ORGANIC PRODUCTION ECONOMICS

WITH COMPARISON TO
CONVENTIONAL PRODUCTION ECONOMICS

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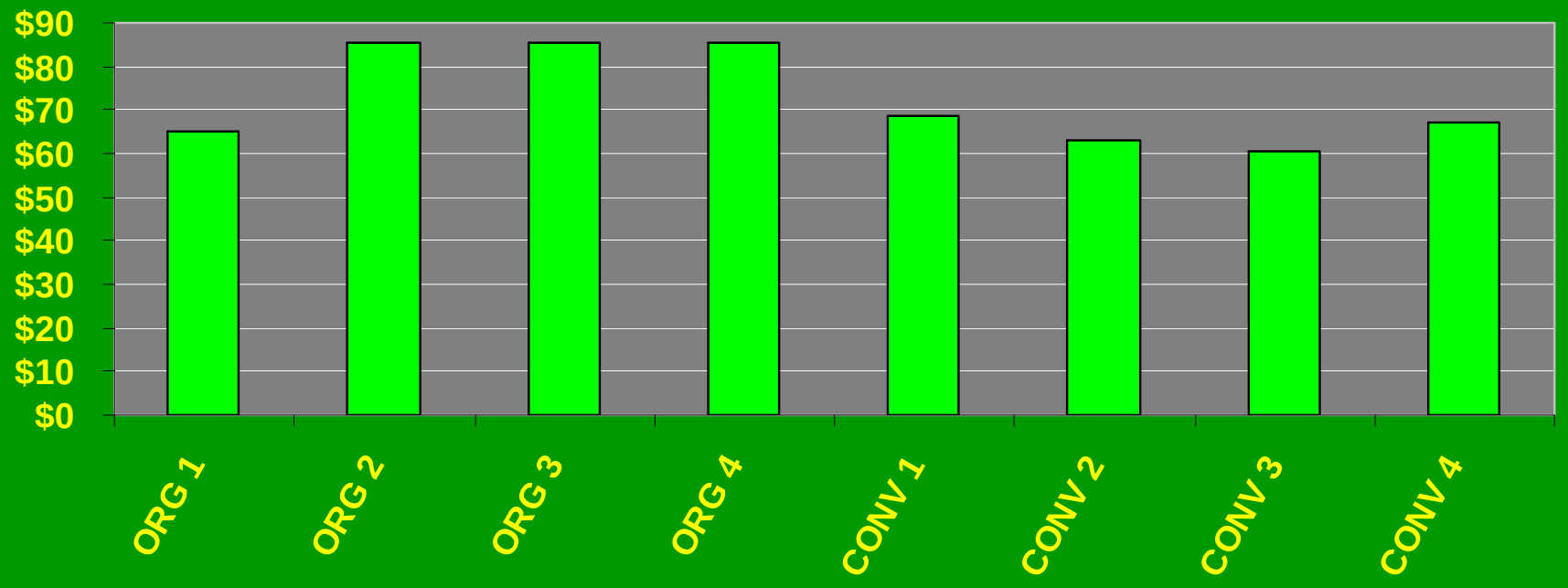
Average Annual Return After Direct Costs - Organic
Great Falls Area ($/acre)

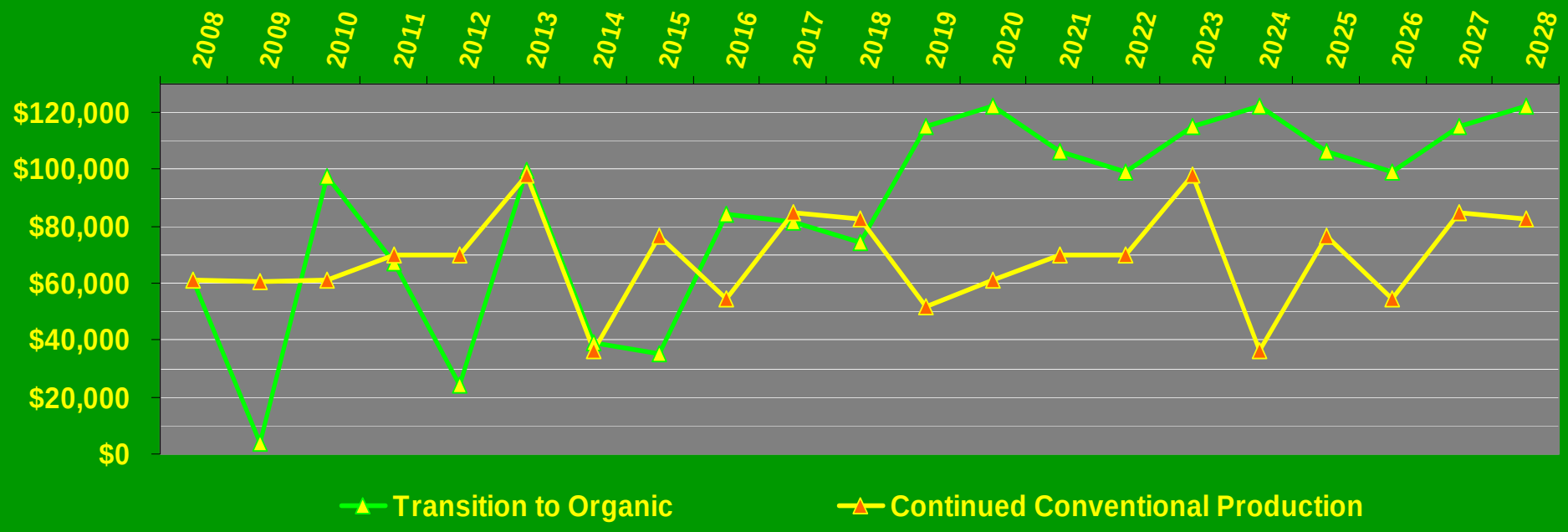


SEQUENCE:

Org 2 - 4: Winter Wheat / Pea Plowdown / Spring Wheat / Summer Fallow

Conv 1: Winter Wheat / Chem Fallow	($17/acre less)
Conv 2: Winter Wheat / Peas / Chem Fallow	($22/acre less)
Conv 3: Winter Wheat / Peas / Chem Fallow Winter Wheat / Mustard / Chem Fallow	($25/acre less)
Conv 4: Winter Wheat / Malt Barley / Chem Fallow	($18/acre less)

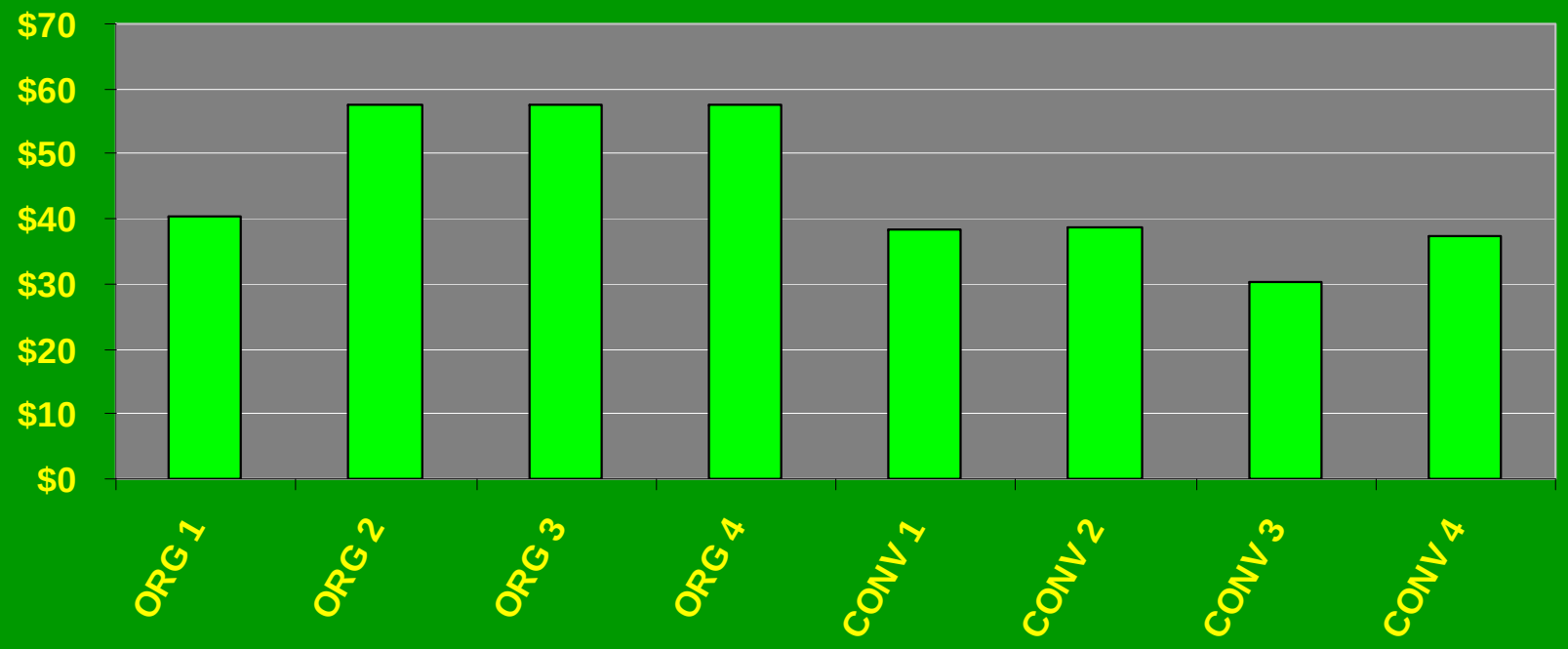
ANNUAL NET INCOME COMPARISON – WHOLE FARM
Great Falls Area



	Average Annual Net Income *(Yr 1 – Yr 10)*	Average Annual Net Income *(Yr 11 – Yr 20)*	Average Annual Net Income *(Yr 1 – Yr 20)*	Net Present Value *(Yr 1 – Yr 20)*
Organic Transition	$60,724	$112,434	$86,579	$896,584
Continued Conventional	$69,471	$68,603	$69,037	$784,220
Difference	($8,747)	$43,831	$17,542	$112,364

HOW DO THE ECONOMICS COMPARE AT OTHER PERIODS OF TIME?

Average Annual Return After Direct Costs - Organic
Great Falls Area ($/acre) - "2006 Conditions"

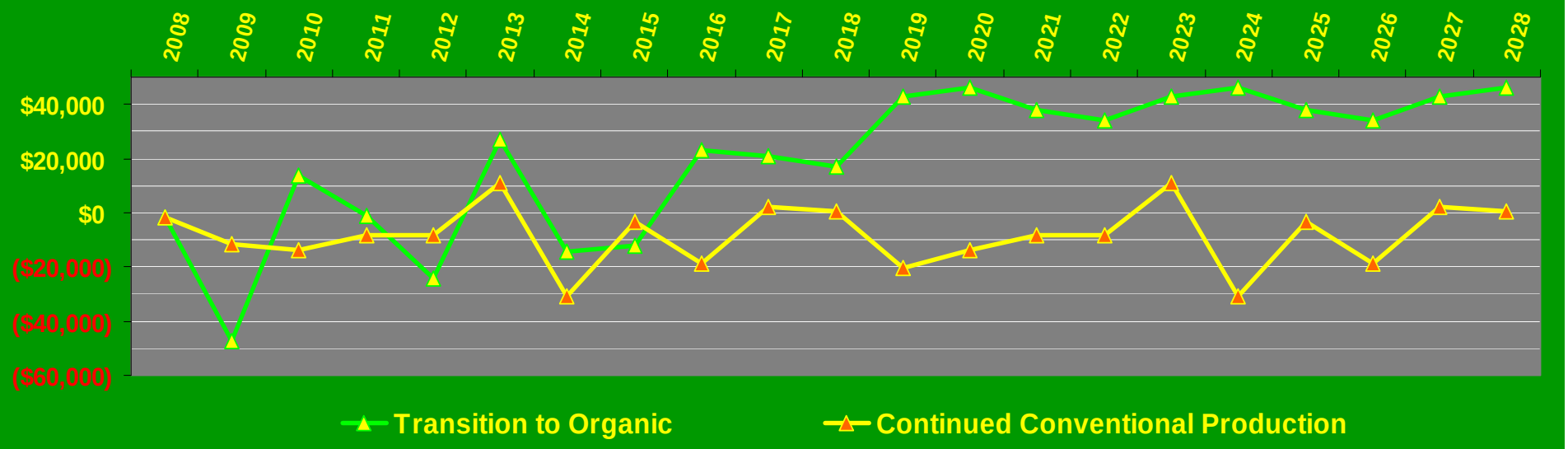


SEQUENCE:

Org 2 - 4: Winter Wheat / Pea Plowdown / Spring Wheat / Summer Fallow

Conv 1: Winter Wheat / Chem Fallow	($19/acre less)
Conv 2: Winter Wheat / Peas / Chem Fallow	($19/acre less)
Conv 3: Winter Wheat / Peas / Chem Fallow Winter Wheat / Mustard / Chem Fallow	($27/acre less)
Conv 4: Winter Wheat / Malt Barley / Chem Fallow	($20/acre less)

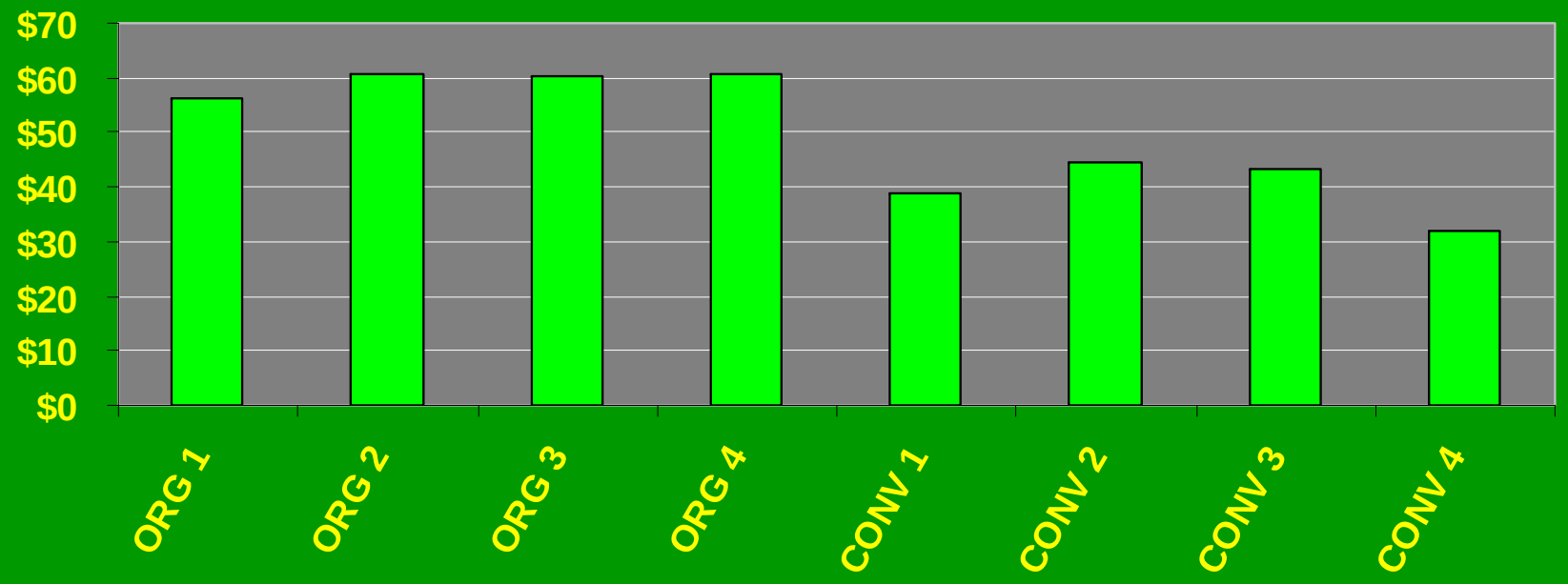
ANNUAL NET INCOME COMPARISON – WHOLE FARM
Great Falls Area – "2006 Conditions"



	Average Annual Net Income *(Yr 1 – Yr 10)*	Average Annual Net Income *(Yr 11 – Yr 20)*	Average Annual Net Income *(Yr 1 – Yr 20)*	Net Present Value *(Yr 1 – Yr 20)*
Organic Transition	$160	$41,080	$20,620	$153,917
Continued Conventional	($8,135)	($8,980)	($8,558)	($102,353)
Difference	$8,295	$50,060	$29,178	$256,270

HOW DO THE ECONOMICS COMPARE AT OTHER LOCATIONS?

