

Input Price Volatility

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October 2011

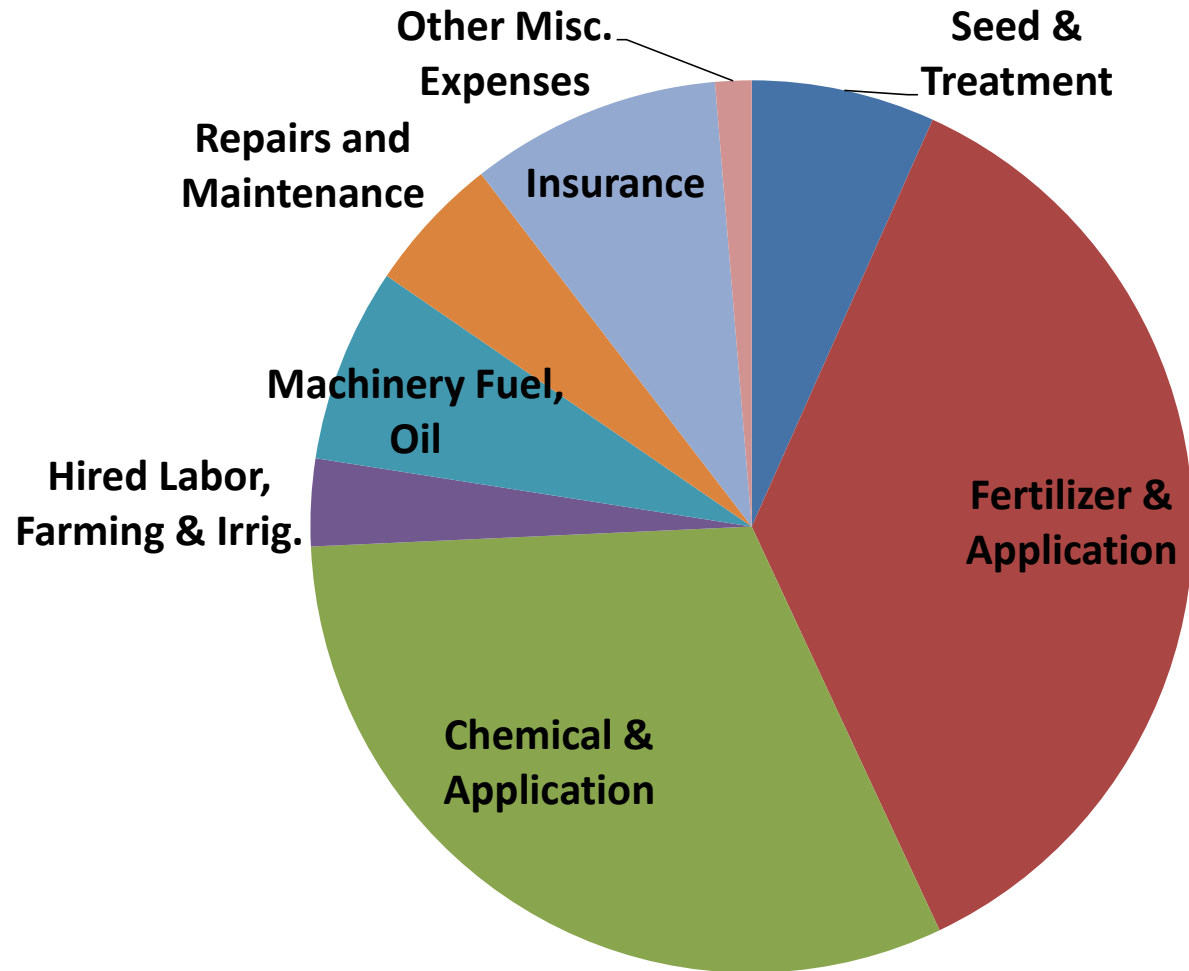
Types of Volatility

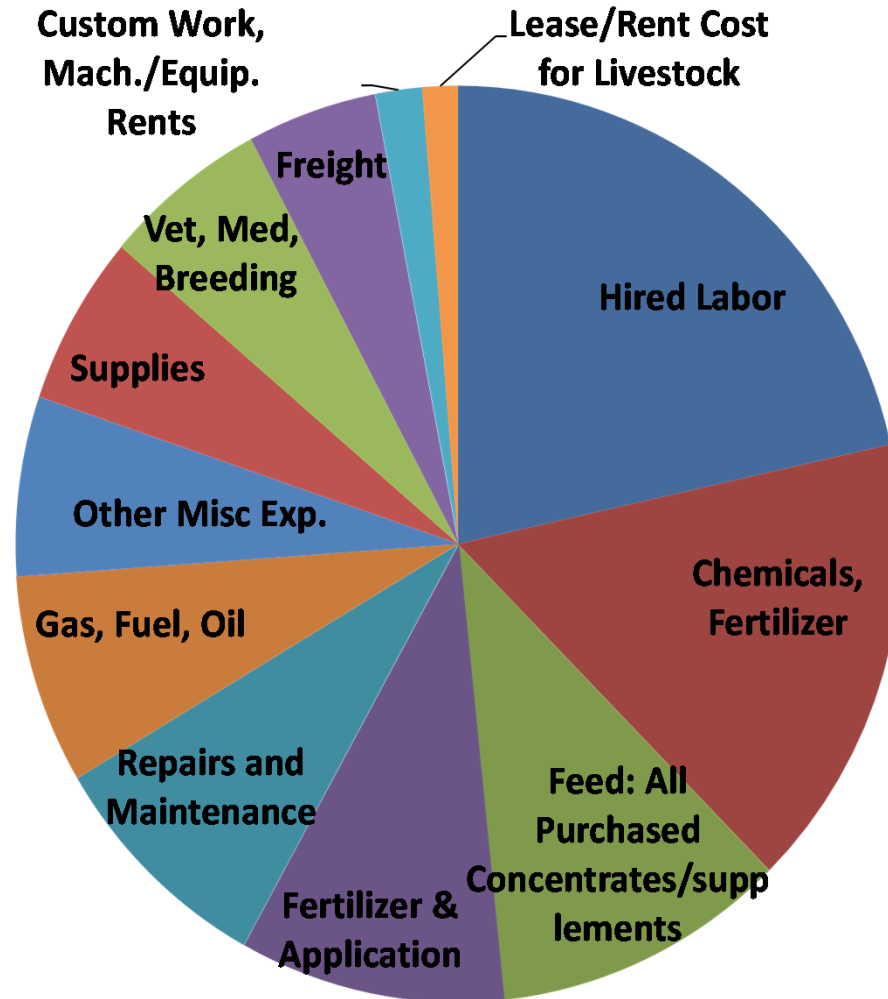
- Price (Demand and Supply)
 - Trend (Up, Down, Sideways)
 - Seasonal
 - Cyclical
 - Random (Information is not perfect = Noise)
- Natural Occurrences
 - Wide Spread Drought and Other...
 - Affects One or More of the Price Patterns
- National and International Policies

