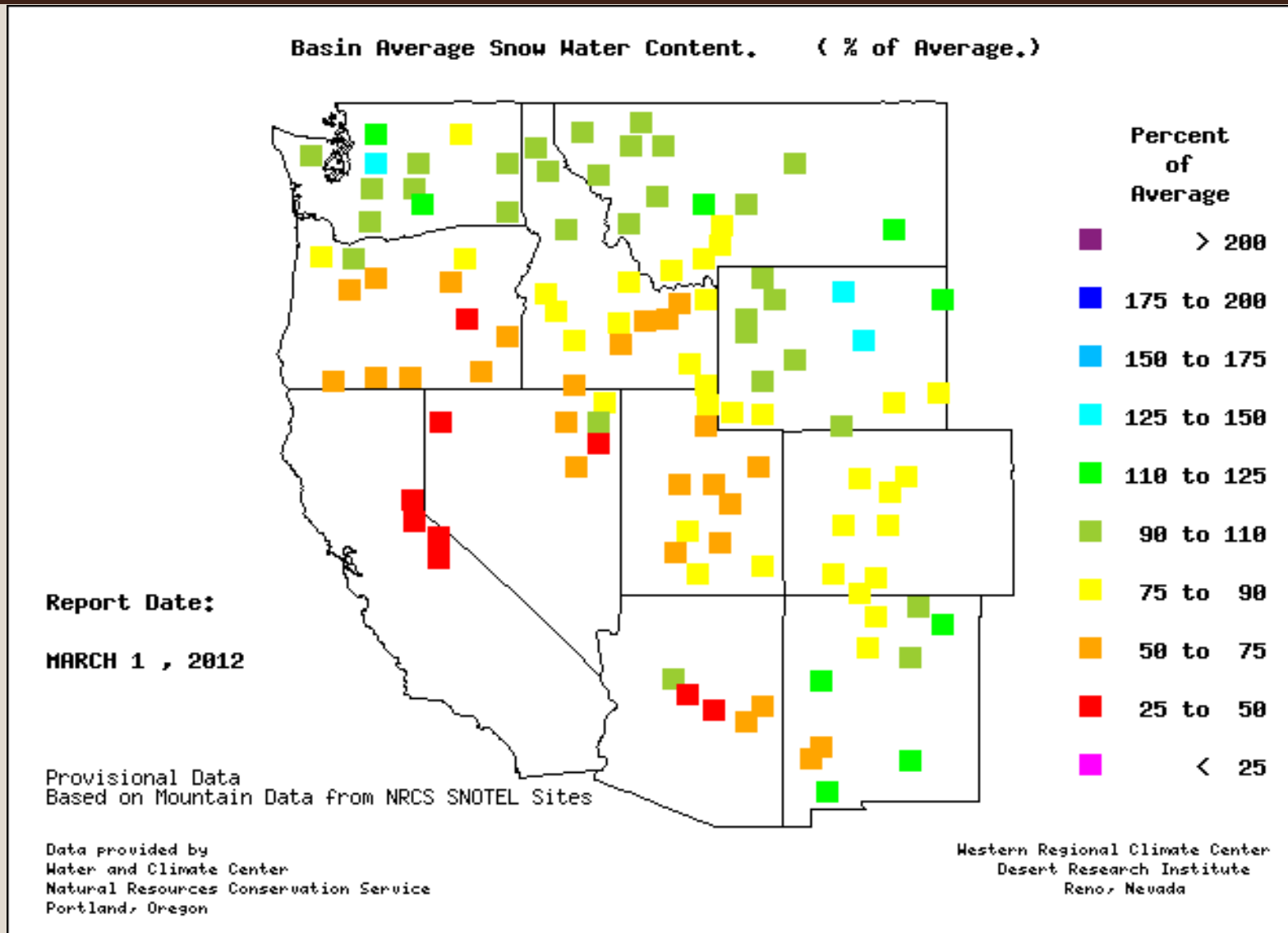
Last year	Cows	% of Total
10/17/10	6283	<b>20.08%</b>
10/24/10	6283	<b>20.08%</b>
10/31/10	6228	<b>19.91%</b>
<b>This Year</b>		
10/16/11	14882	<b>48.35%</b>
10/23/11	14882	<b>48.35%</b>
10/30/11	14205	<b>46.15%</b>