Average Annual Return After Direct Costs - Organic
Glasgow Area ($/acre)



SEQUENCE:

Org 2 - 4: Winter Wheat / Pea Plowdown / Spring Wheat / Summer Fallow

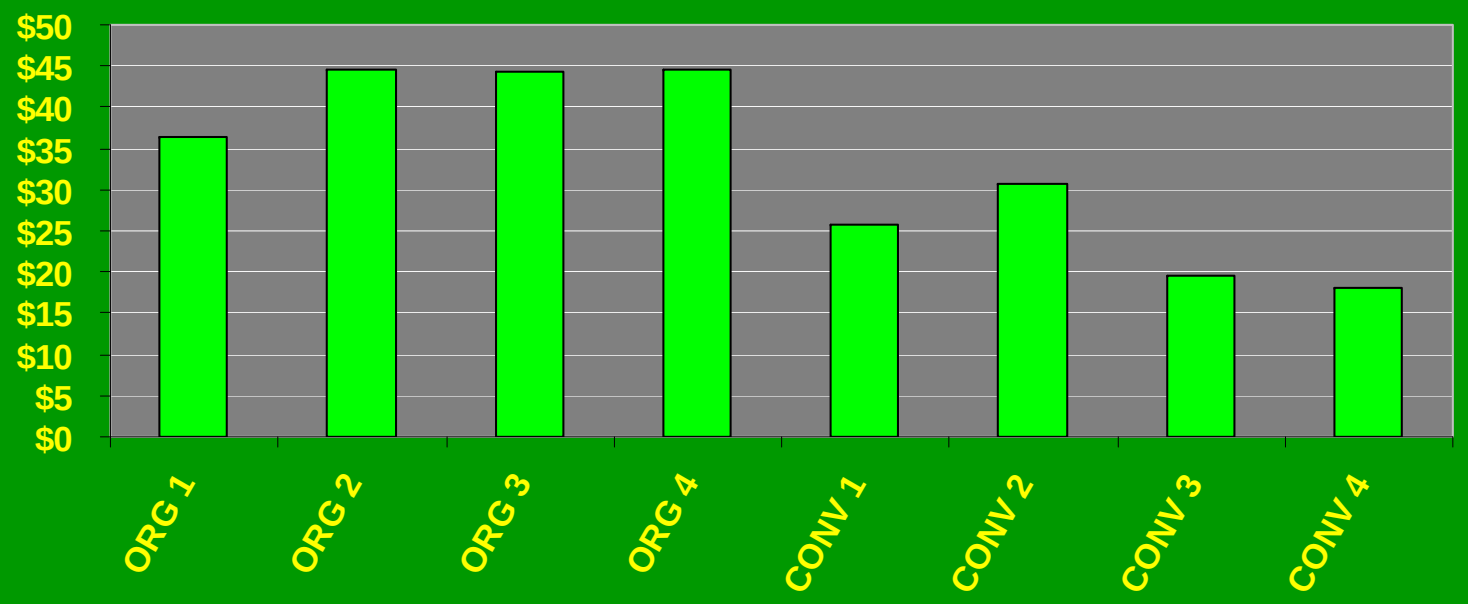
Conv 1: Winter Wheat / Chem Fallow ($22/acre less)

Conv 2: Winter Wheat / Peas / Chem Fallow ($16/acre less)

Conv 3: Winter Wheat / Mustard / Chem Fallow ($18/acre less)

Conv 4: Winter Wheat / Chem Fallow / Peas / Chem Fallow
Winter Wheat / Chem Fallow / Lentils / Chem Fallow ($29/acre less)

Average Annual Return After Direct Costs - Organic Glasgow Area ($/acre) - "2006 Conditions"

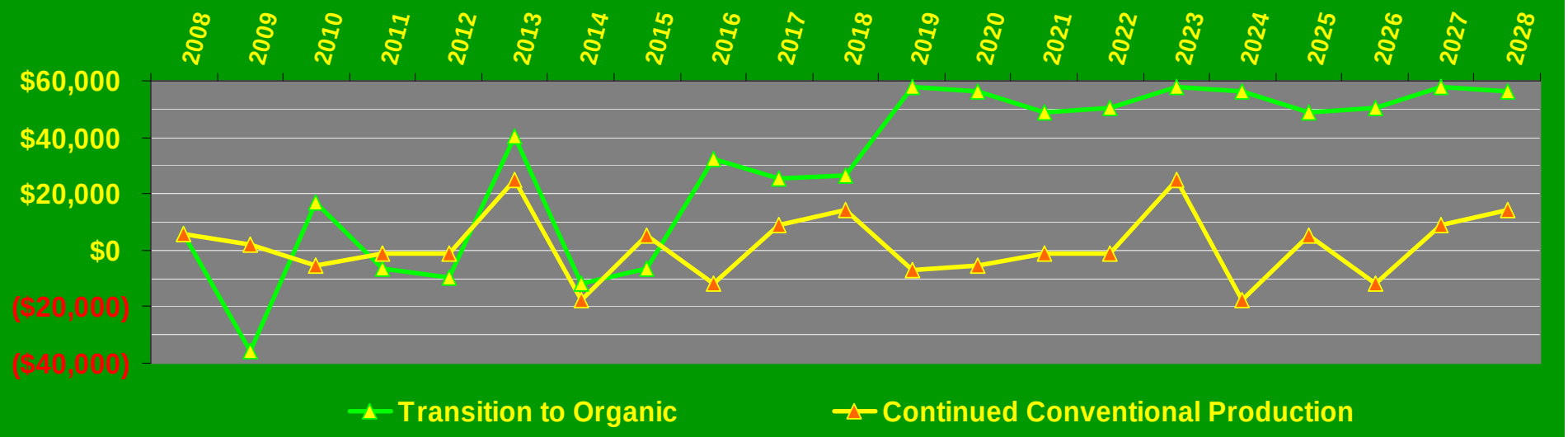


SEQUENCE:

Org 2 - 4: Winter Wheat / Pea Plowdown / Spring Wheat / Summer Fallow

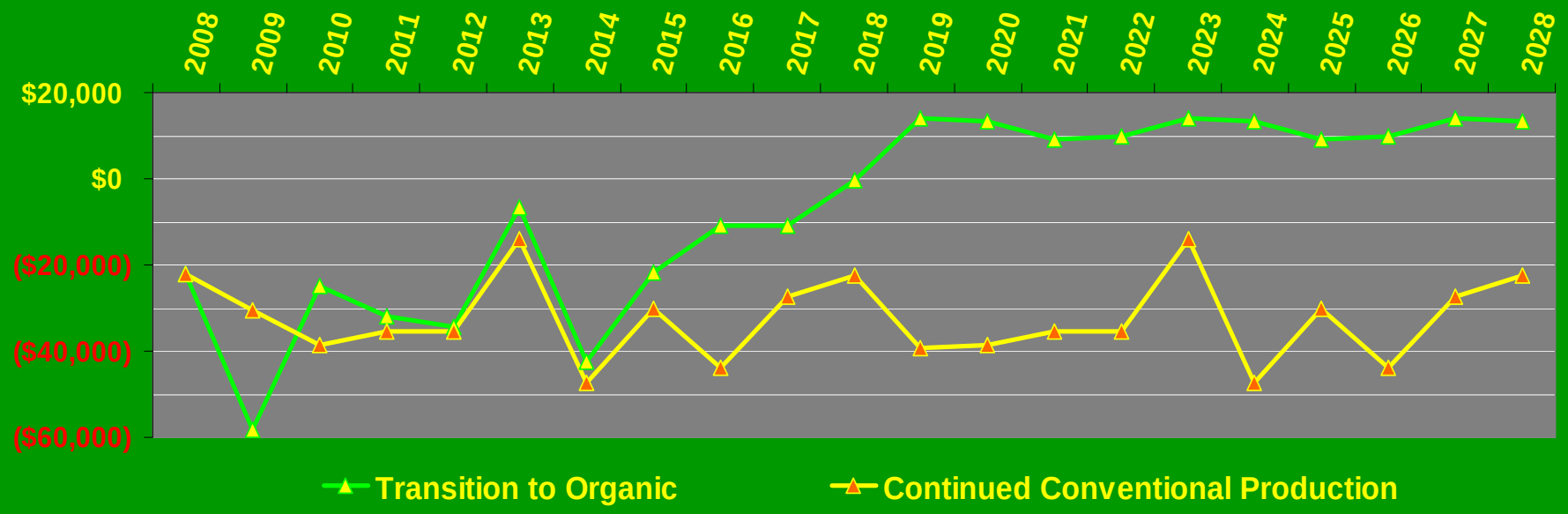
Conv 1: Winter Wheat / Chem Fallow	($19/acre less)
Conv 2: Winter Wheat / Peas / Chem Fallow	($14/acre less)
Conv 3: Winter Wheat / Mustard / Chem Fallow	($25/acre less)
Conv 4: Winter Wheat / Chem Fallow / Peas / Chem Fallow Winter Wheat / Chem Fallow / Lentils / Chem Fallow	($26/acre less)

ANNUAL NET INCOME COMPARISON – WHOLE FARM
Glasgow Area



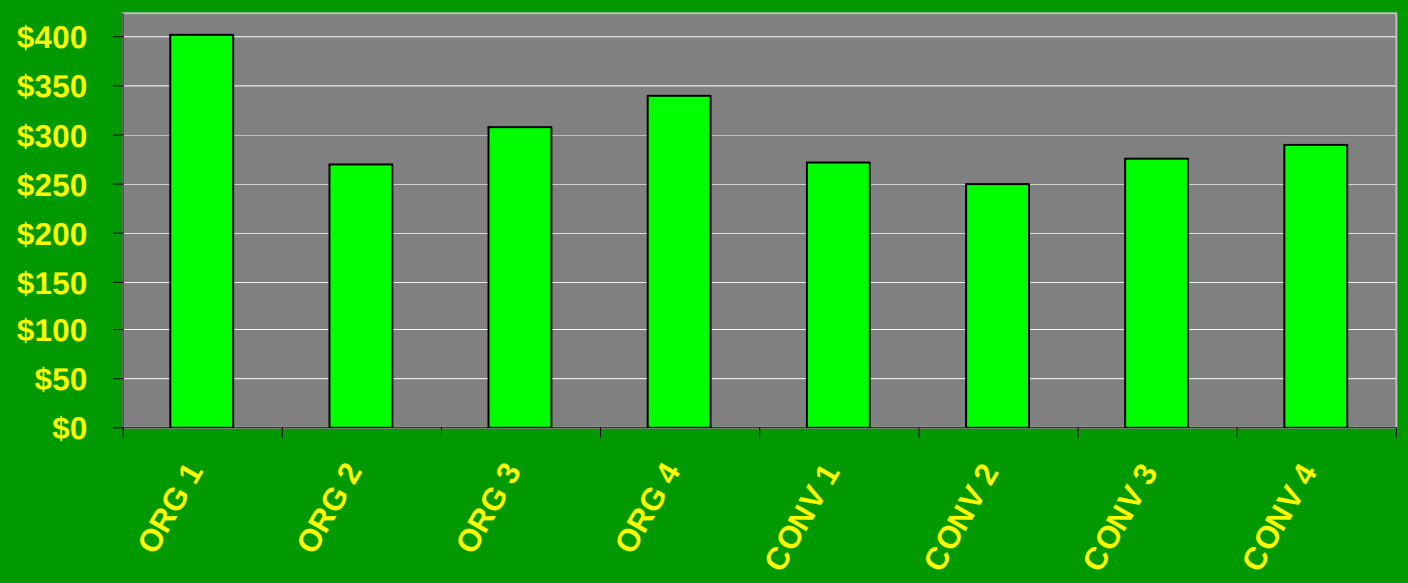
	Average Annual Net Income *(Yr 1 – Yr 10)*	Average Annual Net Income *(Yr 11 – Yr 20)*	Average Annual Net Income *(Yr 1 – Yr 20)*	Net Present Value *(Yr 1 – Yr 20)*
Organic Transition	$7,028	$54,119	$30,573	$257,639
Continued Conventional	$1,790	$921	$1,356	$11,610
Difference	$5,238	$53,198	$29,217	$246,029

ANNUAL NET INCOME COMPARISON – WHOLE FARM
Glasgow Area – "2006 Conditions"



	Average Annual Net Income *(Yr 1 – Yr 10)*	Average Annual Net Income *(Yr 11 – Yr 20)*	Average Annual Net Income *(Yr 1 – Yr 20)*	Net Present Value *(Yr 1 – Yr 20)*
Organic Transition	($24,269)	$12,043	($6,113)	($144,675)
Continued Conventional	($32,585)	($33,431)	($33,008)	($381,067)
Difference	$8,316	$45,474	$26,895	$236,392

Average Annual Return After Direct Costs - Organic
Irrigated - Fairfield ($/acre) - *Org 4 All Years*



SEQUENCE:

Org 1: Malt Barley / Peas / Winter Wheat / Alfalfa (6yrs) (+$130/acre vs.Conv 1)

Org 2: Malt Barley / Pea Plowdown / Winter Wheat / Peas / Summerfallow (-$2/acre vs, Conv 1)

Org 3: Malt Barley / Pea Plowdown / Winter Wheat / Pea Plowdown / Mustard / Malt Barley / Pea Plowdown / Winter Wheat / Alfalfa (6 yrs) (+$36/acre vs. Conv 1)

Org 4: Trans Alfalfa (3 Yrs) / Org Alfalfa (2 yrs) / Malt Barley / Peas / Mustard / Conv Malt Barley / Conv Peas / Conv Mustard / Conv Alfalfa (1 yr) (+$68/acre vs. Conv 1)

Conv 1: Malt Barley

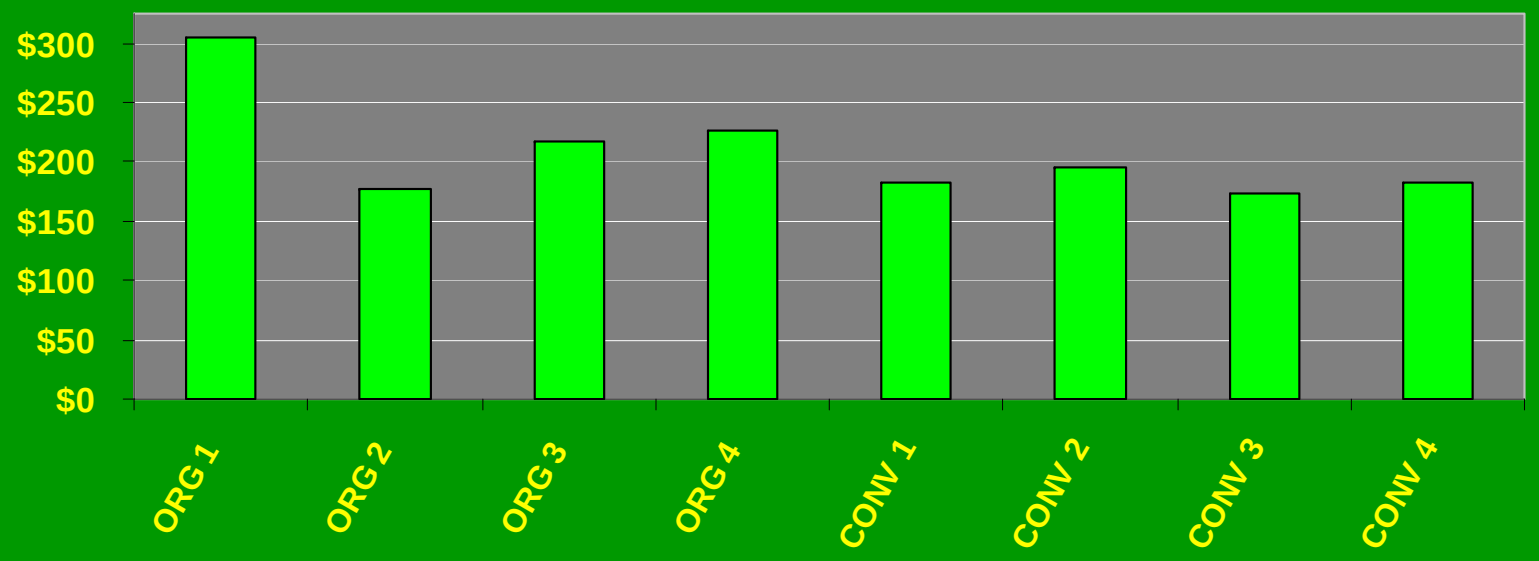
Conv 2: Alfalfa (6 yrs) / Malt Barley (9 yrs)

Conv 3: Winter Wheat / Canola / Malt Barley / Peas

Conv 4: Winter Wheat / Peas / Malt Barley / Peas

Average Annual Return After Direct Costs - Organic

Irrigated - Fairfield ($/acre) - *Org 4 All Years* - "2006 Conditions"



SEQUENCE:

Org 1: Malt Barley / Peas / Winter Wheat / Alfalfa (6yrs) (+$122/acre vs.Conv 1)

Org 2: Malt Barley / Pea Plowdown / Winter Wheat / Peas / Summerfallow (-$5/acre vs, Conv 1)

Org 3: Malt Barley / Pea Plowdown / Winter Wheat / Pea Plowdown / Mustard / Malt Barley / Pea Plowdown / Winter Wheat / Alfalfa (6 yrs) (+$35/acre vs. Conv 1)

Org 4: Trans Alfalfa (3 Yrs) / Org Alfalfa (2 yrs) / Malt Barley / Peas / Mustard / Conv Malt Barley / Conv Peas / Conv Mustard / Conv Alfalfa (1 yr) (+$44/acre vs. Conv 1)

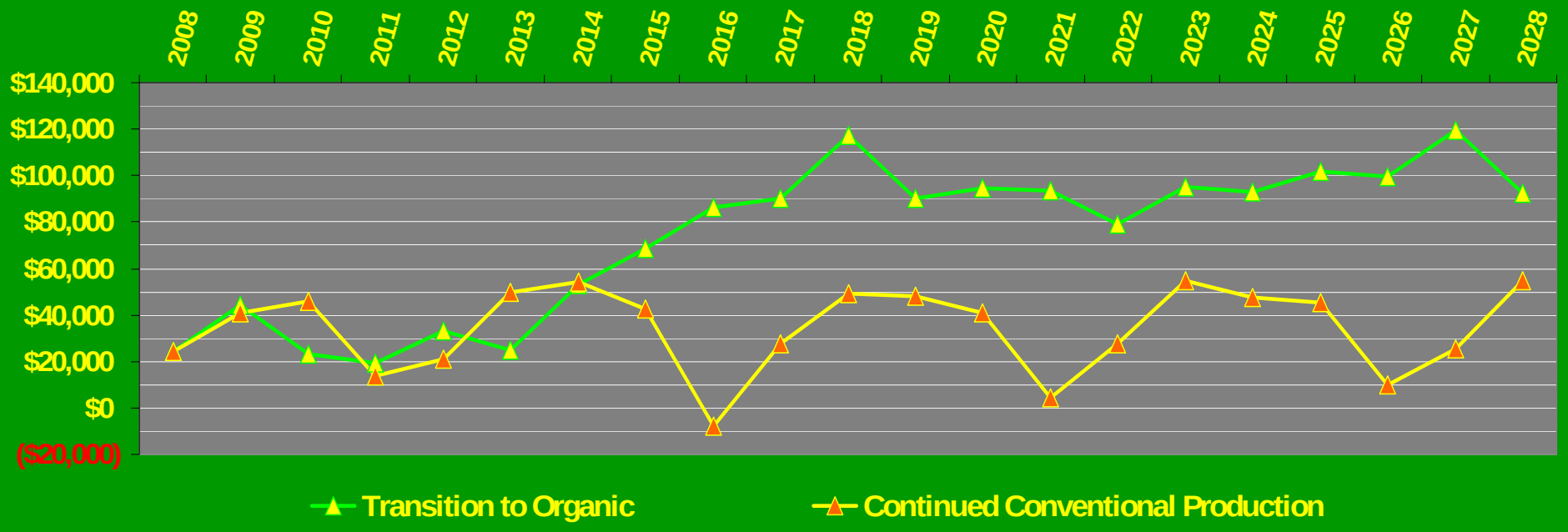
Conv 1: Malt Barley

Conv 2: Alfalfa (6 yrs) / Malt Barley (9 yrs)