Major Sources of Volatility in Expenses

- Operating Costs
 - Fuel
 - Fertilizer
 - Chemicals
 - Labor
 - Others are Smaller Percent of total Expense
- Ownership Costs
 - Machinery and Equipment
 - Land and Improvements

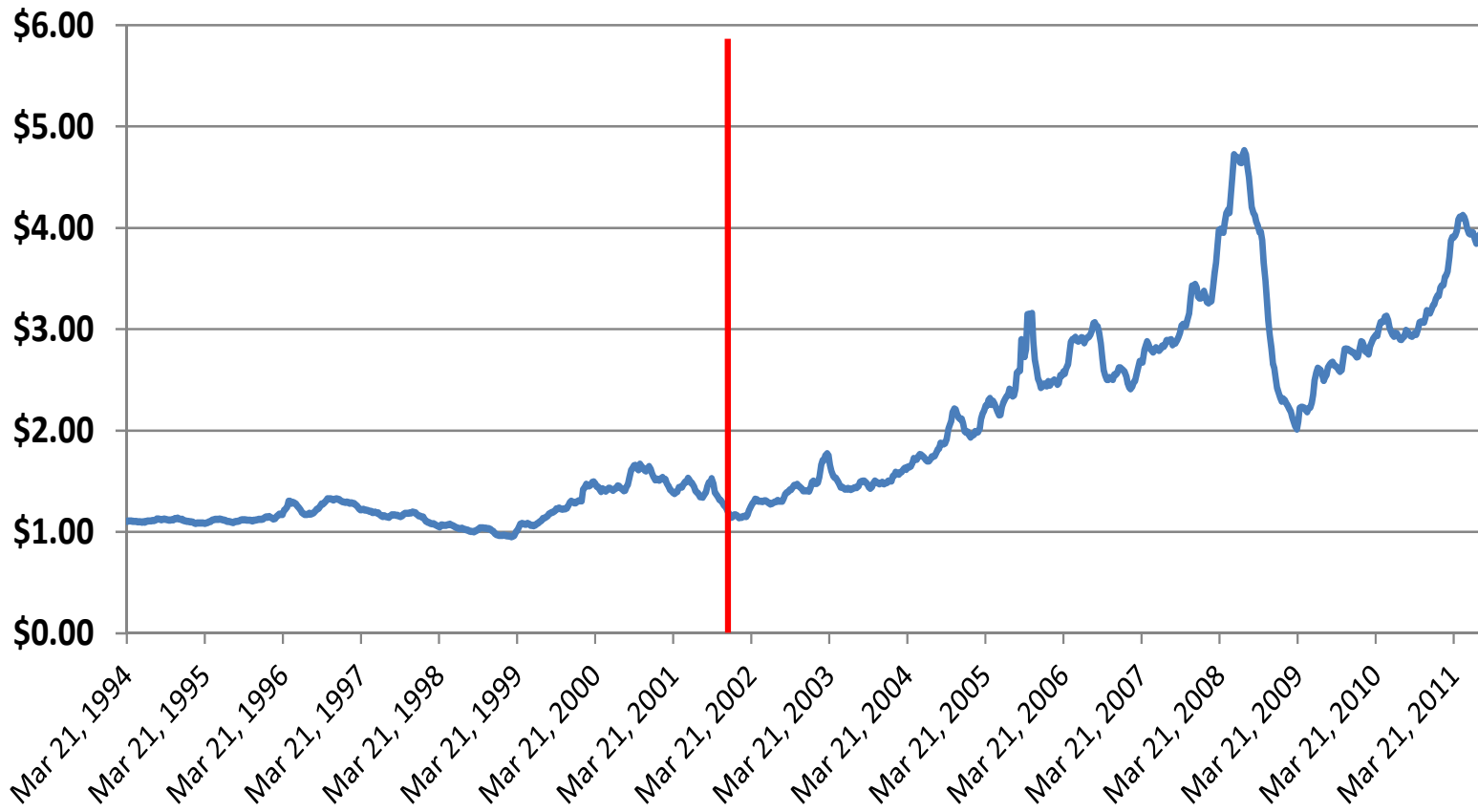
Montana Representative Case **Farm**