## Beef Cows in states with 40% Good to Excellent

Last year	Cows	% of Total
10/17/10	14580	<b>46.60%</b>
10/24/10	13926	<b>44.51%</b>
10/31/10	10469	<b>33.47%</b>
<b>This Year</b>		
10/16/11	11836	<b>38.45%</b>
10/23/11	10414	<b>33.83%</b>
10/30/11	11304	<b>36.72%</b>



# Snow Pack Measurement



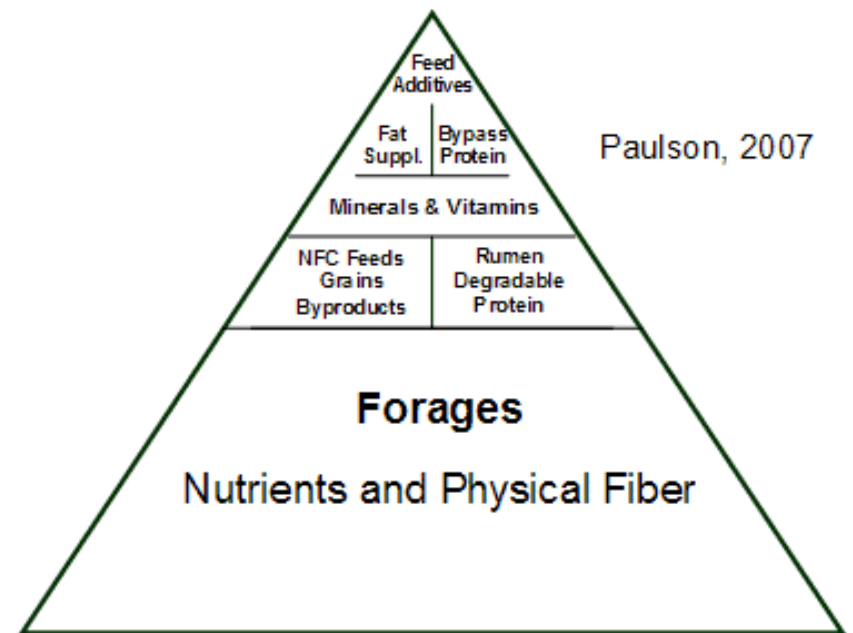
# Review supply outlook

- Hay acreage trending downward
- Roundup Ready alfalfa
  - January 2012 U.S. District Court decision affirming USDA reauthorization and resumption of sale and planting of Roundup Ready alfalfa effective Feb. 2, 2012.
- Expected drought persistence across large areas
  - Unknown pasture response in drought stricken areas receiving rain
- Ongoing tight supply conditions with severely constrained conditions in some regions

# Hay and forage demand

- Hay/forage demand is a derived demand as a livestock production factor
- Required nutrient for both production agriculture as well as horse and hobby ruminants