Conv 3: Winter Wheat / Canola / Malt Barley / Peas

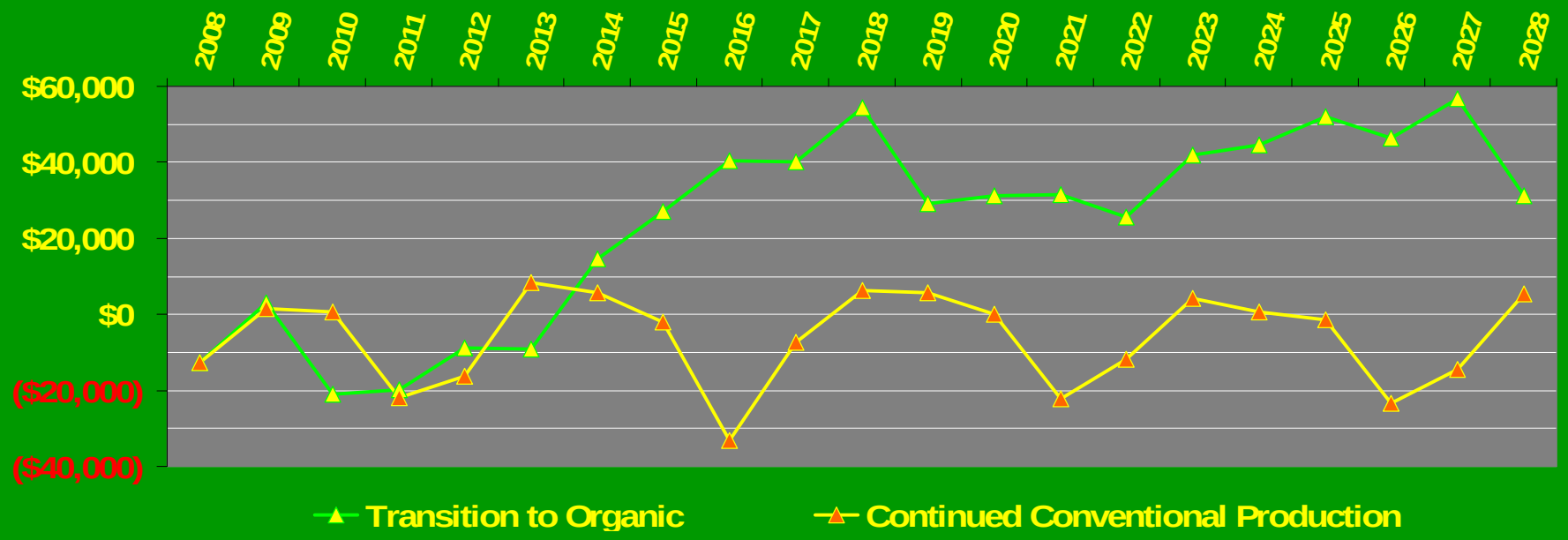
Conv 4: Winter Wheat / Peas / Malt Barley / Peas

ANNUAL NET INCOME COMPARISON – WHOLE FARM
Irrigated - Fairfield



	Average Annual Net Income *(Yr 1 – Yr 11)*	Average Annual Net Income *(Yr 12 – Yr 20)*	Average Annual Net Income *(Yr 1 – Yr 20)*	Net Present Value *(Yr 1 – Yr 20)*
Organic Transition	$59,101	$96,553	$75,954	$770,063
Continued Conventional	$35,002	$34,510	$34,781	$397,361
Difference	$24,099	$62,043	$41,173	$372,702

ANNUAL NET INCOME COMPARISON – WHOLE FARM
Irrigated – Fairfield – "2006 Conditions"



	Average Annual Net Income *(Yr 1 – Yr 11)*	Average Annual Net Income *(Yr 12 – Yr 20)*	Average Annual Net Income *(Yr 1 – Yr 20)*	Net Present Value *(Yr 1 – Yr 20)*
Organic Transition	$13,635	$40,132	$25,558	$217,505
Continued Conventional	($4,780)	($6,991)	($5,775)	($64,442)
Difference	$18,415	$47,123	$31,333	$281,947

TRANSITION ECONOMICS

No "prohibited substances" may be applied 36 months before harvesting a crop that can be certified organic.

Transition may be less than 3 Years!

Transition Period:

- Field – post harvest spraying: 3 growing seasons of "transition"
- Field – last herbicide application while crop is growing: 2 growing seasons of transition
- Alfalfa field – winter/spring fertilized: 2 growing seasons of transition possible
- Pasture or CRP – no herbicides in last 2 – 3 years: no transition period

USDA National Organic Program: National List of Allowed and Prohibited Substances

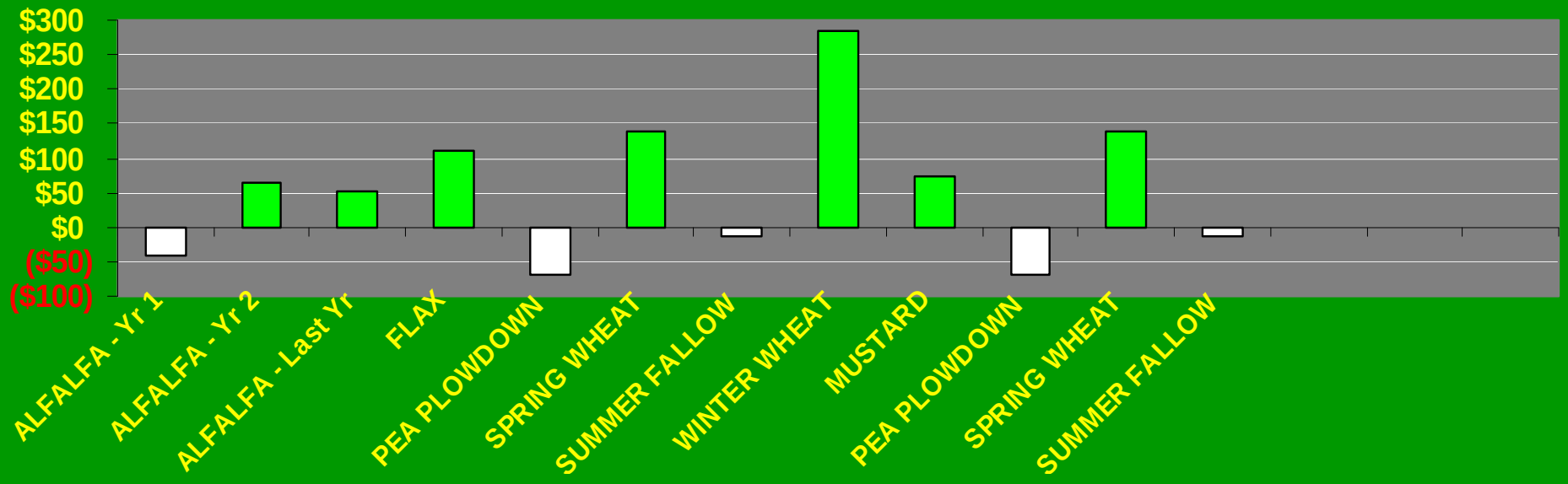
Organic Transition *(36 months from last use of prohibited materials)*:

- Assume conventional prices throughout transition
- Cash flow during transition is challenging

Alfalfa *(3-year stand)*

- Assume no revenue from crop in Year 1
- Alfalfa fixes more nitrogen than peas, most fixed in first three years
- Weed control: crowd out weeds & mowing
- Less overall tillage
- Why only a 3-year stand?
  - Easier to terminate a younger stand
  - Typical duration for organic alfalfa rotations shown in literature
- Con of transitioning with alfalfa? Drying out of soil

ORGANIC ROTATION 1
Return After Direct Costs ($/acre)

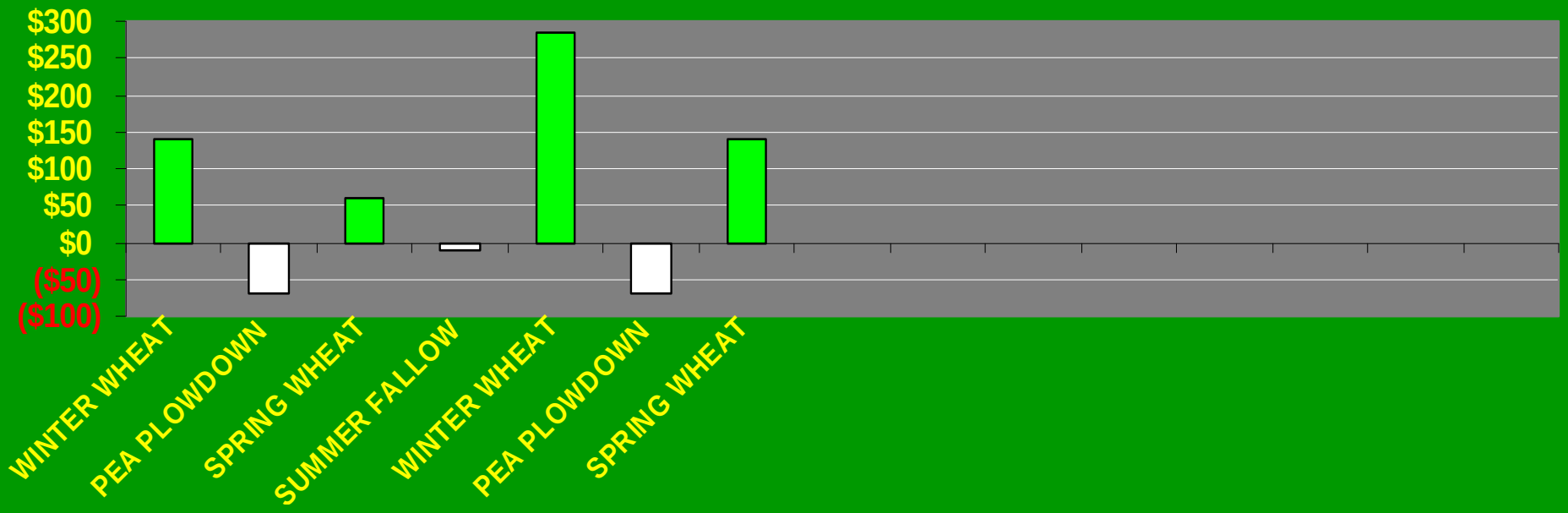


Transition: Year 1 – Year 3 (from cropland)

- Average Annual Return During Transition: $25/acre
- Average Annual Return - Conv Winter Wheat / Fallow: $69/acre

- Net Present Value (Yr 1 – Yr 4): $152/acre
- Net Present Value (Yr 1 – Yr 4) Winter Wheat / Fallow: $248/acre

ORGANIC ROTATION 2
Return After Direct Costs ($/acre)

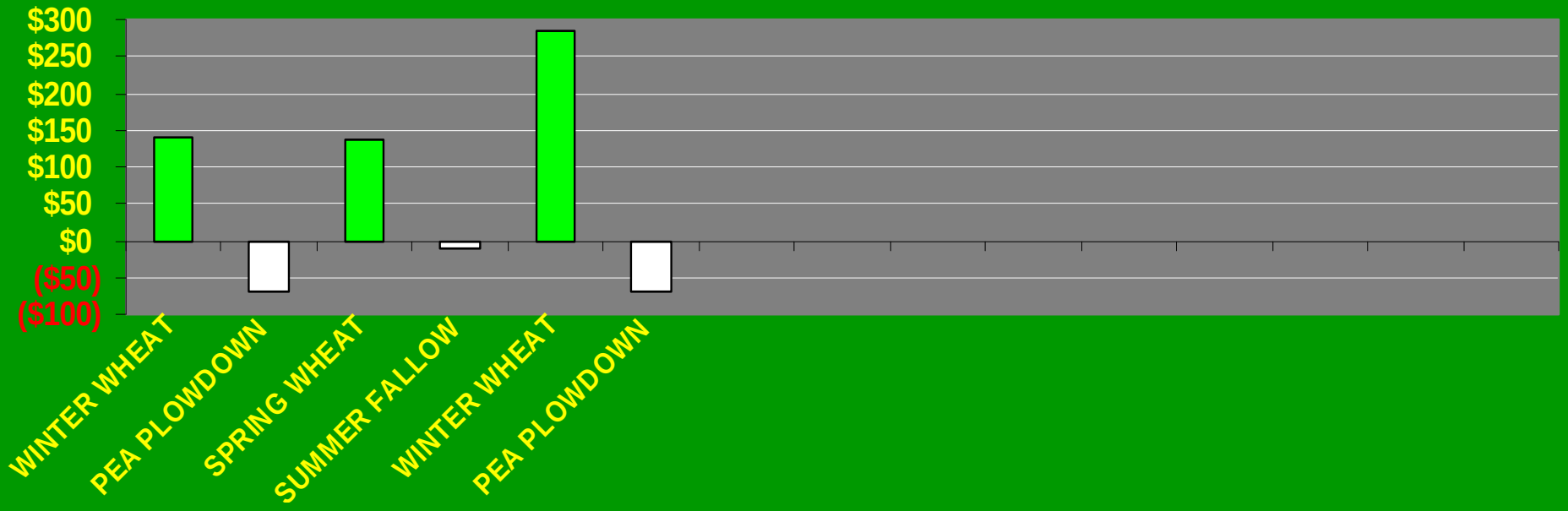


Transition: Year 1 – Year 3 (from cropland)

- Average Annual Return During Transition: $44/acre
- Average Annual Return - Conv Winter Wheat / Fallow: $69/acre

- Net Present Value (Yr 1 – Yr 4): $113/acre
- Net Present Value (Yr 1 – Yr 4) Winter Wheat / Fallow: $248/acre

ORGANIC ROTATION 3
Return After Direct Costs ($/acre)

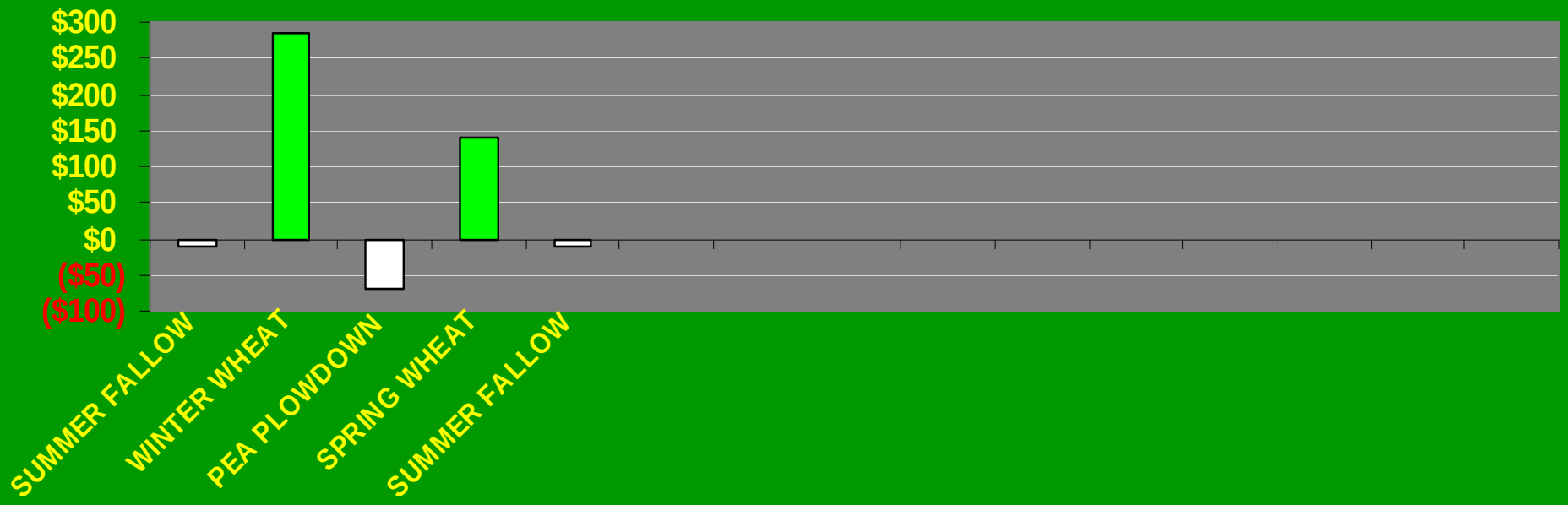


Transition: Year 1 – Year 2 (from cropland)

- Average Annual Return During Transition: $36/acre
- Average Annual Return - Conv Winter Wheat / Fallow: $69/acre

- Net Present Value (Yr 1 – Yr 4): $178/acre
- Net Present Value (Yr 1 – Yr 4) Winter Wheat / Fallow: $248/acre

ORGANIC ROTATION 4
Return After Direct Costs ($/acre)

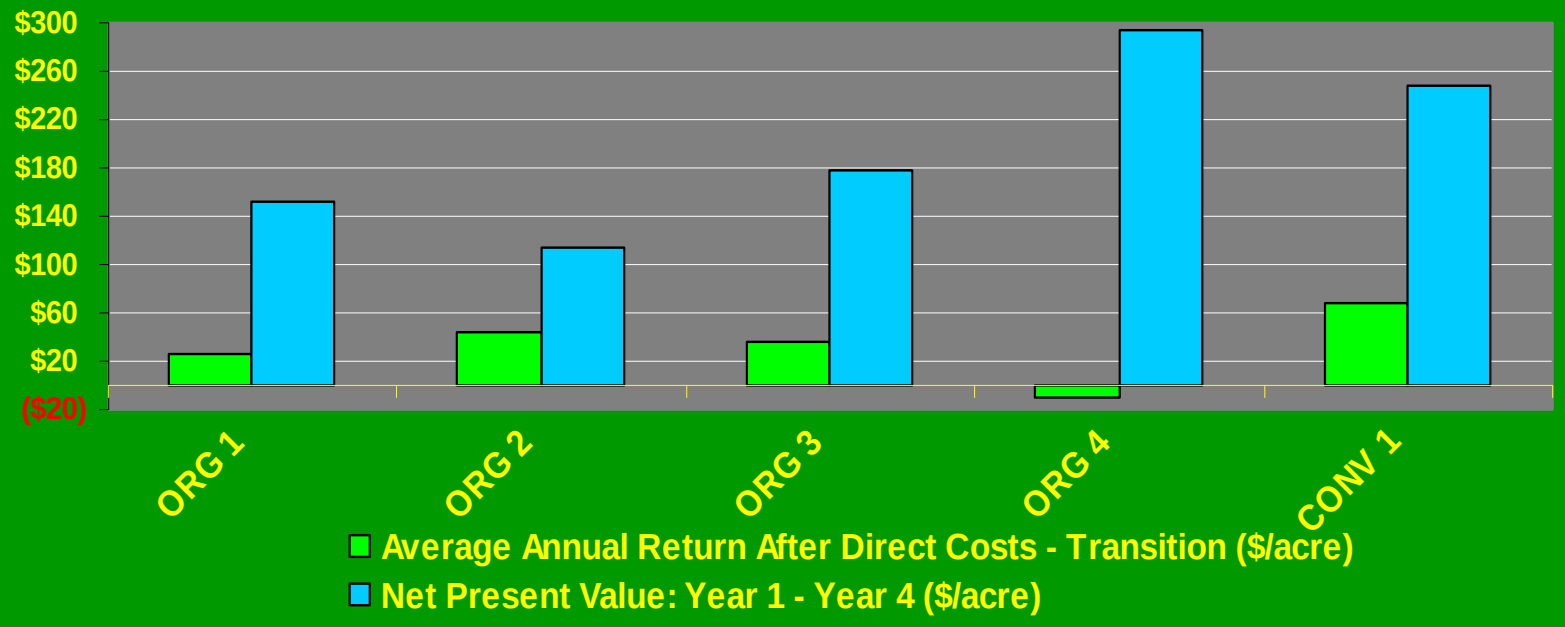


Transition: Year 1 (from CRP/Grassland)