Montana Representative **Livestock Operation** Expenses

No. 2 Diesel, Average Weekly U.S. Retail Price

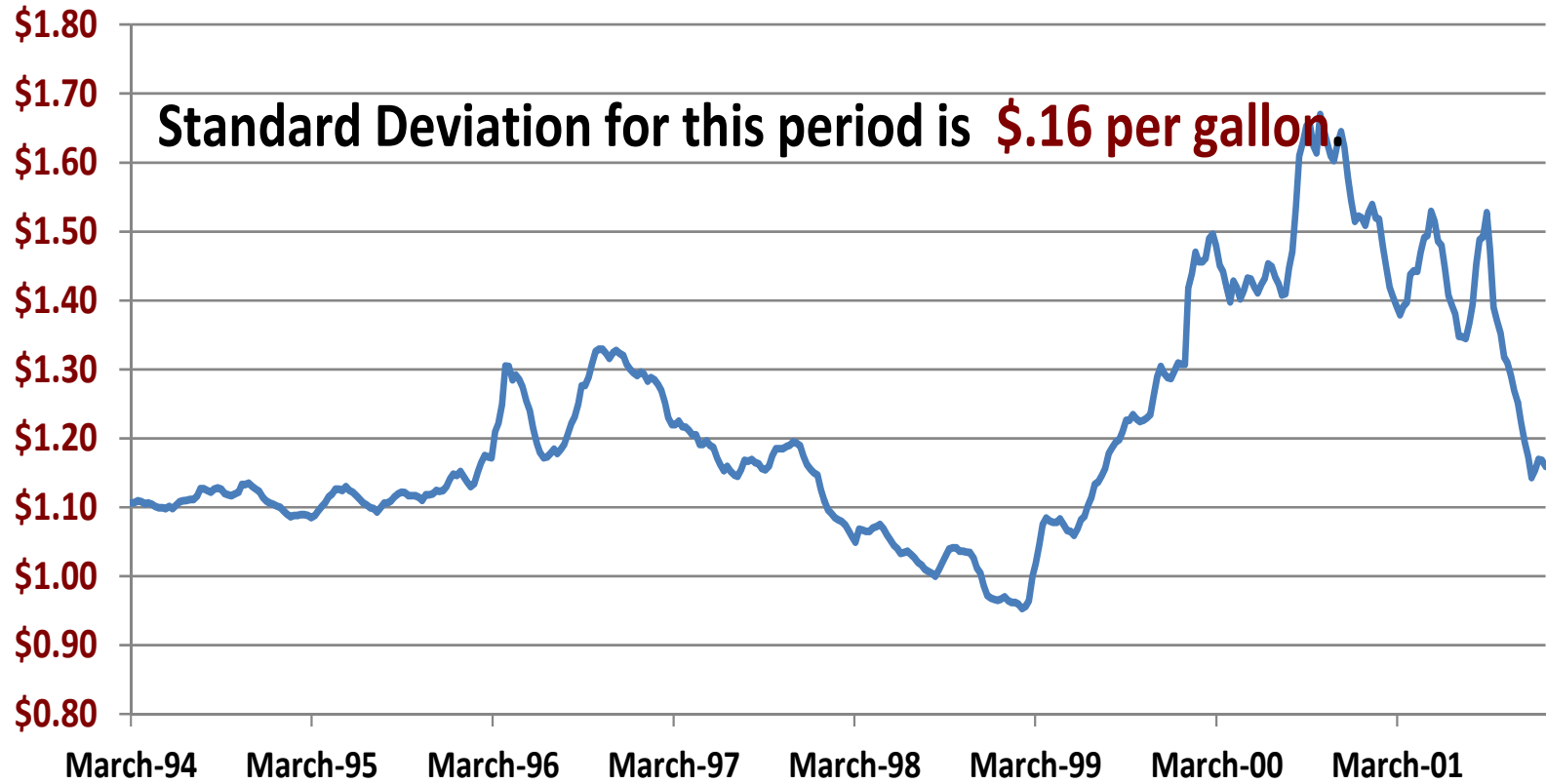


March 1994 through August 2011



Mountains & Minds

No. 2 Diesel, Average Weekly U.S. Retail Price



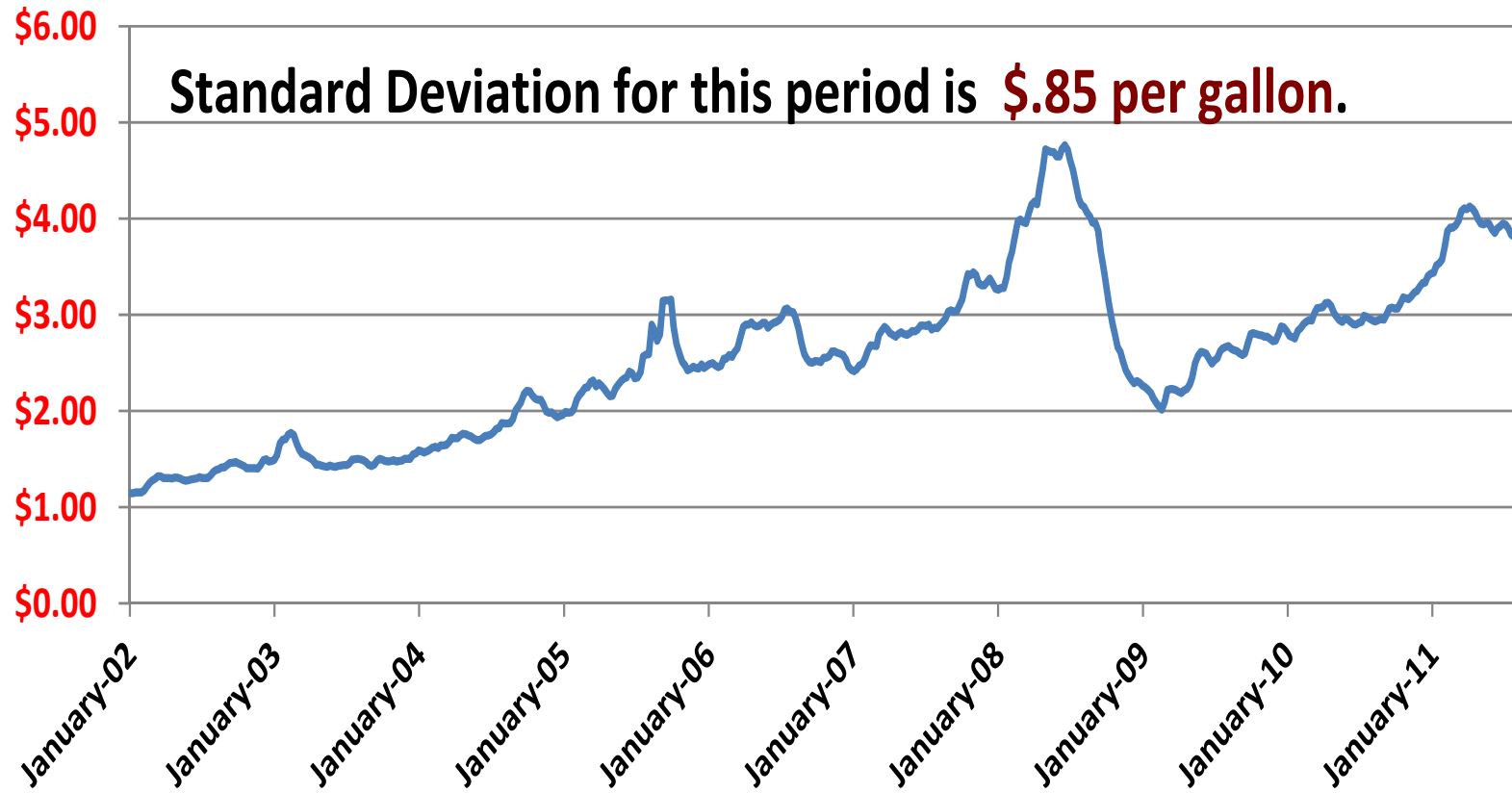
Standard Deviation for this period is **\$.16 per gallon.**