Fig. 2

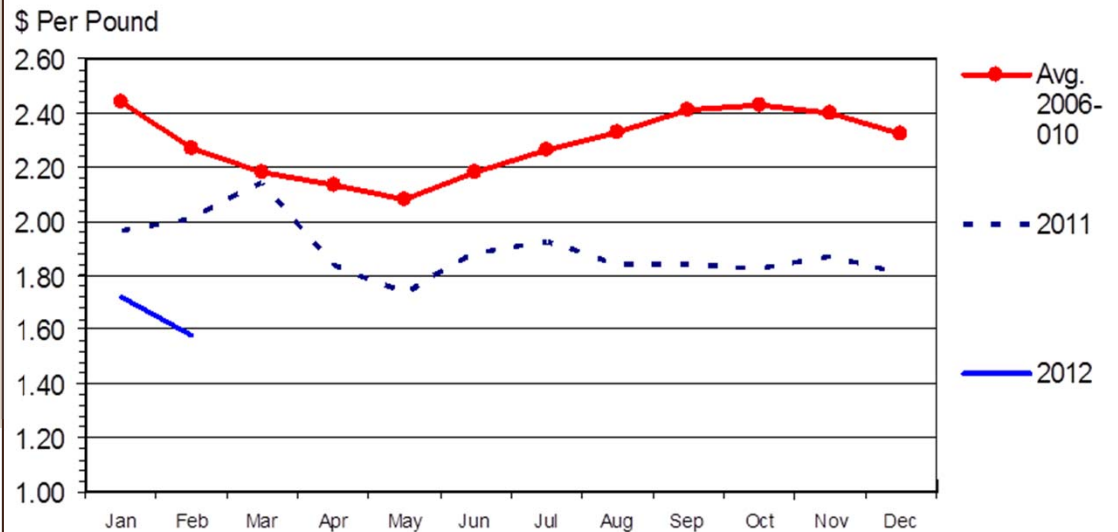


# Dairy hay and forage demand

## Monthly Class III Milk Price (Federal Milk Order)



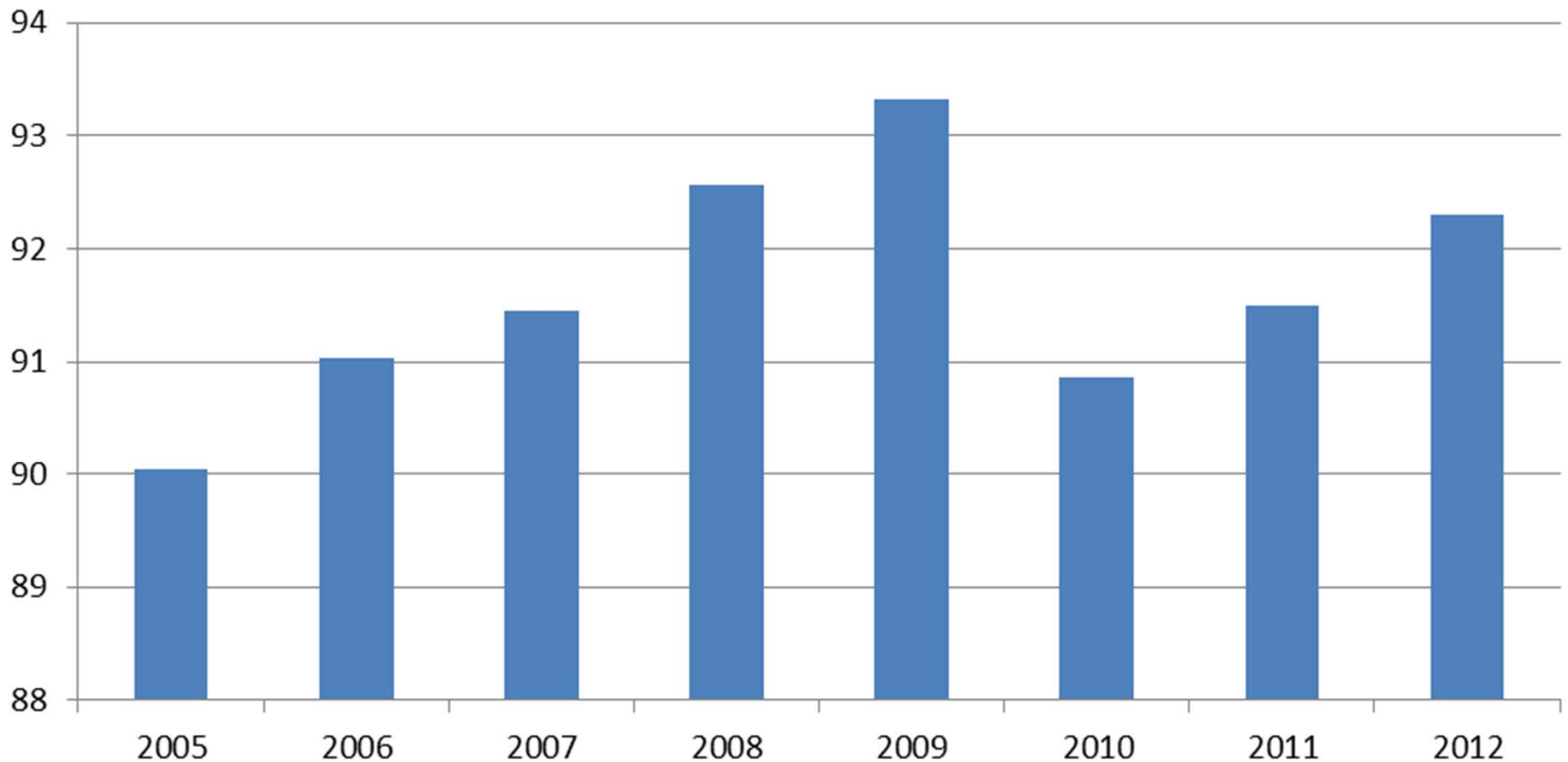
## MILK-FEED PRICE RATIO US, Monthly



Livestock Marketing Information Center  
Data Source: USDA-NASS

# Milk cow inventory comparable to recent

## Milk Cow Inventory Jan 1 (Million Head)



# Beef hay and forage demand

- 2012 cattle inventories as low as they were in the 1950s
- Record high prices for calves, culls and market weight animals
- Beef cattle production in drought areas face significant challenges

# Export hay demand

- Western states are the primary exporters
- Japan is by far the largest market destination followed by South Korea and Taiwan. The UAE and China are increasingly important markets
- Compressed hay is the primary form exported
- Exchange rates and “back haul” shipping containers are important factors

# Export hay continued

- Contracts between hay exporters and hay producers are negotiated in Spring of the production year
- Early price discovery for export hay
- Hay quality is critical



# Export Demand

## West Coast Forage Exports

Export Port	Volume (short tons)				
	2007	2008	2009	2010	2011
California	1,035,642	1,178,690	1,573,897	1,853,302	1,694,330
PNW	1,697,053	1,895,516	2,226,135	2,009,402	2,312,172
Total	2,732,695	3,074,206	3,800,032	3,862,704	4,006,502

Export Port	Year Percent Change in Volume Exported				
	2007	2007 to 08	2008 to 09	2009 to 10	2010 to 11
California	na	14%	34%	18%	-9%
PNW	na	12%	17%	-10%	15%