- Average Annual Return During Transition: ($11) /acre - loss
- Average Annual Return - Conv Winter Wheat / Fallow: $69/acre

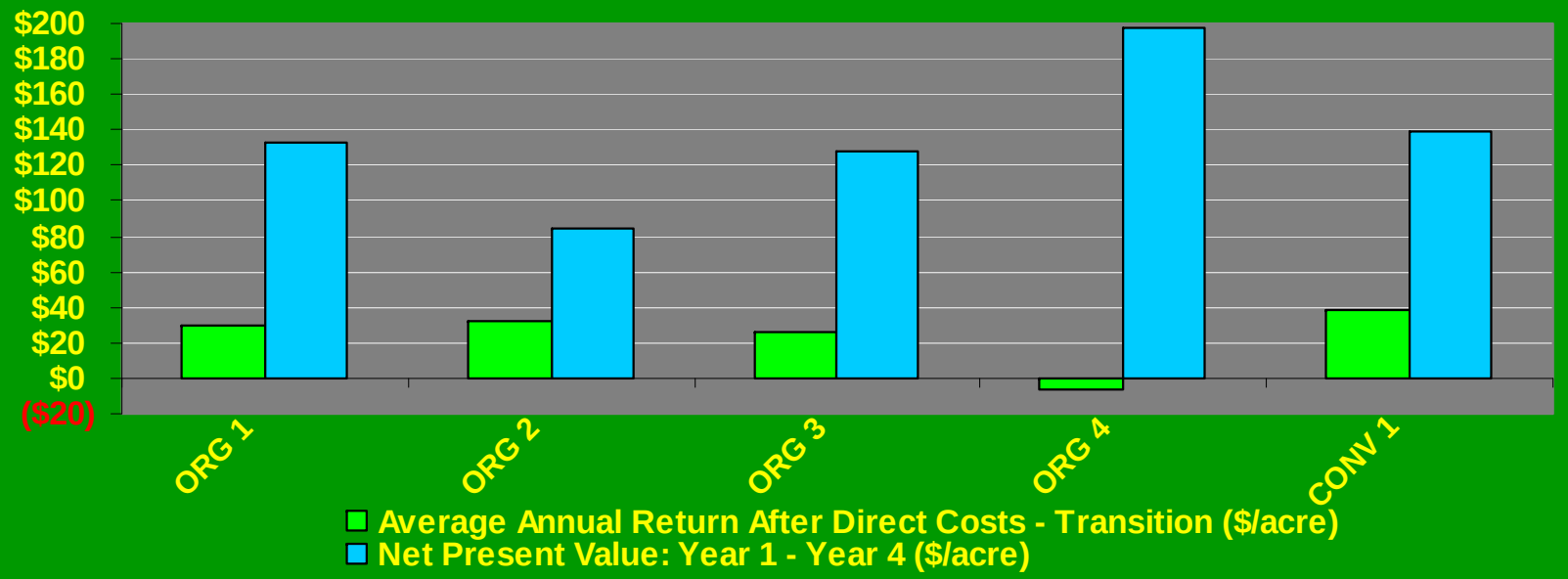
- Net Present Value (Yr 1 – Yr 4): $295/acre
- Net Present Value (Yr 1 – Yr 4) Winter Wheat / Fallow: $248/acre

Comparison of Transition Strategies to Conventional Winter Wheat / Fallow Rotation



	Average Return During Transition ($/acre)	Average Return vs. Conv 1 ($/acre)	Net Present Value (Yr 1 – Yr 4) ($/acre)	NPV (Yr 1 – Yr 4) vs. Conv 1 ($/acre)
ORG 1 (3 yr)	$25	($44)	$152	($96)
ORG 2 (3 yr)	$44	($25)	$113	($135)
ORG 3 (2 yr)	$36	($33)	$178	($70)
ORG 4 (1 yr)	($11)	($80)	$295	$47

Comparison of Transition Strategies to Conventional Winter Wheat / Fallow Rotation "2006 Conditions"



	Average Return During Transition ($/acre)	Average Return vs. Conv 1 ($/acre)	Net Present Value (Yr 1 – Yr 4) ($/acre)	NPV (Yr 1 – Yr 4) vs. Conv 1 ($/acre)
ORG 1 (3 yr)	$30	($8)	$133	($6)
ORG 2 (3 yr)	$33	($6)	$84	($55)
ORG 3 (2 yr)	$26	($13)	$128	($12)
ORG 4 (1 yr)	($7)	($45)	$198	$58

2008 Farm Bill – Organic Provisions

- **Organic Certification Cost Share:**
  - **75%, maximum payment $750**
- **EQIP – Organic Conversion Assistance:**
  - Maximum $20,000/yr, no more than $80,000 over a 6-year period
- **CSP Program:**
  - Simplification for organic farms to qualify
- **Crop Insurance:**
  - Review of necessity of 5% surcharge
  - Development of options for settlements based on organic price (goal – within 5 years)
- **Research:**
  - Crop Research ($78 million over 4 yrs)
  - Organic Market Data Collection ($5 million)
- **Increased Funding for National Organic Program:**
  - Jumps from $3.1 million /yr to $5 million
  - Increasing to $11 million by 2012

COMPARISON OF RETURNS AFTER DIRECT COSTS

FOR ORGANIC & CONVENTIONAL ROTATIONS

Why compare returns after direct costs?

- Majority of fixed or indirect costs are sunk regardless of the crop produced *(within relevant ranges of scale)*.
  - Land ownership / cash rent
  - Equipment
  - Labor

- In general - very little difference in fixed (indirect) costs between crops

COMPARISON OF RETURNS AFTER DIRECT COSTS

FOR ORGANIC & CONVENTIONAL ROTATIONS

Why compare rotations instead of individual crops?

- Organic farming is a system requiring rotations of a variety of crops
  - integrated pest / disease management
  - soil characteristics & soil building
  - moisture & weather
  - necessity of legumes in rotations
- Conventional farming generally involves a rotation: Fallow
- Comparing rotations acknowledges that there are constraints to sequences of crops (for both systems)
- Average annual returns of both systems are needed for comparability

COMPARISON OF RETURNS AFTER DIRECT COSTS

FOR ORGANIC & CONVENTIONAL ROTATIONS

Why look at a variety of rotations?

- Different rotations are required *(possible)* in different locations
- Different market opportunities
- Farmers' management styles / preferences / strategies
- Opportunity to show net returns of non-typical conventional rotations

Why compare organic and conventional?

- Conventional farming is the baseline

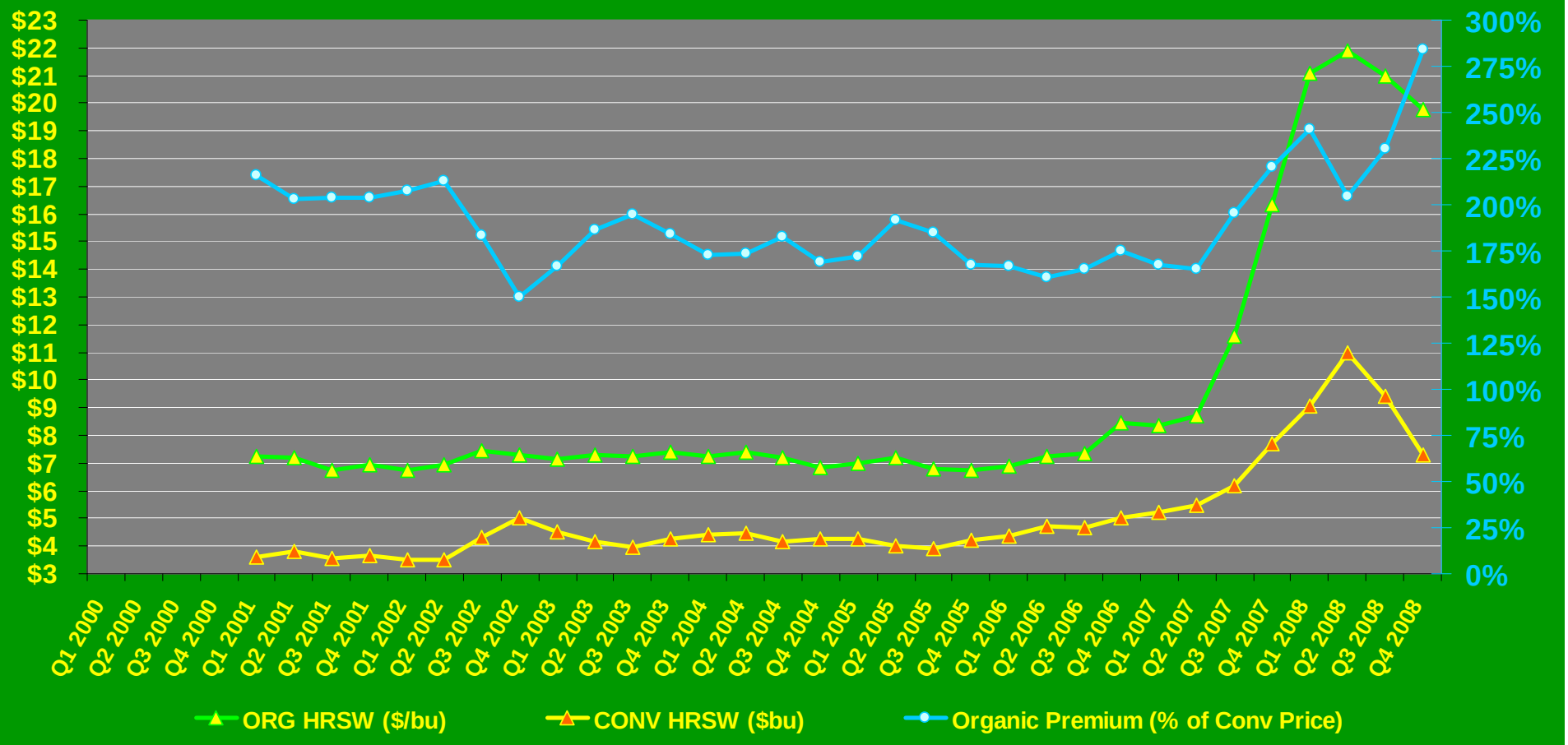
COMPARISON OF RETURNS AFTER DIRECT COSTS

FOR ORGANIC & CONVENTIONAL ROTATIONS

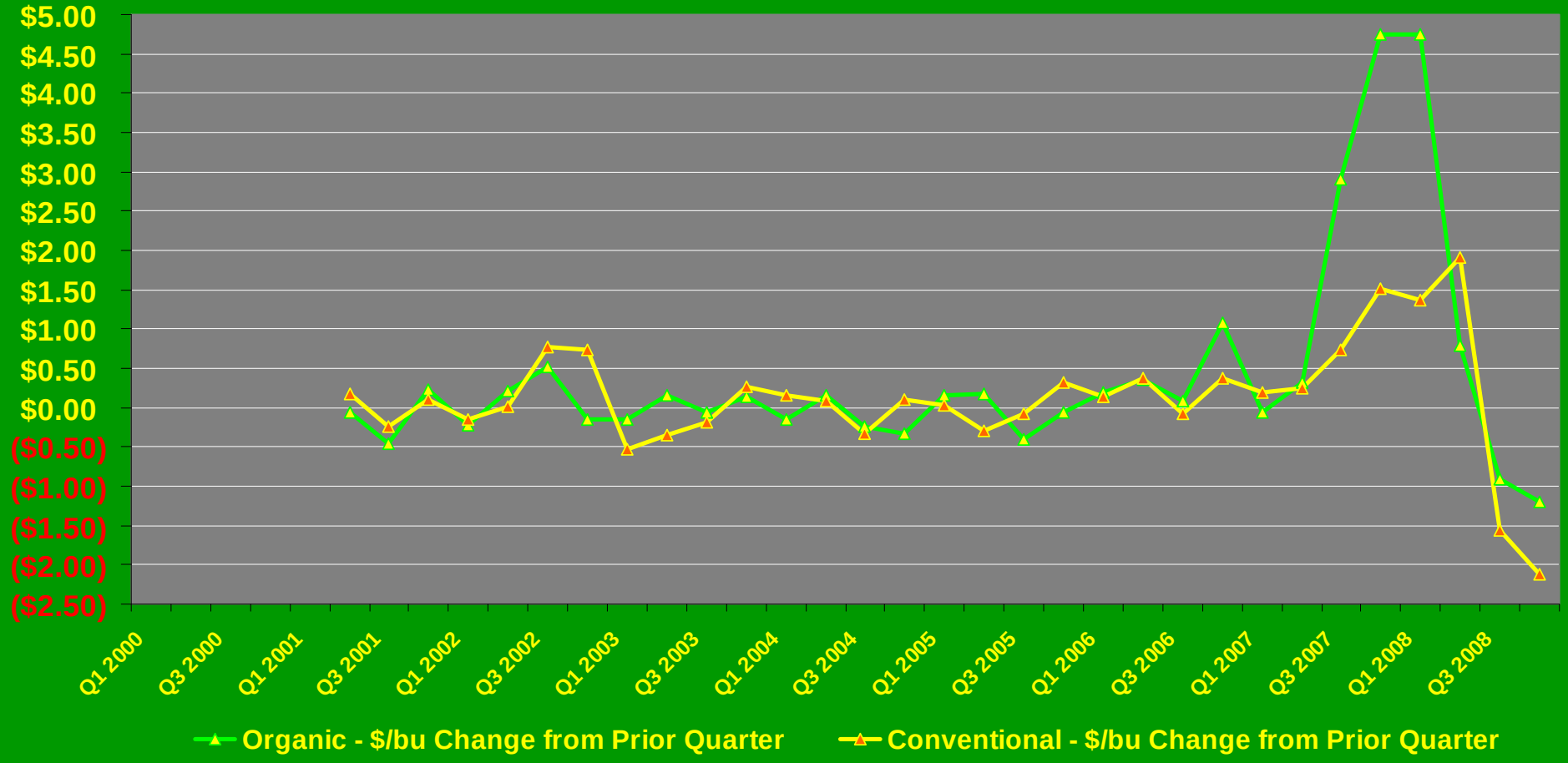
Assumptions:

- Yield
  - Conventional: local county averages (1997 – 2007)
  - Organic: conservative estimates - using yield reduction factors
    - (based on Saskatchewan studies in the 1990's, North Dakota research, and reported yields in Montana)
- Prices:
  - Conventional: "Fall 2007" (Aug / Sept)
    - sources (USDA, AgWeek, Statpub.com, Statistics Canada)
  - Organic Rule of Thumb: 150% - 200% Conventional