March 1994 through January 2002



Mountains & Minds

No. 2 Diesel, Average Weekly U.S. Retail Price

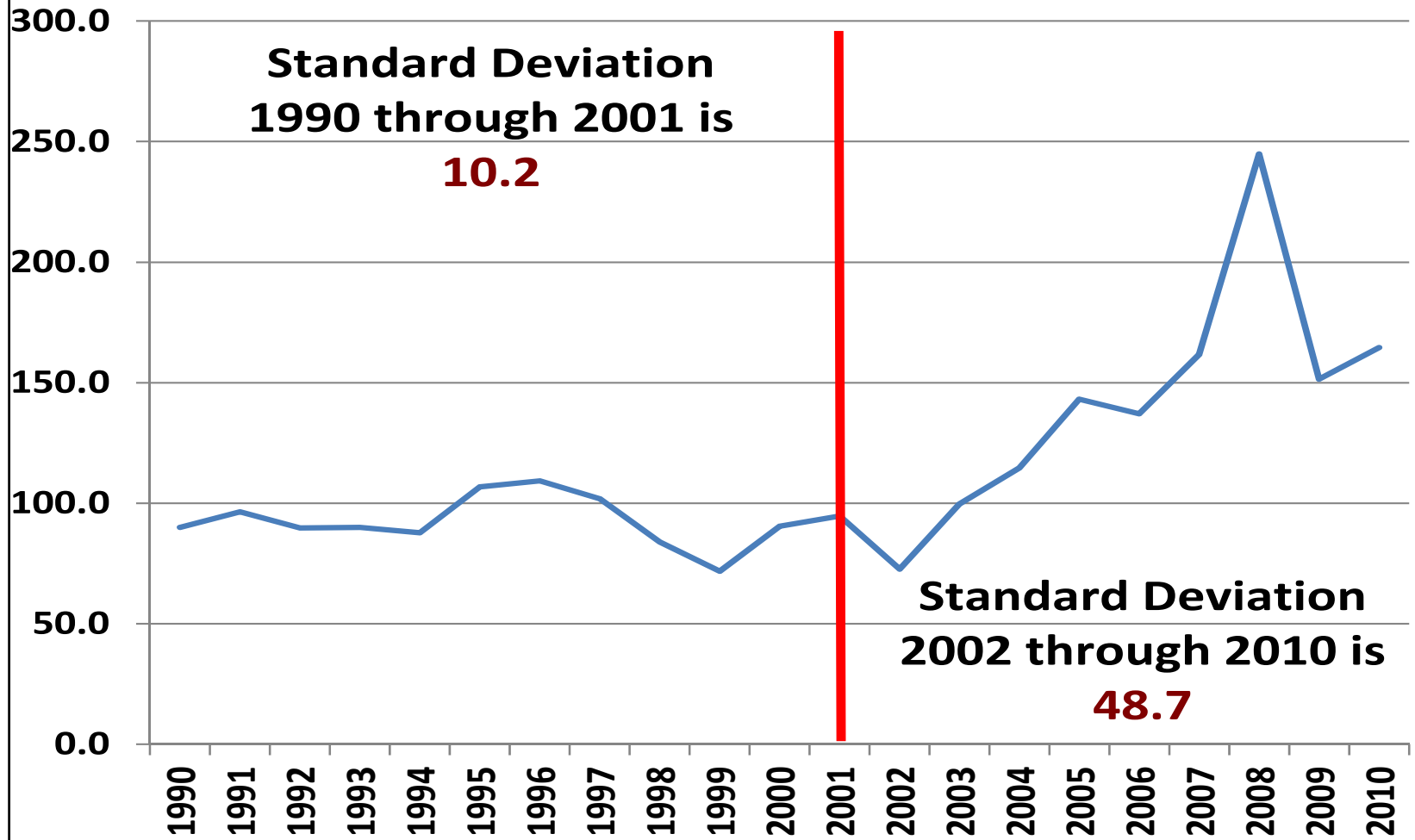


January 2002 through August 2011



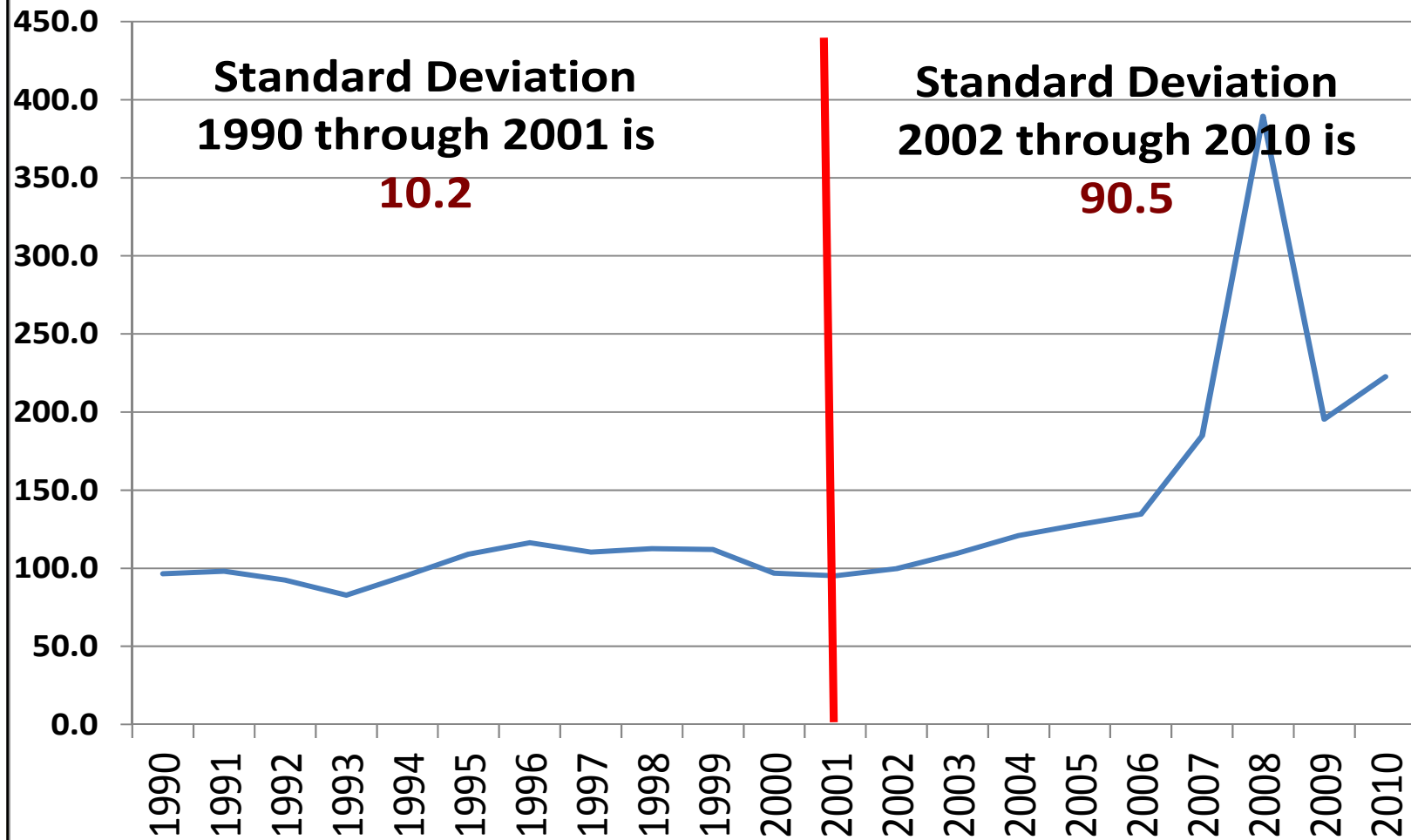
Mountains & Minds

Urea Annual Price Index Values

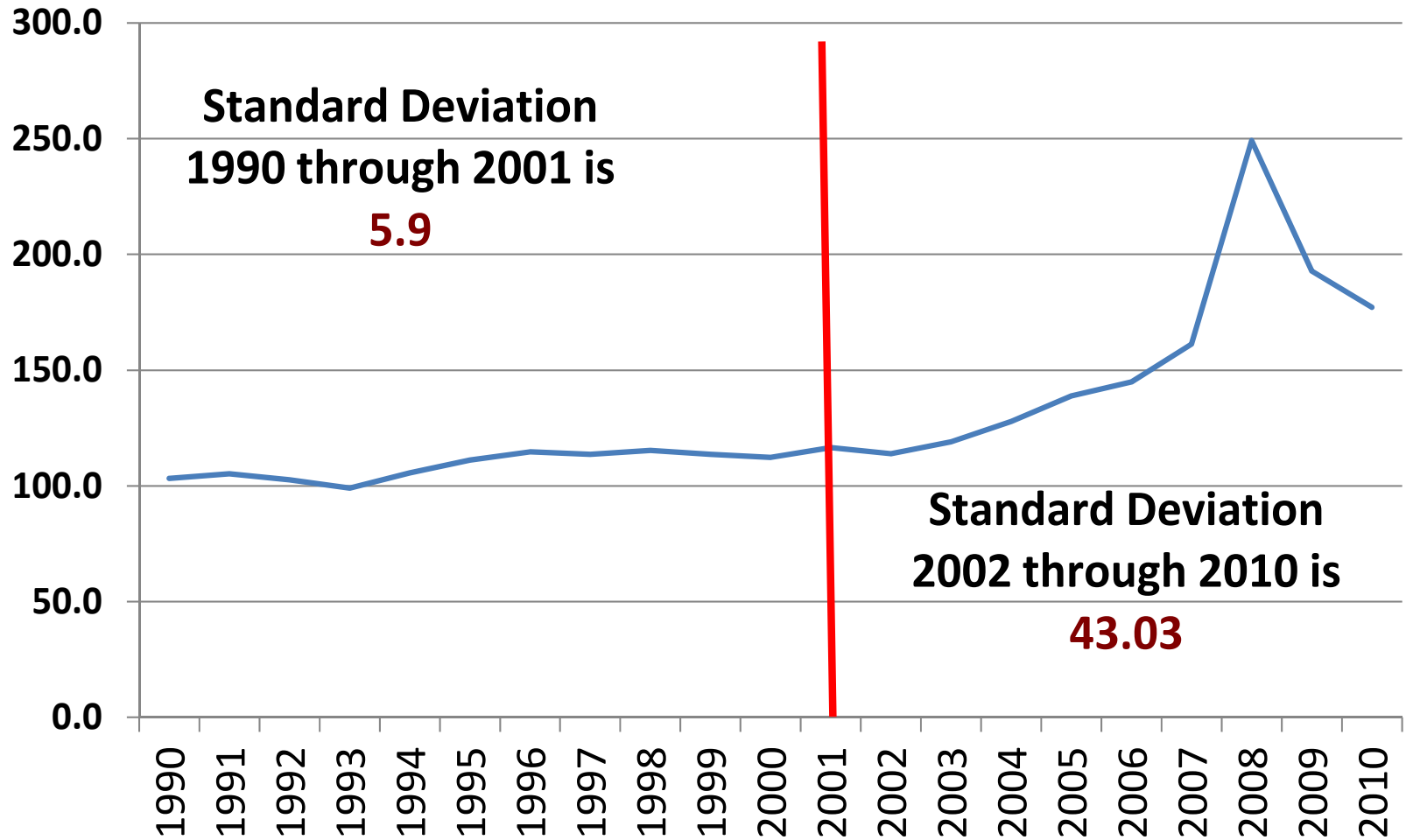


Mountains & Minds