Total	na	12%	24%	2%	4%

Export Port	Market Share (%)				
	2007	2008	2009	2010	2011
California	38%	38%	41%	48%	42%
PNW	62%	62%	59%	52%	58%
Total	100%	100%	100%	100%	100%

U.S. Department of Commerce Forage Export Data

# Review hay and forage demand outlook

- Dairy herd inventory relatively stable but dairy profitability continues to be challenging
  - Substitution of hay for other lower cost roughages in ration
  - “month to month” contracts or purchases of dairy hay needs
- Beef herd inventory at historic lows but cattle prices at record high
  - Drought stricken areas face significant challenges through 2012 on pasture and range conditions and wintering costs if needing to purchase hay
- Horses and hobby ruminants have an inelastic demand for small sized baled hay

# Review hay and forage demand outlook

- Export market segment is expected to be stable to increasing
  - Inelastic demand
  - Favorable exchange rates
  - Early price discovery but contracts are typically confidential
- Transportation costs are going to become increasingly important in determining point of sale price
  - Increasing fuel costs
  - Drought stricken areas purchased northern State's hay in 2011 but tight supply and increasing energy costs will impact that price in 2012

# Conclusions

- Drought, tight supply and inelastic demand resulted in record high hay prices in 2011
- Early seasonal drought outlook indicates expanding drought areas
- Bullish outlook for 2012 hay and forage prices
- Limited opportunity to hedge hay and forage price risk