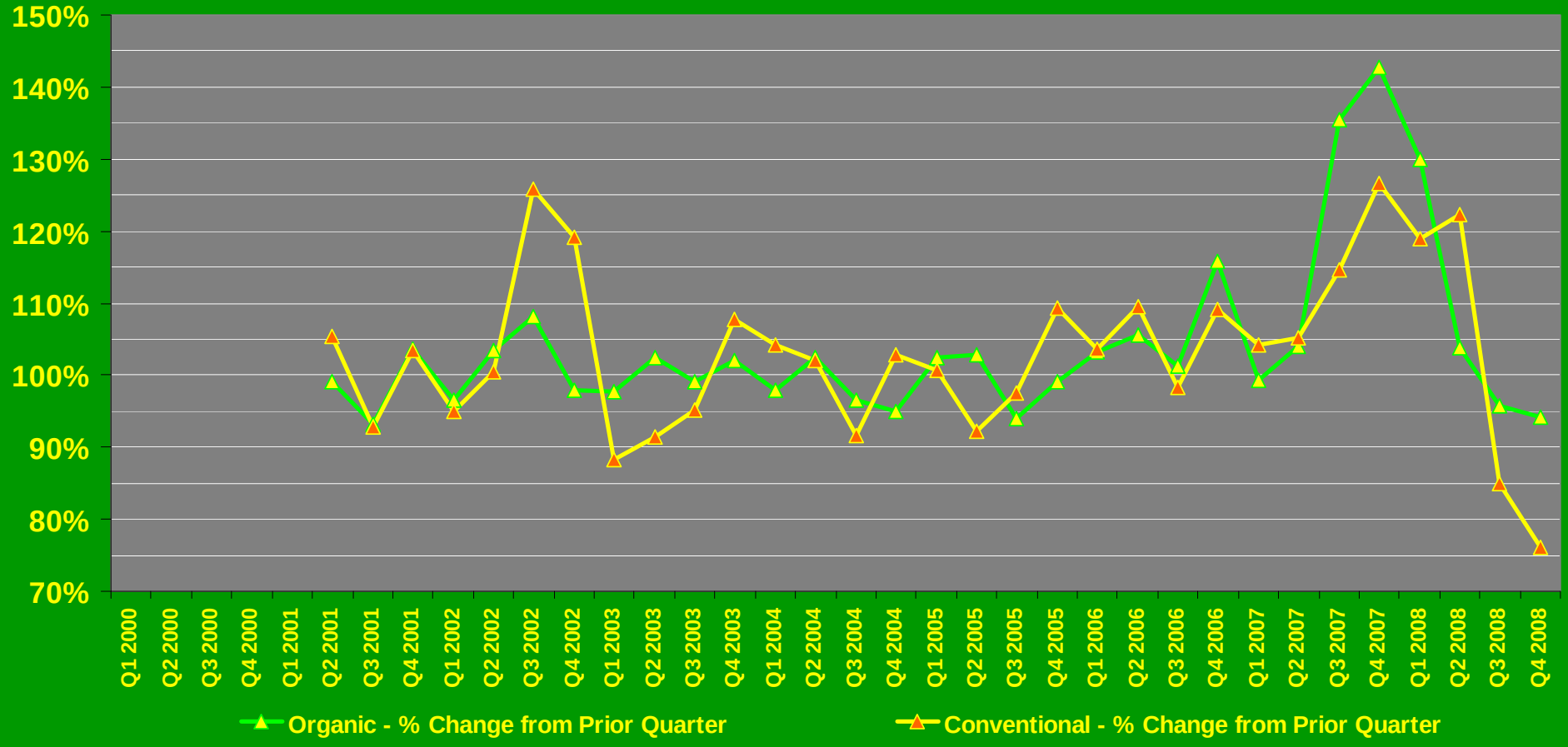
Spring Wheat Price



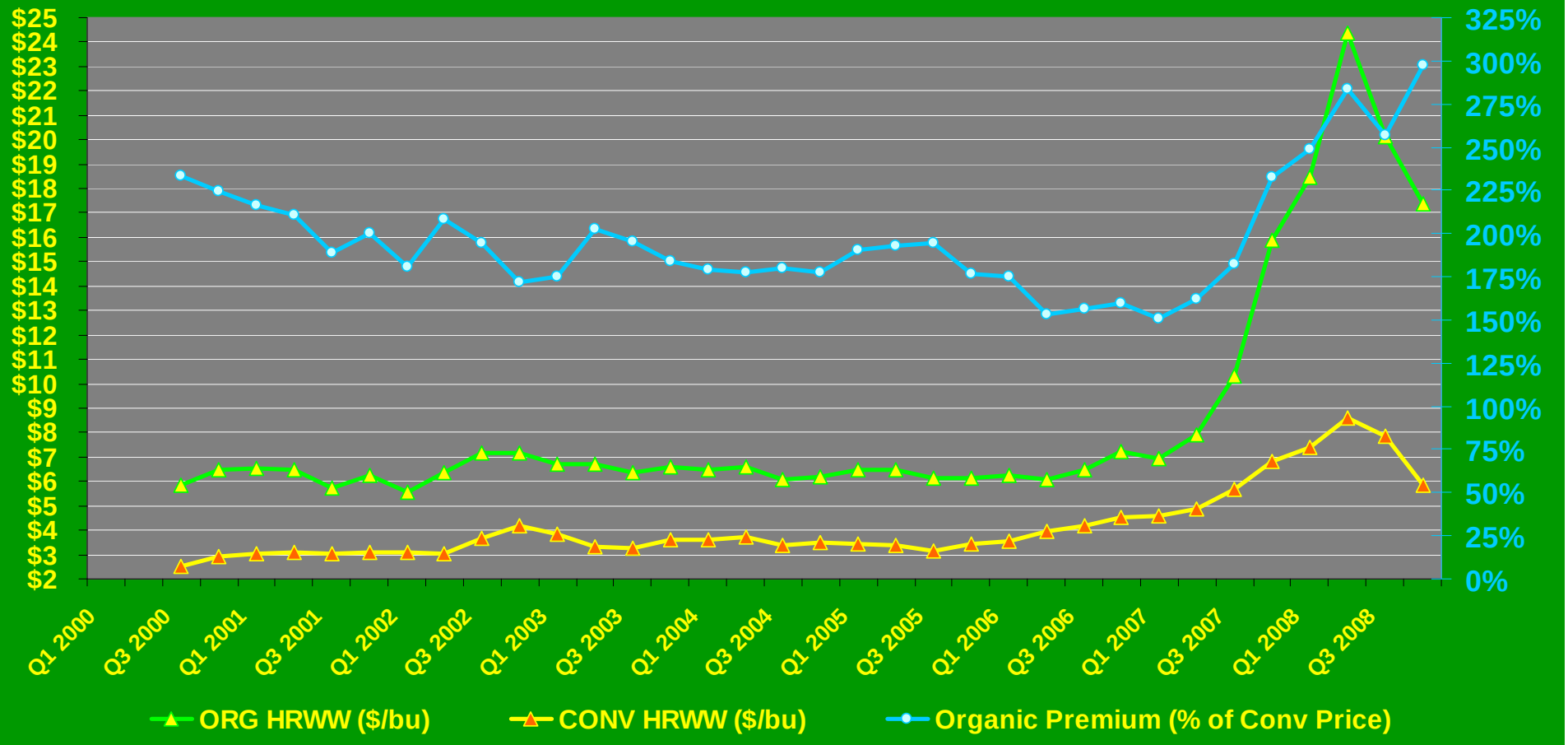
Spring Wheat Price Volatility - $/bu Change



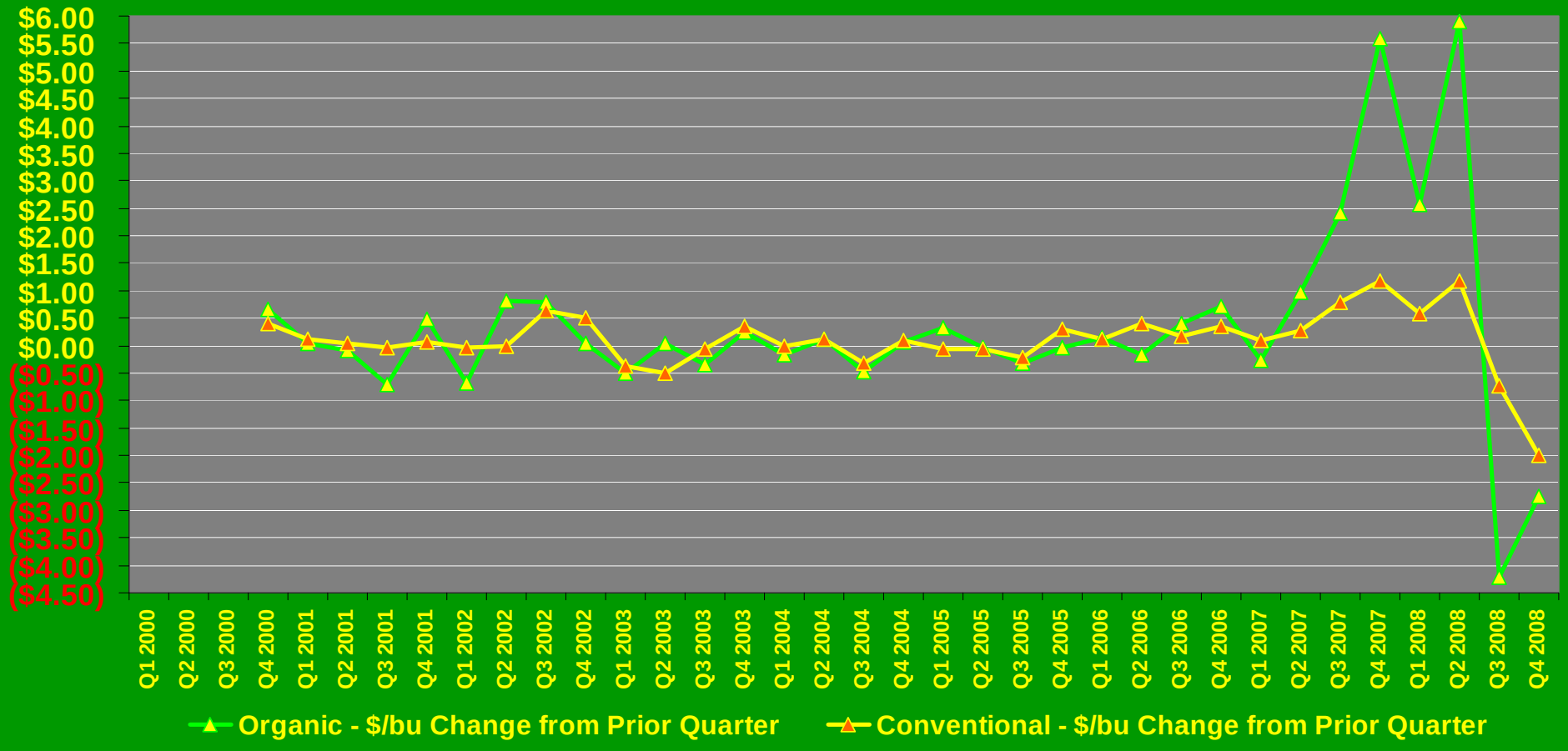
Spring Wheat Price Volatility - % Change

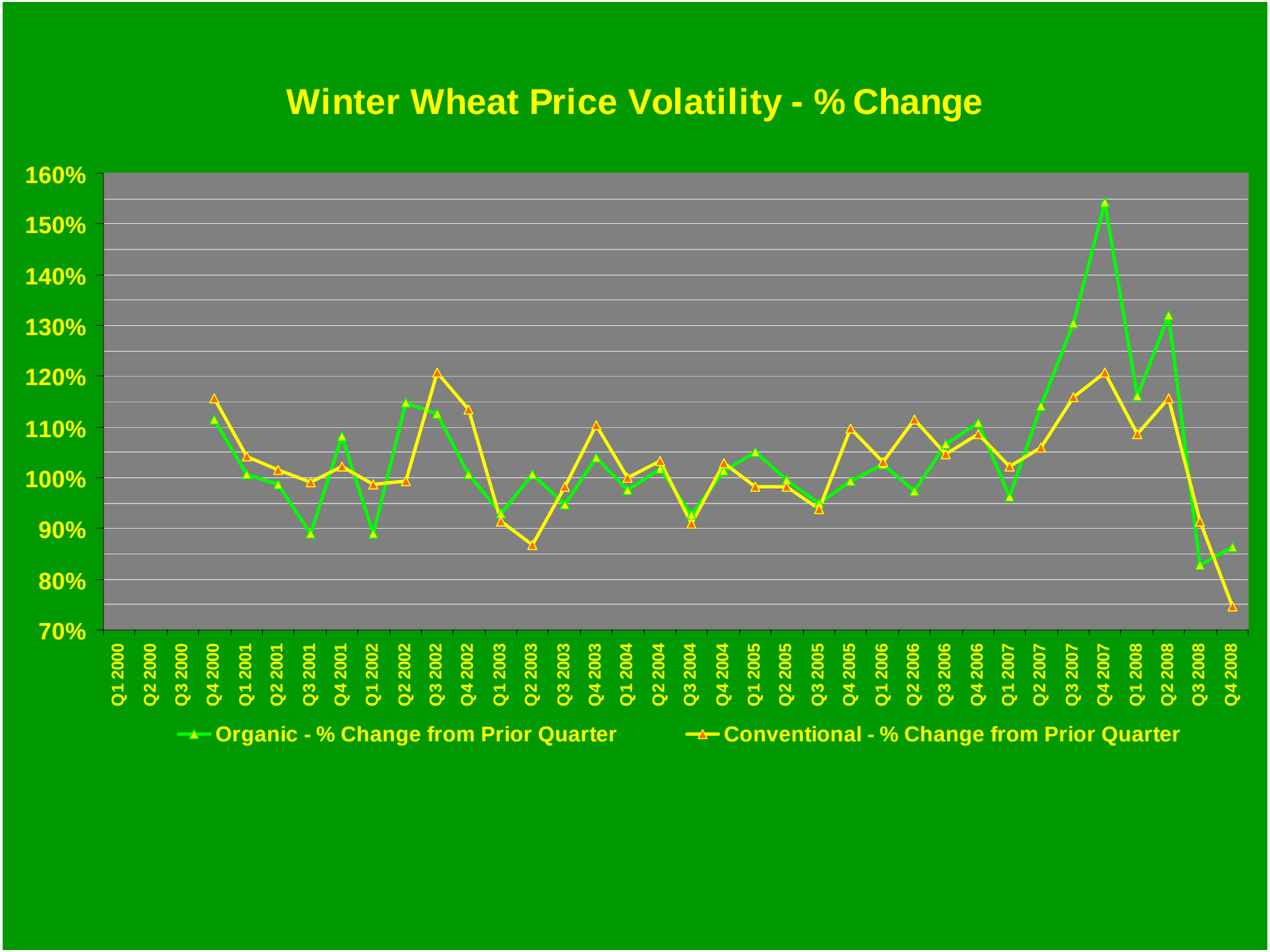


Winter Wheat Price



Winter Wheat Price Volatility - $/bu Change




Winter Wheat Price Volatility - % Change
160%
150%
140%
130%
120%
110%
100%
90%
80%
70%
Q1 2000
Q2 2000
Q3 2000
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Q4 2003
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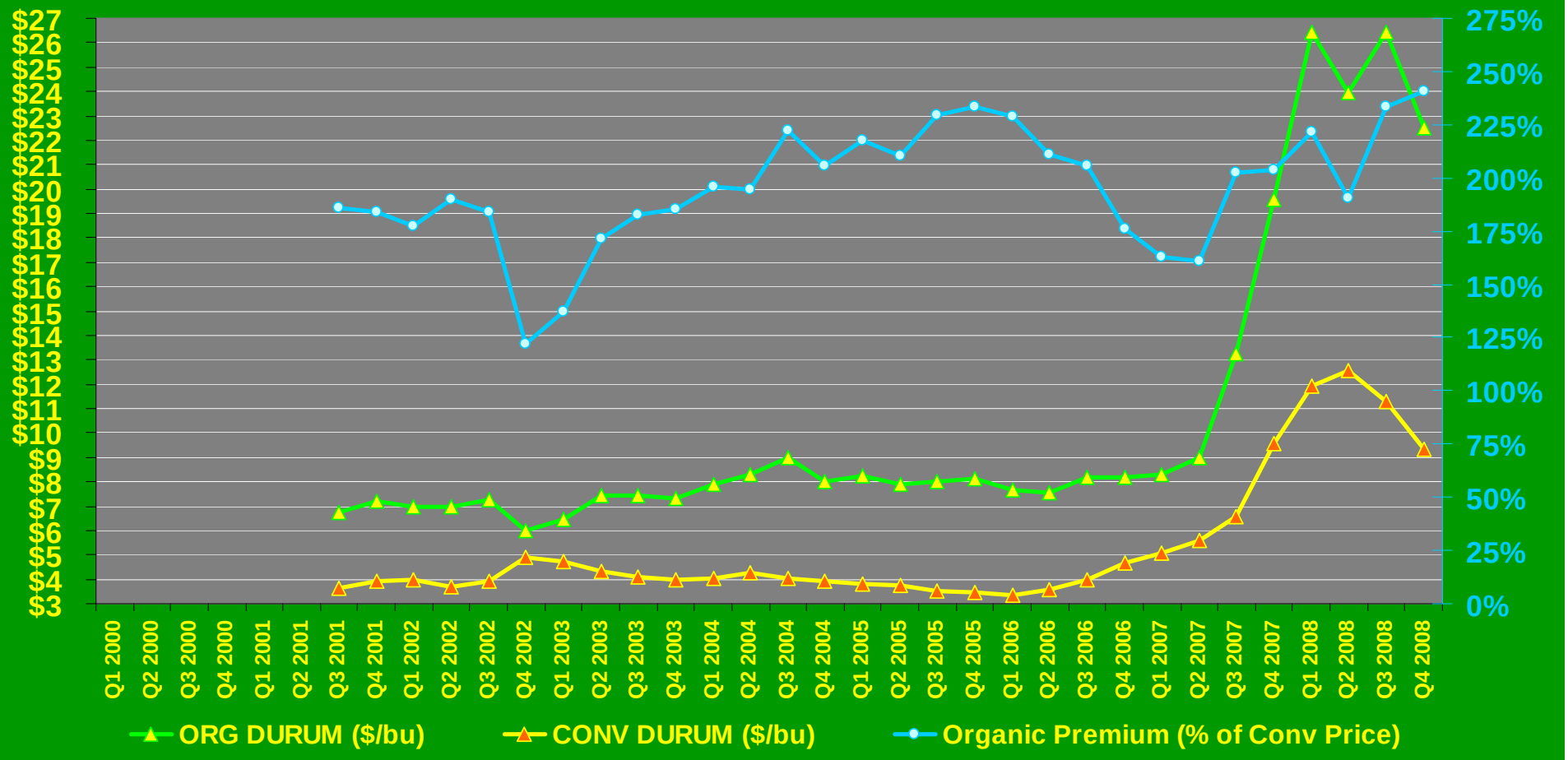
Q4 2005
Q1 2006
Q2 2006
Q3 2006
Q4 2006
Q1 2007
Q2 2007
Q3 2007
Q4 2007
Q1 2008
Q2 2008
Q3 2008
Q4 2008
Organic - % Change from Prior Quarter
Conventional - % Change from Prior Quarter