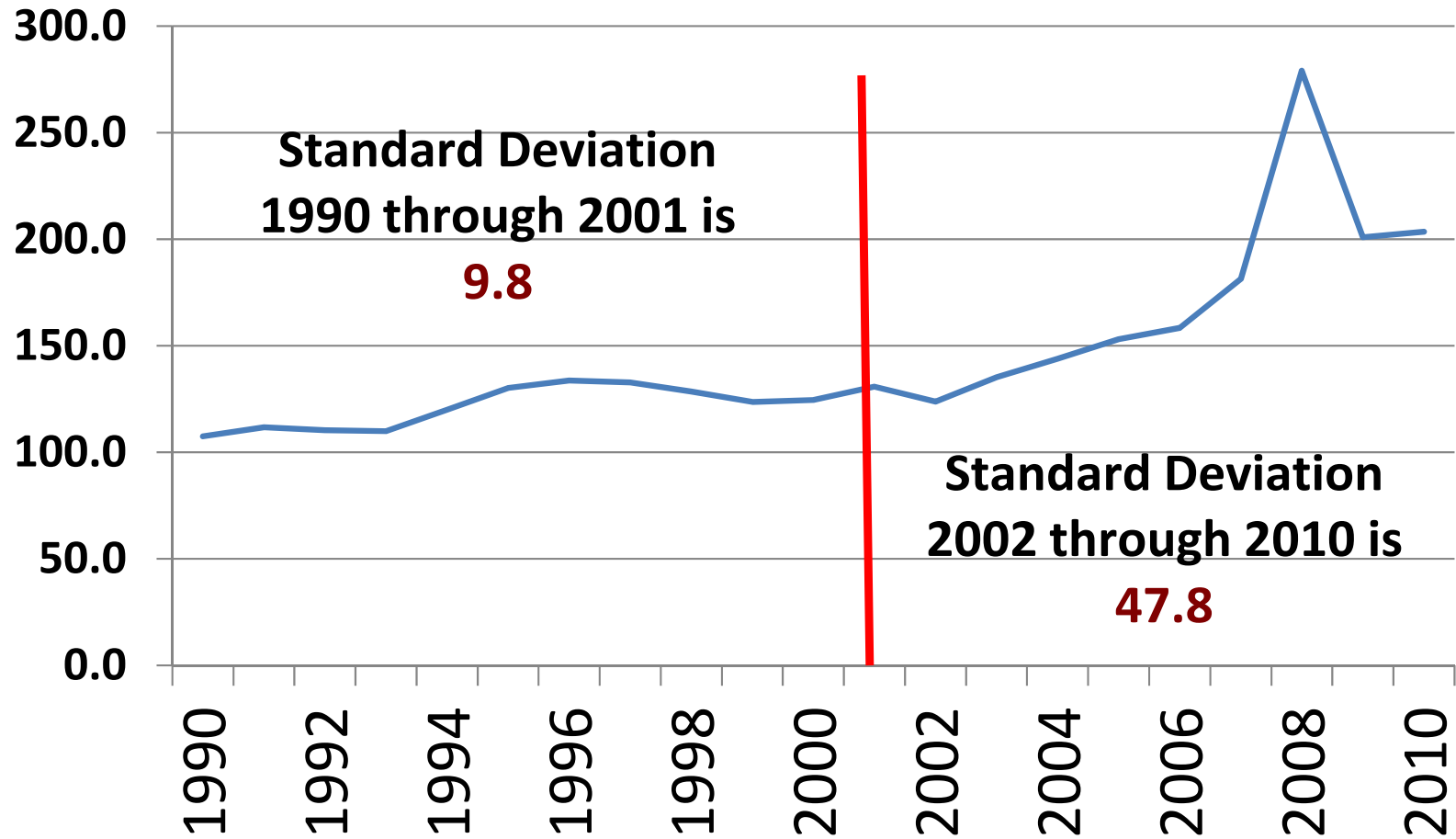
Phosphates Annual Price Index Value

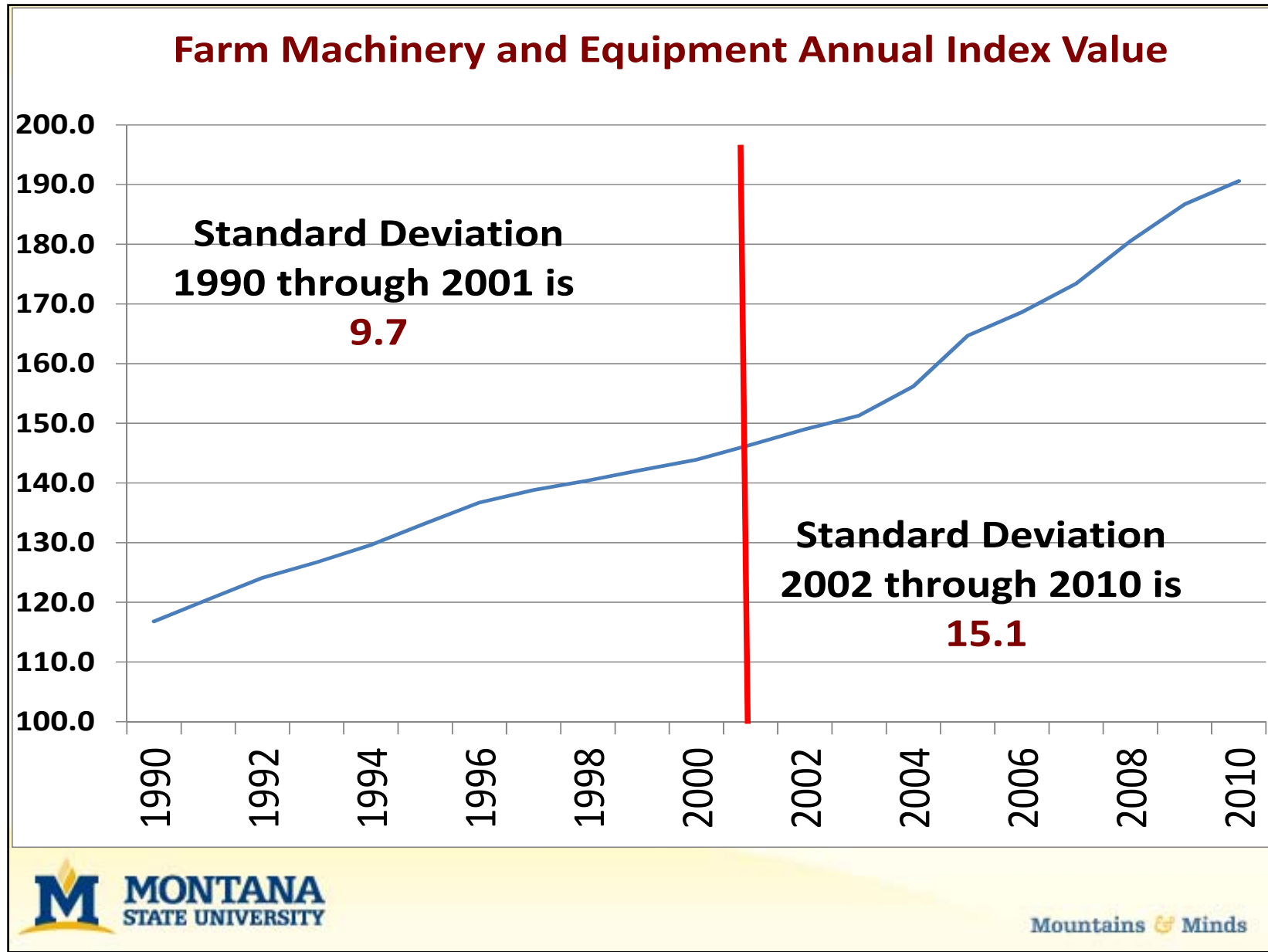


Mixed Fertilizers Annual Price Index Value



Agricultural Chemicals Annual Index Value





Montana Representative Farm/Ranch

- Total Crop Acres 2,525
 - Summer Fallow = 800 acres
 - Alfalfa/Hay = 225 acres
 - Small Grains = 1,500 acres
- 150 Head Breeding Cow Herd Size
- 3,500 Acres Range and Pasture
- Case Farm/Ranch Available at:

<http://www.montana.edu/softwaredownloads/financialmgtdownloads.html>

Financial Indicator	Initial Case Scenario	Increase Crop Costs 10%	Inc. Crop & Livestock Costs 10%	Decrease Crop and Livestock Revenue 10%
Current Ratio	1.24	.98	.94	1.77
Working Capital	\$29,456	-\$2,614	-\$7,429	-\$62,635
Rate of Return on Business Equity	1.19	.16%	.00%	-1.68%
Net Business Income (Accrual)	\$87,033	\$54,963	\$50,148	-\$5,058
Net Cash Flow	\$39,108	\$7,038	\$2,223	-\$52,983
Net Bus. Income From Operations	.15	.1	.09	-0.01
Operating Loan Credit Score	2.35	2.80	2.80	2.80
Term Loan Credit Score	1.90	2.20	2.20	2.20