Durum Price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200%
175%
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100%
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Q4 2003
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Q3 2004
Q4 2004
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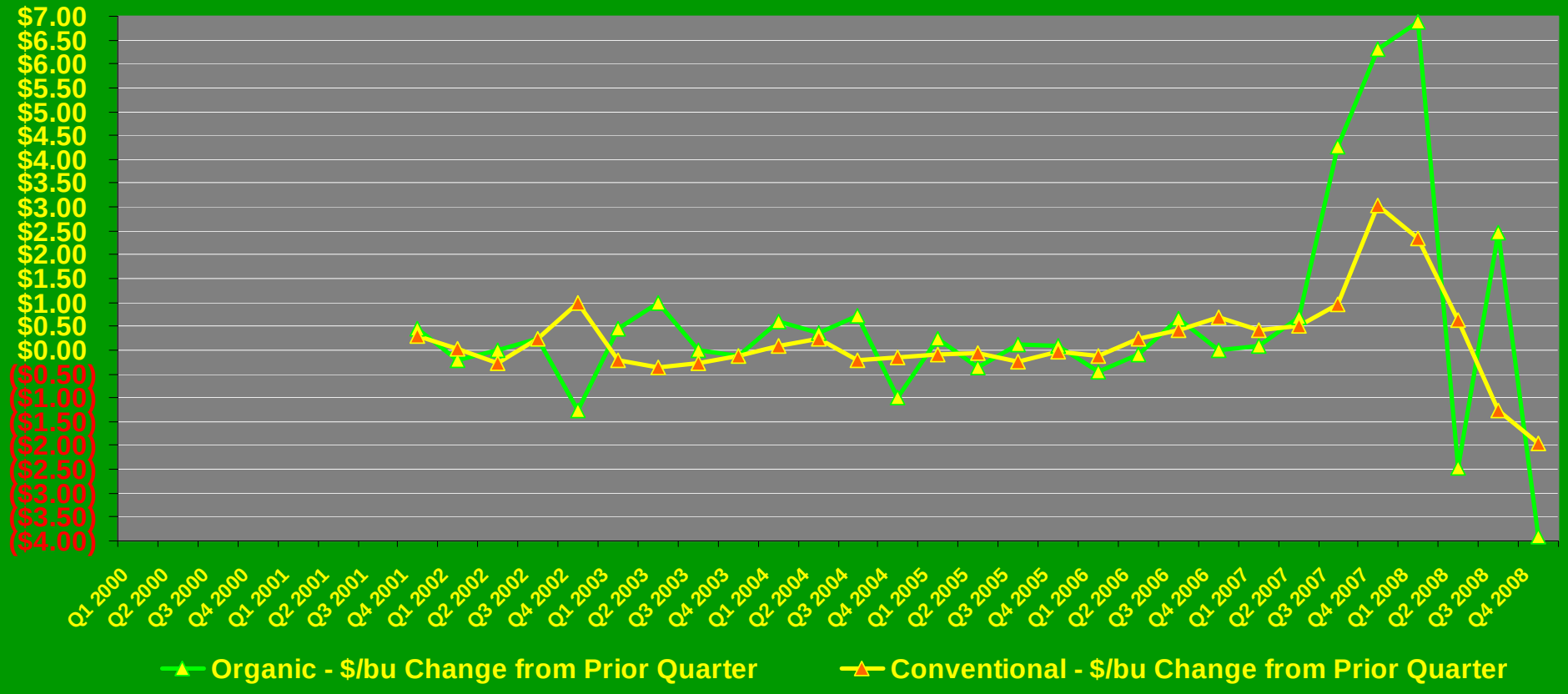
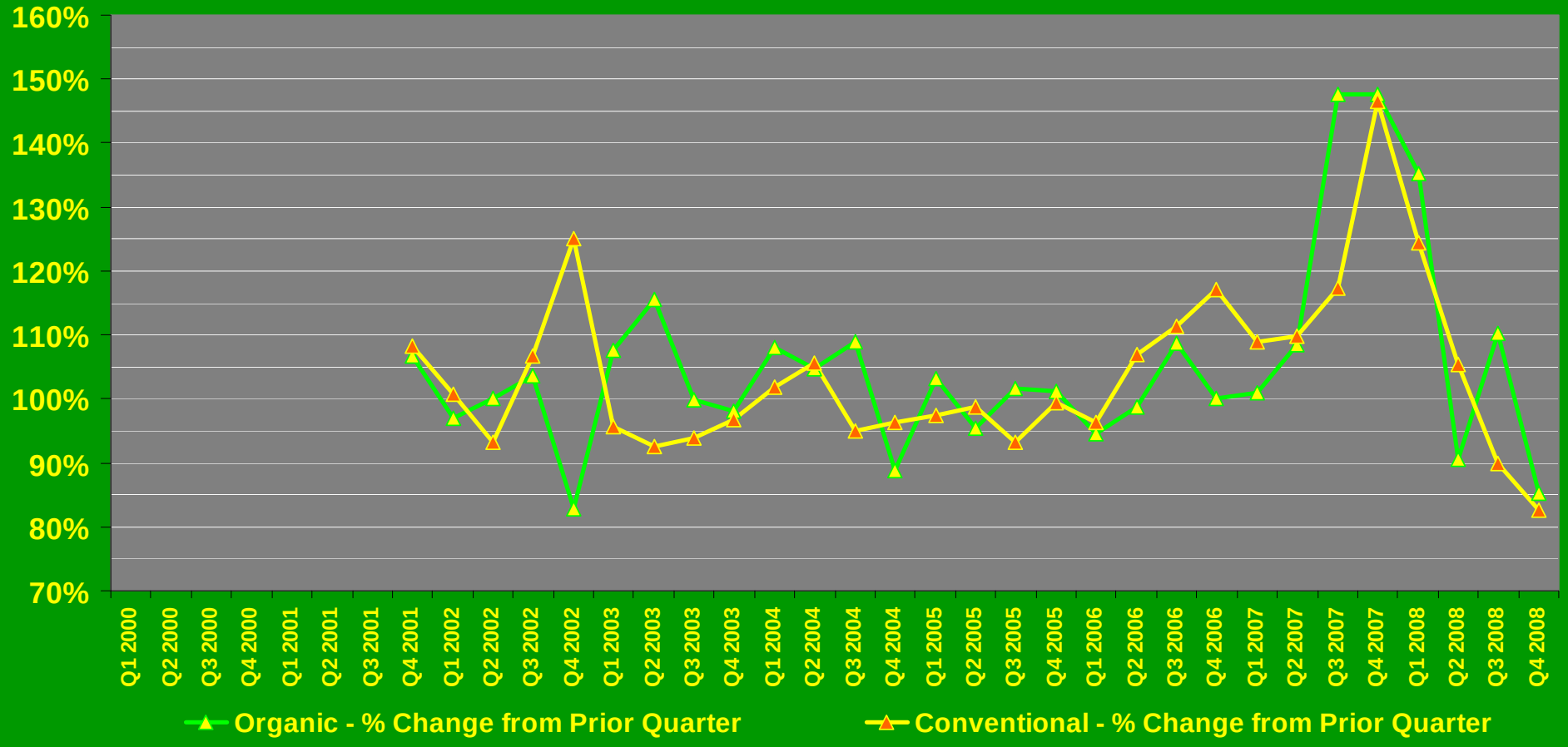
Q4 2005
Q1 2006
Q2 2006
Q3 2006
Q4 2006
Q1 2007
Q2 2007
Q3 2007
Q4 2007
Q1 2008
Q2 2008
Q3 2008
Q4 2008
ORG DURUM ($/bu)
CONV DURUM ($/bu)
Organic Premium (% of Conv Price)

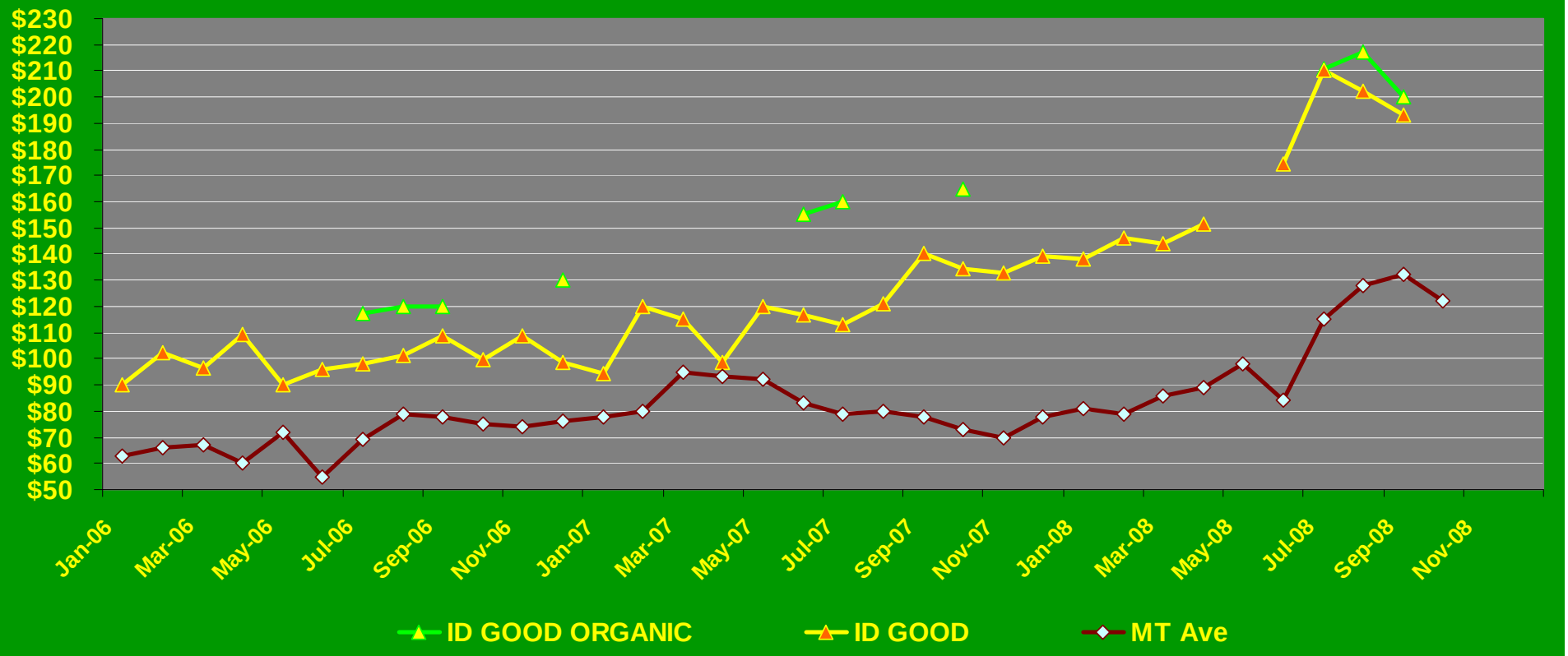
Durum Price Volatility - $/bu Change



Durum Price Volatility - % Change

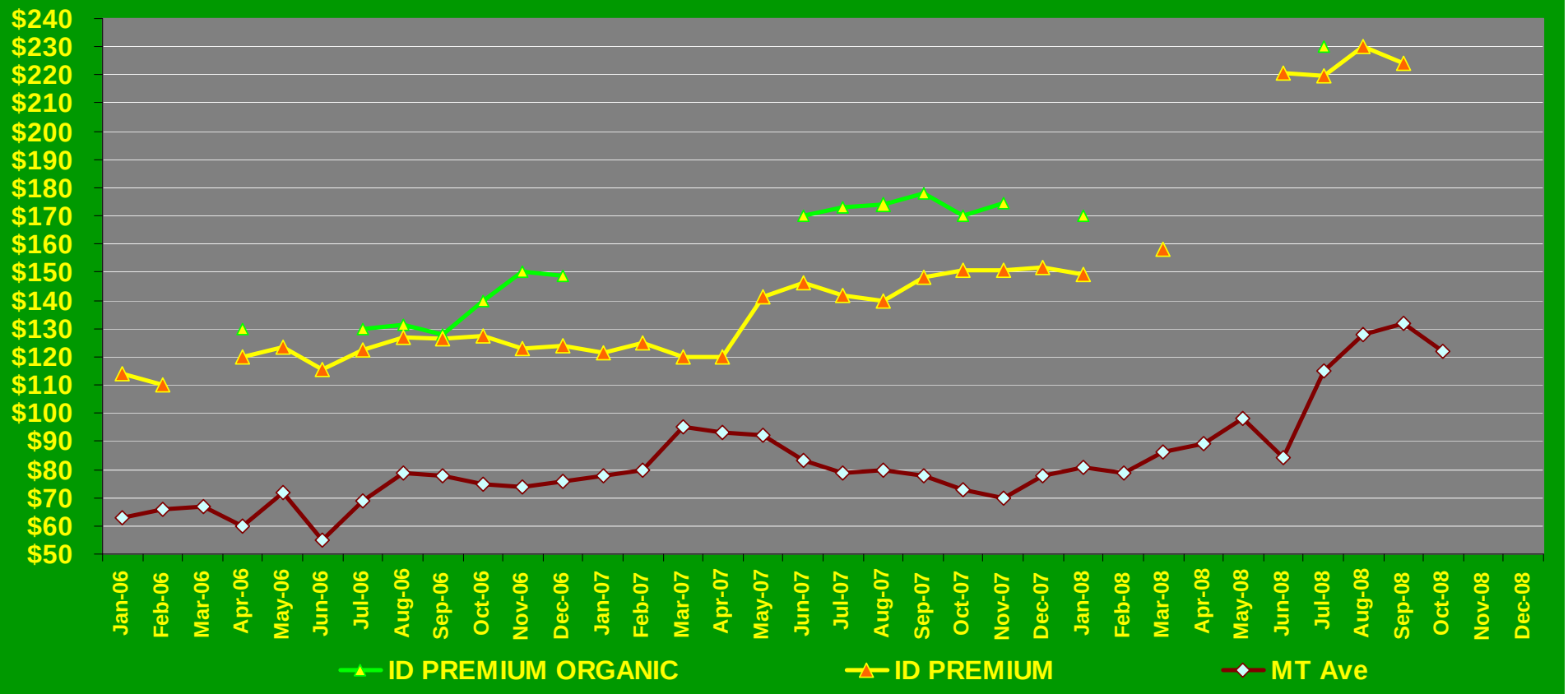


ALFALFA - GOOD QUALITY



- RFV 150 – 170
- Crude Protein 18 – 20
- ADF 29 – 32
- NDF 36 – 40

ALFALFA - PREMIUM QUALITY



- RFV 170 – 185
- Crude Protein 20 – 22
- ADF 27 – 29
- NDF 34 – 36

COMPARISON OF RETURNS AFTER DIRECT COSTS

FOR ORGANIC & CONVENTIONAL ROTATIONS

Assumptions:

- Direct costs:
  - Costs for seed, herbicide, fungicide, insecticide are from or based on the 2008 NW North Dakota Crop Budgets (NDSU)
    - Why use NW ND crop budgets?
      - Current / relatively comparable conditions
      - Professional prepared / similar information not available for MT
  - Separately calculated / determined
    - Crop Insurance
    - Fertilizer based on nutrient uptake for average regional yields & average regional fertilizer prices in Spring 2008
    - Fuel based on operations required for each rotation (and current price)
    - Off-Farm trucking based on approximate distance to market
    - Operating Interest based on 9 months interest for sum of direct costs

COMPARISON OF RETURNS AFTER DIRECT COSTS

FOR ORGANIC & CONVENTIONAL ROTATIONS

Assumptions:

- Direct costs:
  - Organic Cost Variations
    - Seed
    - Crop Insurance
    - Off-farm Trucking: generally farther - location/crop dependent
    - Organic Inspection / Assessment *(1% Sales – actual costs higher)*
- Labor Requirements:
  - Labor not shown as a cost *(generally a fixed cost)*
  - Hours of field operations calculated

COMPARISON OF RETURNS AFTER DIRECT COSTS

FOR ORGANIC & CONVENTIONAL ROTATIONS

Weaknesses / What is Missing:

- Lack of Organic yield and price information
- Organic seed cost information may need to be looked at closer
- Crop Insurance
- Significant variation in actual fertilizer and herbicide application and costs

- Difference in fixed costs between the systems may exist that this analysis ignores:
  - More equipment required for organic
  - More field operations required for organic – maintenance / repairs not covered by analysis – probably not equal between systems
  - More labor and management required for organic
  - Organic assessment is understated / varies between certifier

COMPARISON OF RETURNS AFTER DIRECT COSTS

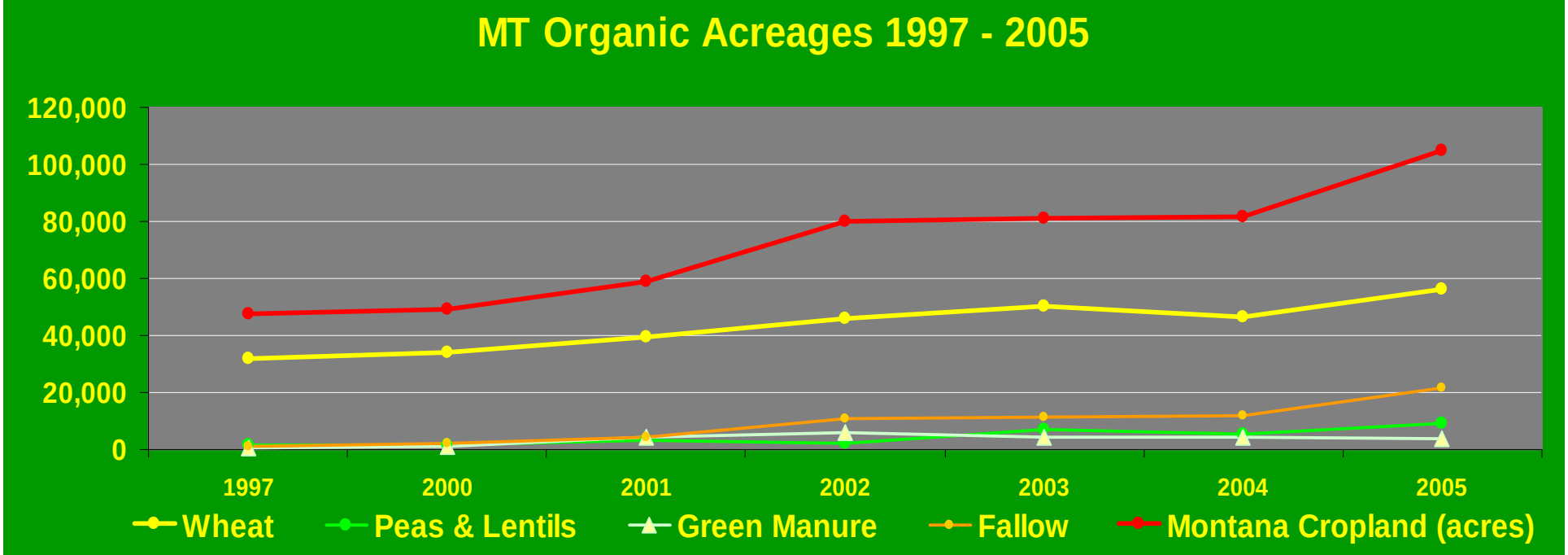
FOR ORGANIC & CONVENTIONAL ROTATIONS

For your own analysis:

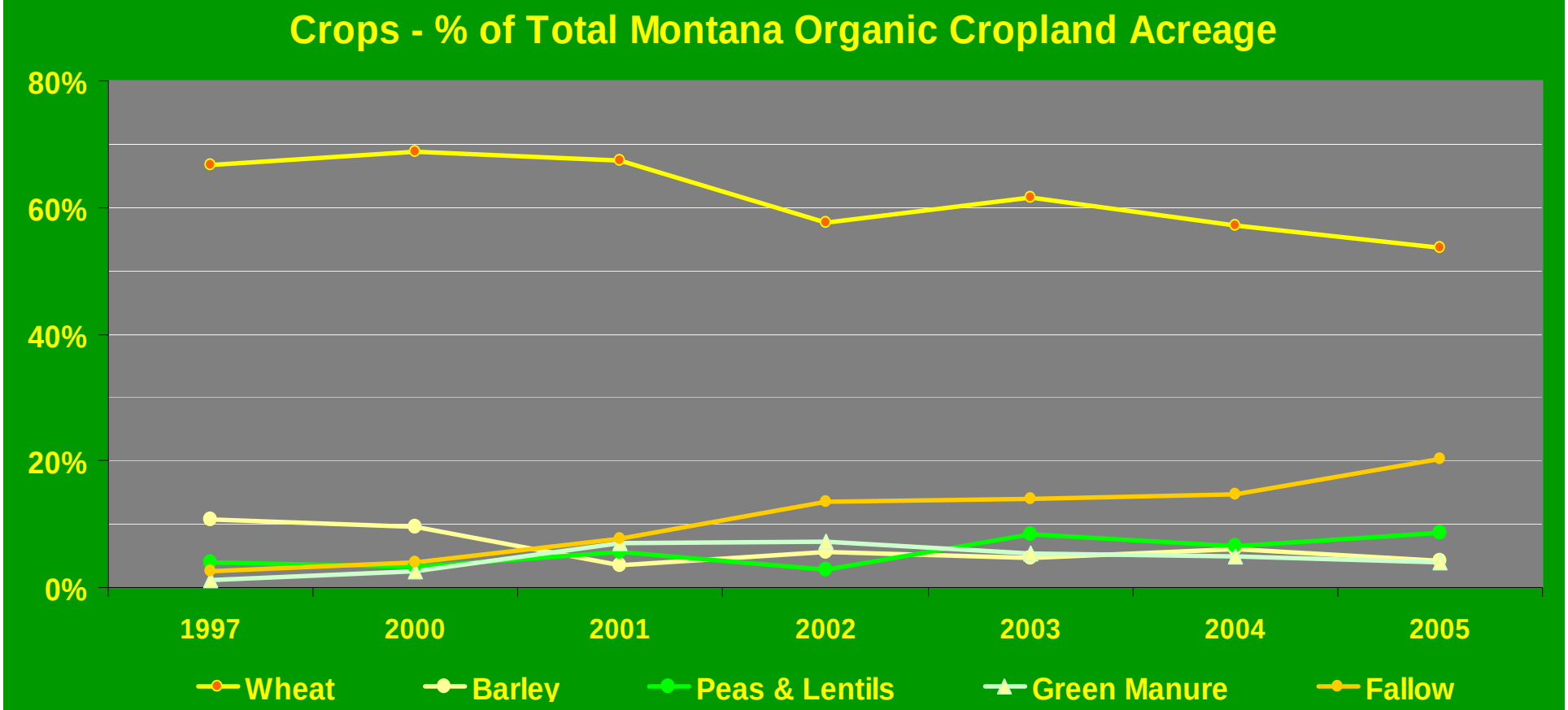
- Evaluate what organic and conventional rotations might work *(very farm specific – financial and nonfinancial considerations)*
- Develop new estimates for yield potential
- Evaluate your own cost structure & timing of cash flows
- Talk to other farmers and commodity buyers
- Self-examination: is this for you? (record keeping, marketing, risk tolerance, skills and knowledge, etc)
- Implementation:
  - Plan for bringing land into organic certification (how fast / how much)
- Keep refining your analysis