Introduction
Enter Data
Financial Statements
Ratios
Credit Scoring

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Balance Sheet	Assets		Liabilities		Income Statement - Accrual Adj.		
	Beginning	Ending	Beginning	Ending	Income		
Cash on Hand	30,000	39,108	Accounts Payable (Exo)	0	Cash Income (Net of cull lvstk sales)	\$559,978	
Croos Held for Feed (Exo)	0	0	Accrued Interest (Exo)	30,642	24,728	Non-Cash Income Adjustments	0
Croos Held for Sale (Incl)	50,000	50,000	Current Principal	84,010	89,925	Non-Cash Income (Raised Brdo Lvstk)	22,500
Market Livestock (Incl)	0	0	Other Current Liability (Exo)	10,000	10,000	Capital Gain/Loss on Breeding Lvstk (Net)	(3,980)
Other Current Assets (Incl)	45,000	45,000	Short Term Notes (Exo)	0	0	Gross Revenue	\$578,518
Invest Growing Croos (Exo)	0	0	Def. Tax on Current Assets	0	0	Expense	
Supp. & Prepaid Exp. (Exo)	20,000	20,000	Operating Loan Carryover	0	0	Cash Expense (Excluding Interest)	387,849
Total Current Assets	145,000	154,108	Total Current Liab.	124,652	124,652	Non-Cash Feed Inventory Adjustment	0
Non-Current Assets			Non-Current Liabilities			Other Non-Cash Non-Interest Expense	0
Mach. & Equipment	550,000	505,000	Prin. on T.D. & C.L.	498,520	408,595	Depreciation (Land, Bldgs, Equip.)	68,000
Breeding Livestock	181,500	179,500	Def. Tax on Long Term Assets	0	0	Total Operating Expense	455,849
Real Estate-Land, Bldgs, Imp	2,842,500	2,827,500	Total Business Liab.	623,172	533,247	Cash Int. Exp. - T.D. & C.L.	30,642
Total Business Assets	3,719,000	3,666,108	Business Net Worth	3,095,828	3,132,861	Cash Int. Exp. - Operating	10,908
Change in Equity From Beginning to End of Year (Retained Earnings)						Non-Cash Interest Expense	(5,915)
						Total Expense	\$491,485
						Net Business Income From Operations	87,033
						Net Business Income	87,033
						Income+SS+Def. Tax-Cash & Non-Cash	0
						Net Income	\$87,033
						Accrual	
						Statement of Owner Equity	
						Beginning Net Worth (Cost/Mrkt)	3,095,828
						Net Income	+ 87,033
						Non-Business Cash Inflows	+ 0
						Owner Withdrawals (Cash)	- 50,000
						Asset Valuation Change/Cont./Distrib.	+/- \$0
						Calculated Ending Net Worth	= 3,132,861
						Reported Ending Net Worth (Cost/Mrkt)	3,132,861
						Discrepancy	\$0

Cash Flow Statement	Inflows		OutFlows	
Crop Sales & Net Insurance Payments	450,500		Cash Expenses	No Interest > 387,849
Mkt & Cull Livestock Sales	101,563		Other Cash Business Outflows/Expense	0
Lvstk Secondary Product Sales	0		Cash Int. Exp. - T.D. & C.L.*	30,642
Government Payments	26,454		Cash Int. Exp. - Operating	7.50% 10,908
Other Cash business Inflows/Income	0		Loan Prin. Payments - T.D. & C.L.	84,010
Operating Loan Proceeds	75% 290,887		Breeding Livestock Asset Purchases	6,000
Loan Proceeds Capital Assets	0		Mach & Equip & Real Estate Purchase	0
Non-Business Inflows/Revenue			Owner withdrawals	50,000
Other Nonfarm Inflows #1	0		Cash Taxes Paid (Income & SS)	0
Other Nonfarm Inflows #2	0		Other Cash Outflows (Not Expenses)	0
Total Cash Inflows	\$869,404		Subtotal	\$569,409
* T.D. = Term Debt, C.L. = Capital Lease				
			Operating Loan Prin. Payments	\$290,887
			Total Cash Outflows	\$860,296
			Annual Net Cash Flow (never < zero)	39,108

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Cash Income Toggle Off/On
Deferred Taxes Off/On
Income Tax Off/On

RDFinancial: Montana Representative Farm/Ranch Operation

Strategies for Managing Input Price Volatility

- Fewer Alternatives Than for Prices
- Forward price when financially attractive
 - Understand the current condition
 - Combine with forward pricing output
- Understand price patterns and relationships that may determine futures prices
 - Urea Fertilizer Example
- Be Proactive Regarding Risk Management

Correlation Coeficients for April Urea Fertilizer Price to Avg. Monthly Cash Price For:

	FUTURES		Classes of Wheat						
			HRW				DNS		
	KC	MLPS	ORD	11%	12%	13%	13%	14%	15%
	GOLDEN TRIANGLE								
	KC	MLPS	HRWORD	HRW11%	HRW12%	HRW13%	DNS13%	DNS14%	DNS15%
Jan	0.642	0.596	0.599	0.598	0.606	0.607	0.567	0.589	0.598
Feb	0.620	0.543	0.587	0.574	0.574	0.564	0.498	0.513	0.524
Mar	0.614	0.563	0.589	0.578	0.574	0.562	0.548	0.567	0.577
Apr	0.872	0.846	0.805	0.822	0.831	0.832	0.794	0.852	0.881
May	0.732	0.677	0.707	0.704	0.699	0.693	0.650	0.659	0.660
Jun	0.782	0.741	0.731	0.729	0.730	0.732	0.718	0.729	0.736
Jul	0.824	0.808	0.764	0.762	0.768	0.780	0.779	0.801	0.809
Aug	0.809	0.783	0.744	0.738	0.751	0.749	0.748	0.762	0.765
Sep	0.842	0.811	0.755	0.772	0.789	0.796	0.751	0.794	0.807
Oct	0.861	0.855	0.808	0.765	0.795	0.818	0.845	0.852	0.875
Nov	0.888	0.883	0.805	0.796	0.828	0.856	0.859	0.888	0.905
Dec	0.858	0.842	0.740	0.759	0.794	0.828	0.800	0.853	0.885



<http://www.montana.edu/softwaredownloads/>

Case Farms Used During Presentations

Questions