MONTANA & REGIONAL ORGANIC CROPLAND & LIVESTOCK STATISTICS

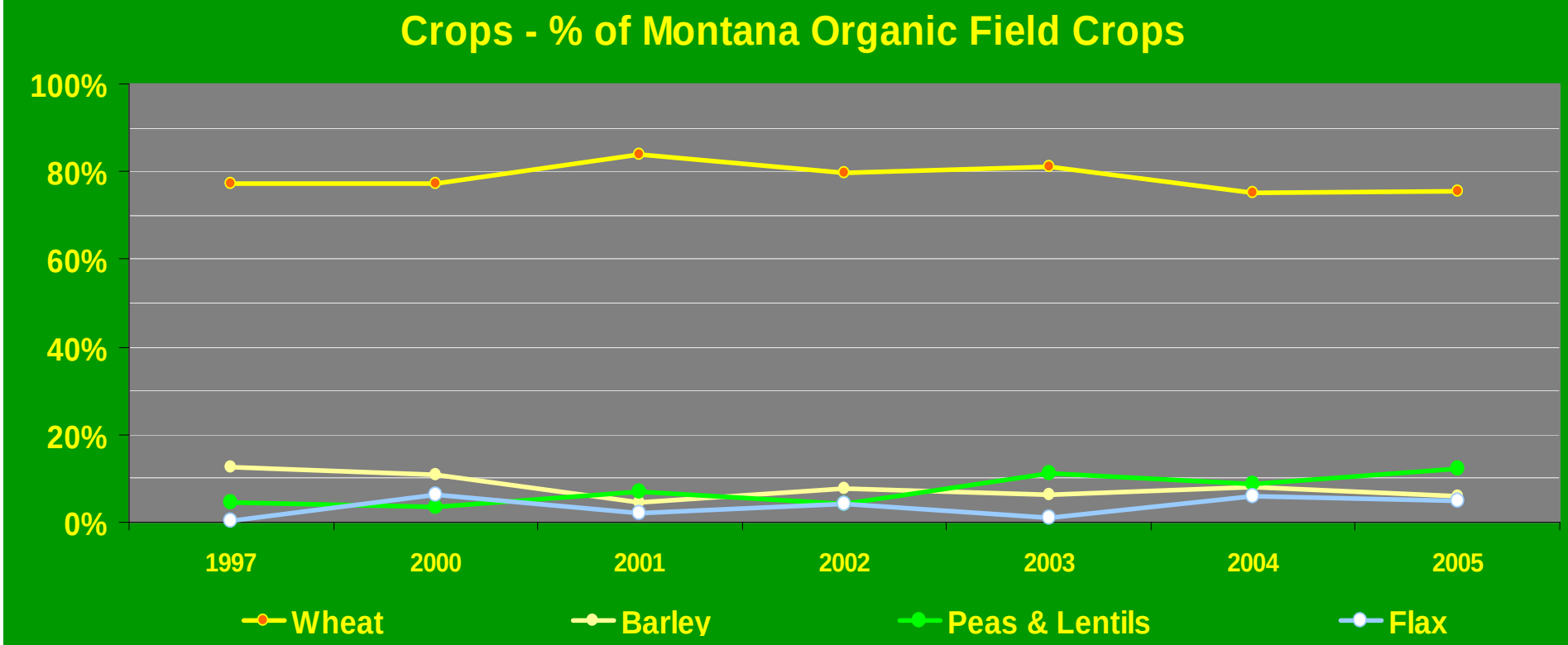
ORGANIC STATISTICS
USDA-ERS 2005



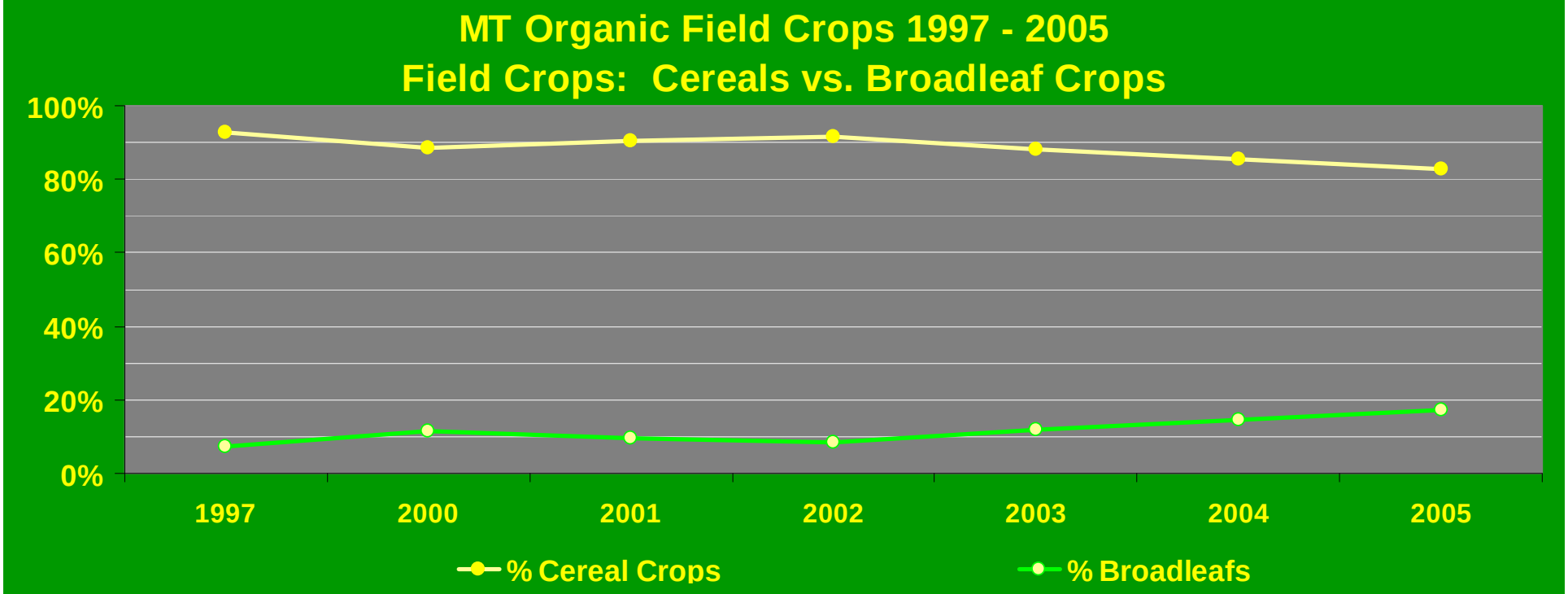
ORGANIC STATISTICS
USDA-ERS 2005



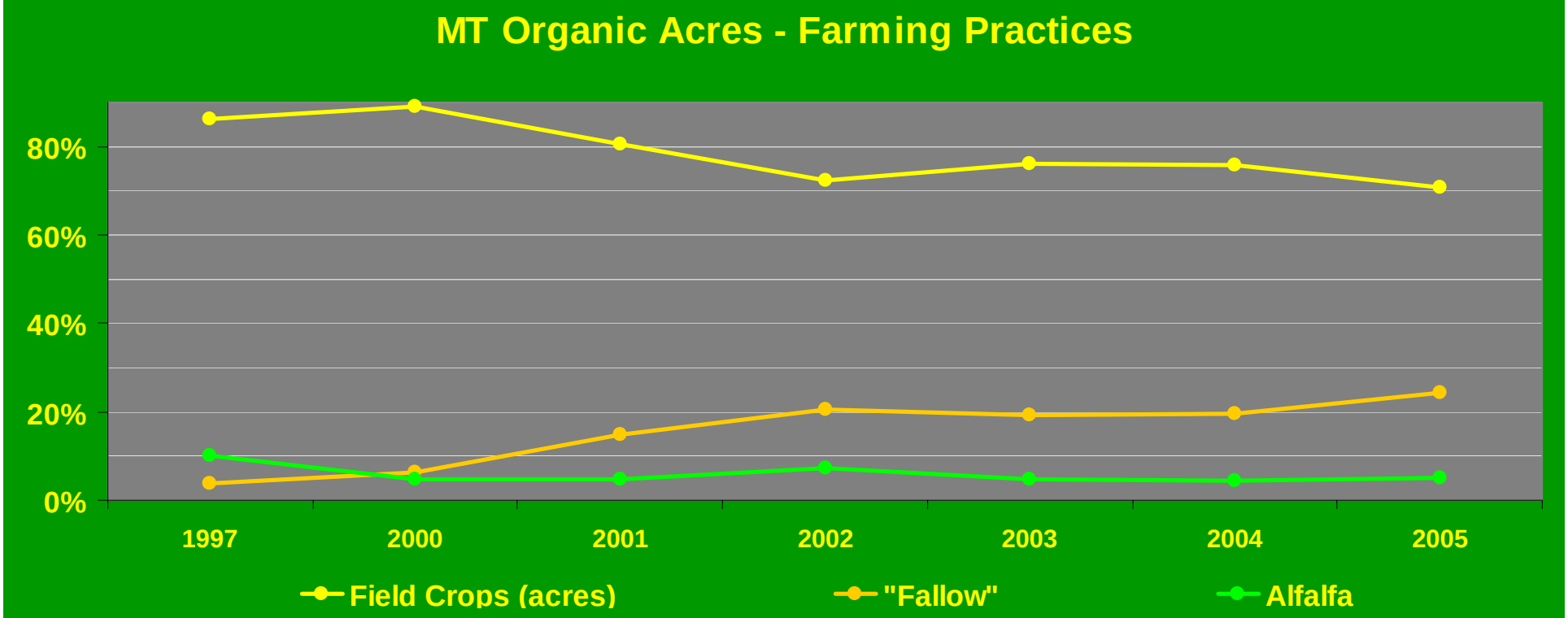
ORGANIC STATISTICS
USDA-ERS 2005

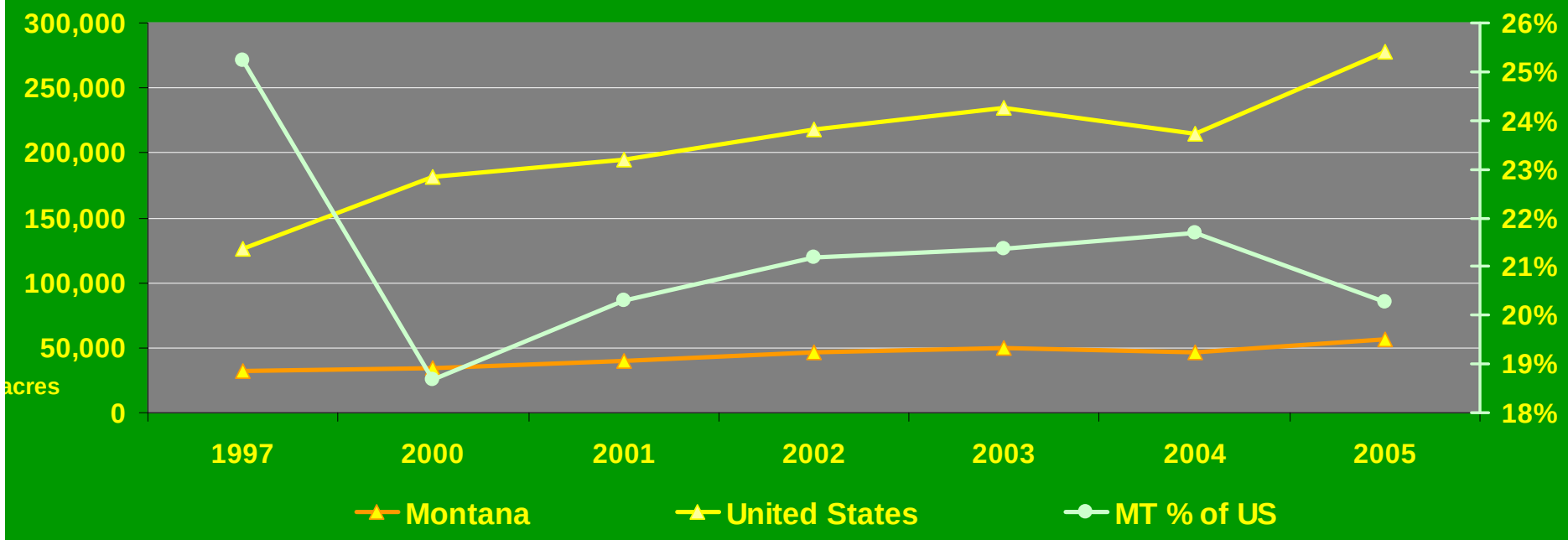


ORGANIC STATISTICS
USDA-ERS 2005



ORGANIC STATISTICS
USDA-ERS 2005





United States: 277,487 acres

- Top 5 (USDA-ERS, 2005)
  - **Montana** **56,287 (20%)**
  - Kansas 39,549
  - Colorado 31,888
  - North Dakota 23,173
  - Nebraska 17,848
- Nearby:
  - Wyoming 15,429
  - South Dakota 13,724
  - Idaho 9,431
  - Washington 3,819
  - Saskatchewan 155,676 (?) – 2006, 75% of Canada

ORGANIC STATISTICS
USDA-ERS 2005

Barley:

United States: 39,271 acres

- Top 5:
  - Idaho 11,948 acres (30%)
  - **Montana 4,482 acres**
  - Wisconsin 4,380 acres
  - California 4,170 acres
  - North Dakota 4,065 acres
- Nearby:
  - South Dakota 1,038 acres
  - Washington 30 acres

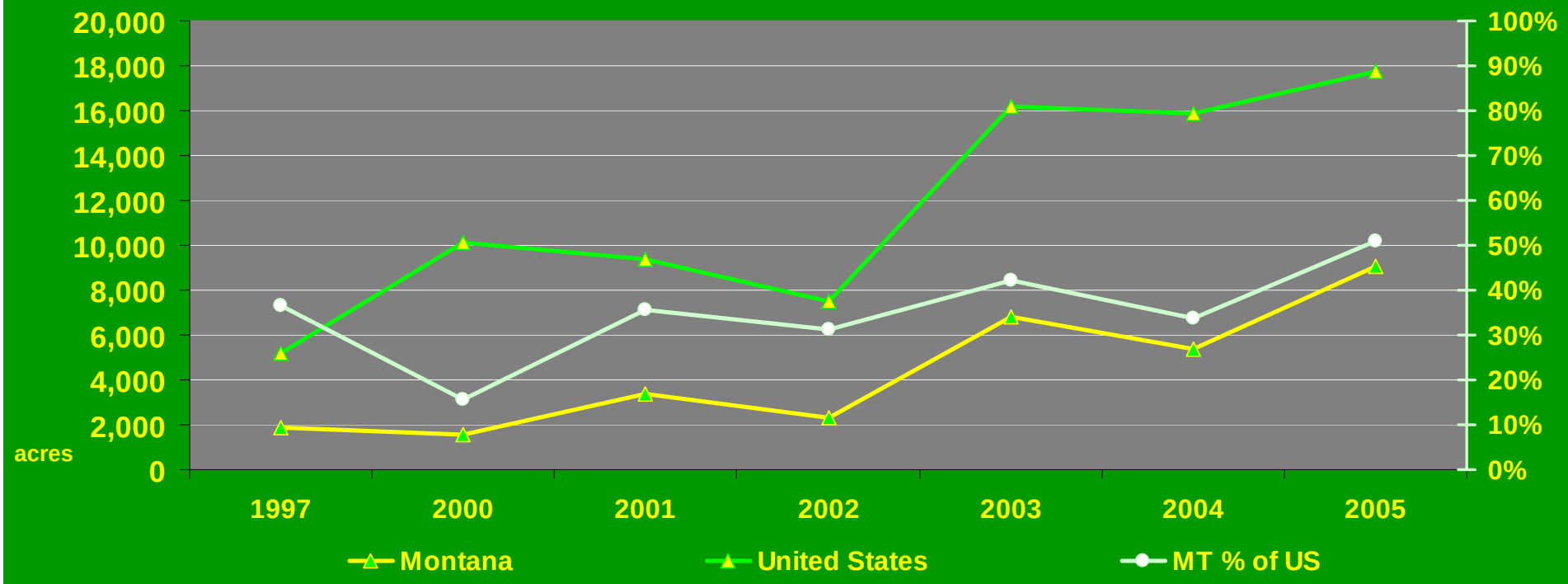
ORGANIC STATISTICS
USDA-ERS 2005

Oats:

United States: 46,465 acres

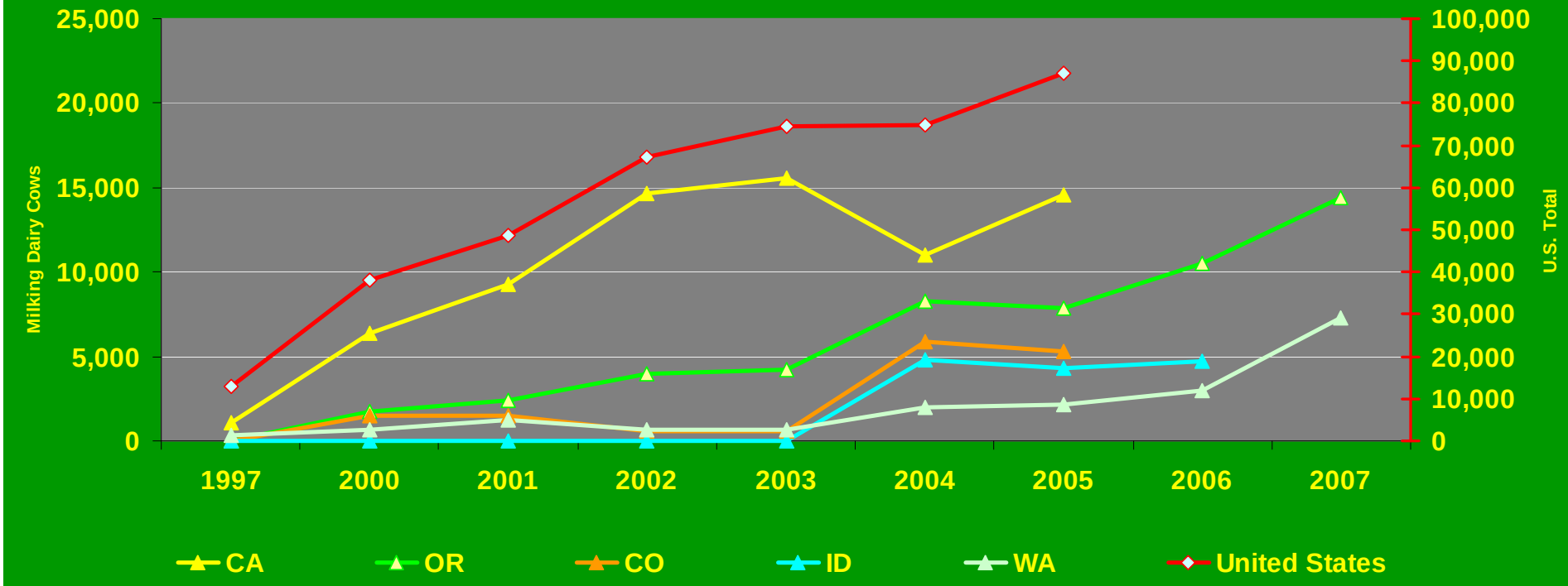
- Top 5:
  - North Dakota 8,821 acres (19%)
  - Minnesota 6,371 acres
  - Wisconsin 6,038 acres
  - Iowa 3,913 acres
  - Illinois 3,886 acres
- Nearby:
  - South Dakota 3,422 acres
  - Wyoming 584 acres
  - **Montana 517 acres**
  - Idaho 234 acres
  - Washington 18 acres

U.S. Organic Peas & Lentils



United States:	17,757 acres
- Top 5 (USDA-ERS, 2005)	
• **Montana**	**9,060 (51%)**
• North Dakota	3,823
• Wisconsin	1,616
• Minnesota	1,348
• South Dakota	867
– Nearby:	
• Idaho	65
• Wyoming	45

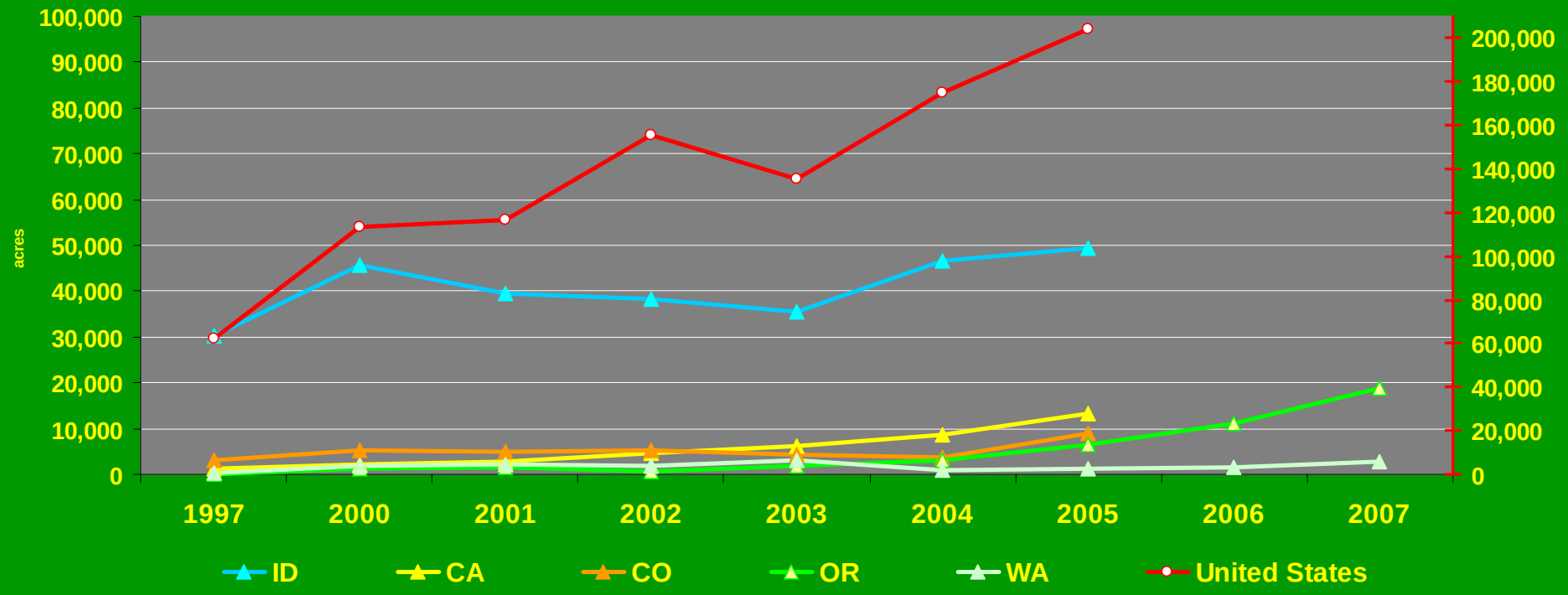
U.S. & Western Organic Dairy



United States: 87,082 milk cows

- Top 5 (USDA-ERS, 2005)
  - Wisconsin 16,793 (19%)
  - California 14,585
  - Oregon 7,829
  - Texas 7,682
  - Pennsylvania 5,705

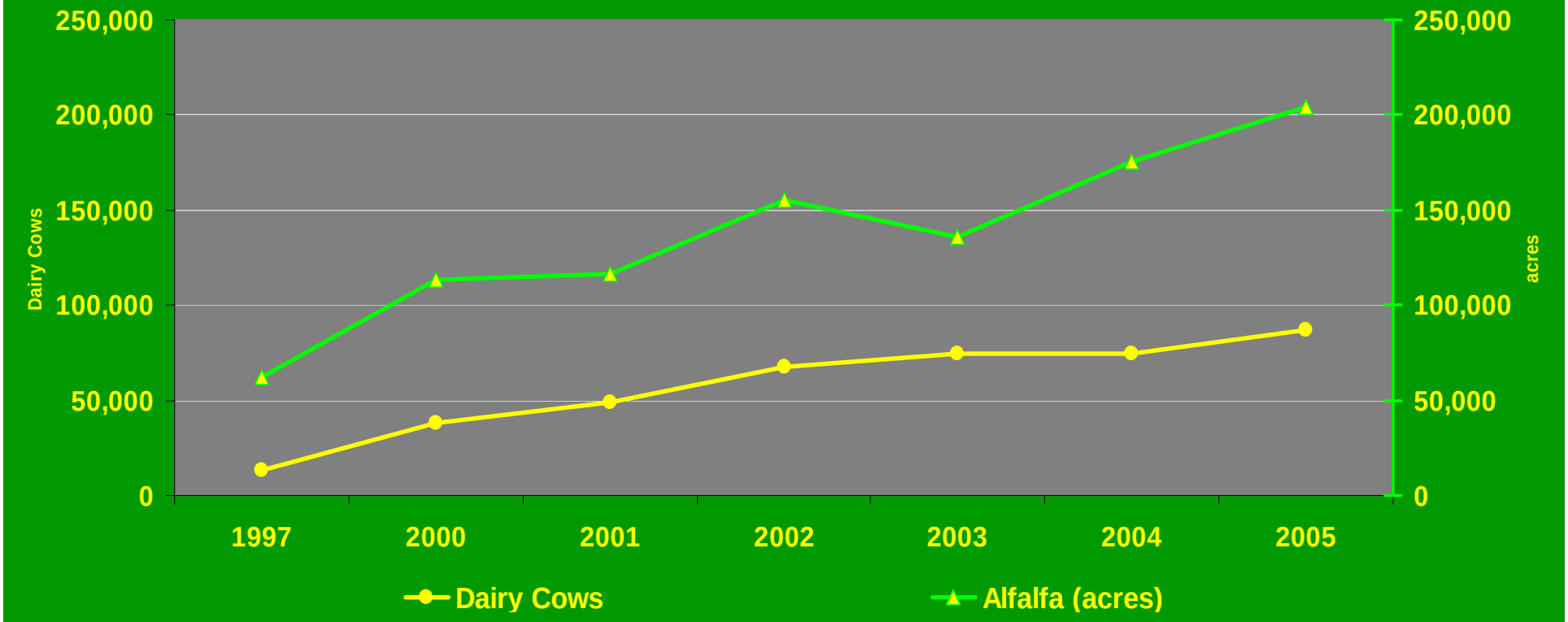
U.S. & Western Organic Alfalfa Production



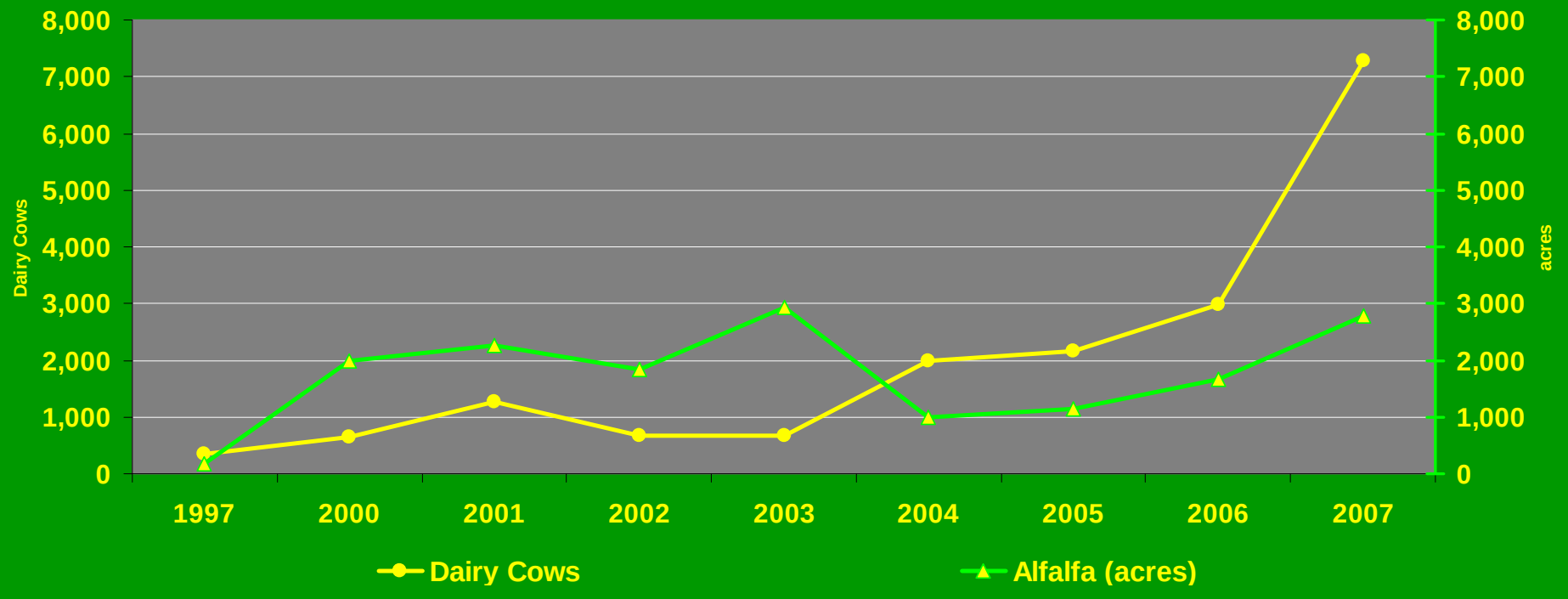
United States: 204,380 acres

- Top 5 (USDA-ERS, 2005)
  - Idaho 49,497 (24%)
  - Wisconsin 29,389
  - Minnesota 21,339
  - North Dakota 20,614
  - South Dakota 13,930
- Nearby
  - Montana 5,318
  - Wyoming 1,726

U.S. Organic Dairy Cows & Alfalfa

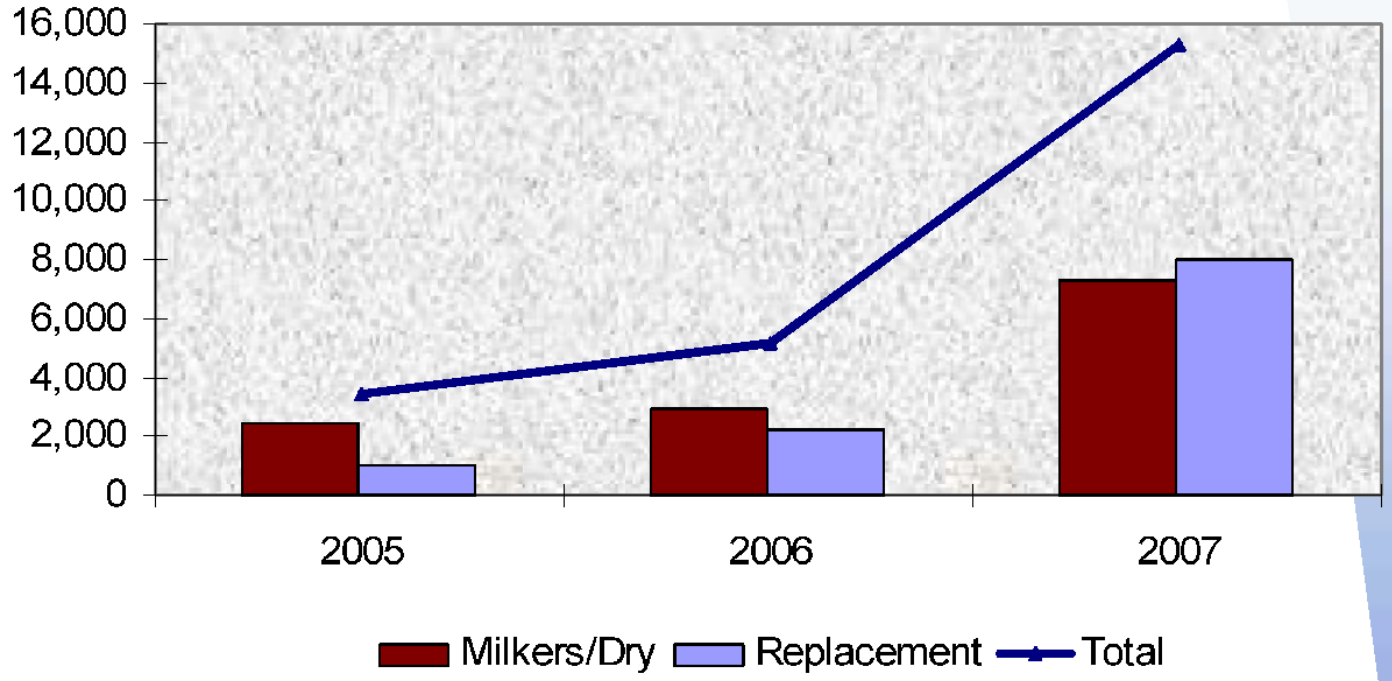


Washington Organic Dairy Cows & Alfalfa



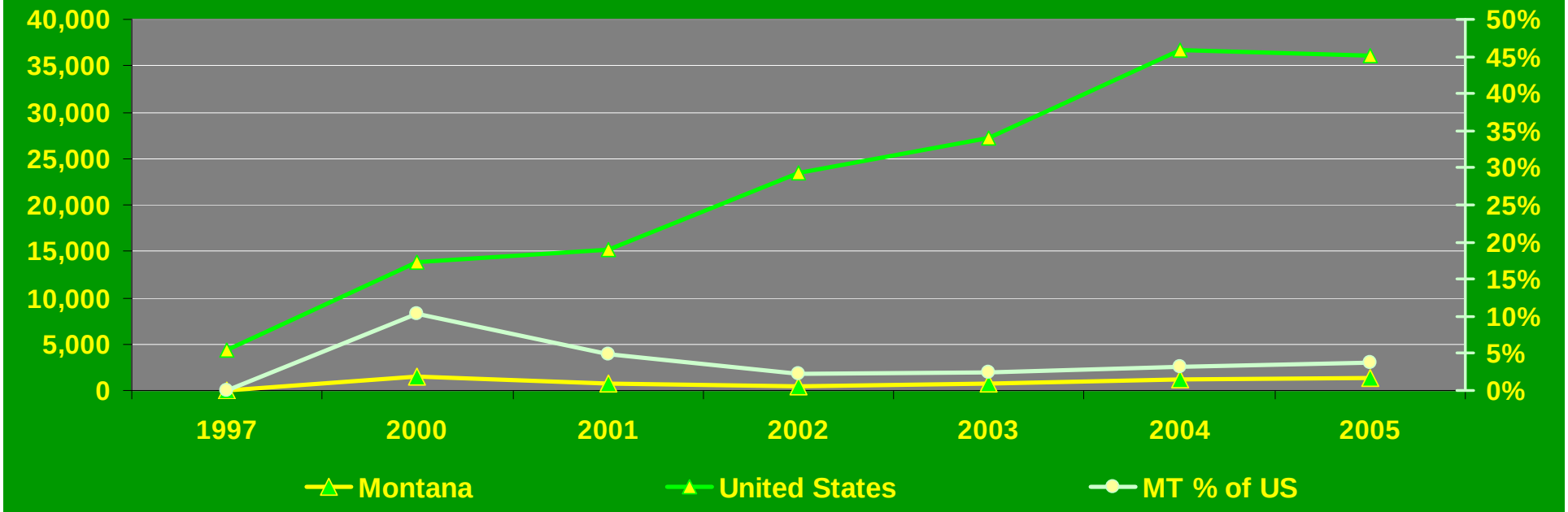
Estimated organic dairy cows

Washington State 2007



WSDA, OTCO, ICS, CCOF data 2007

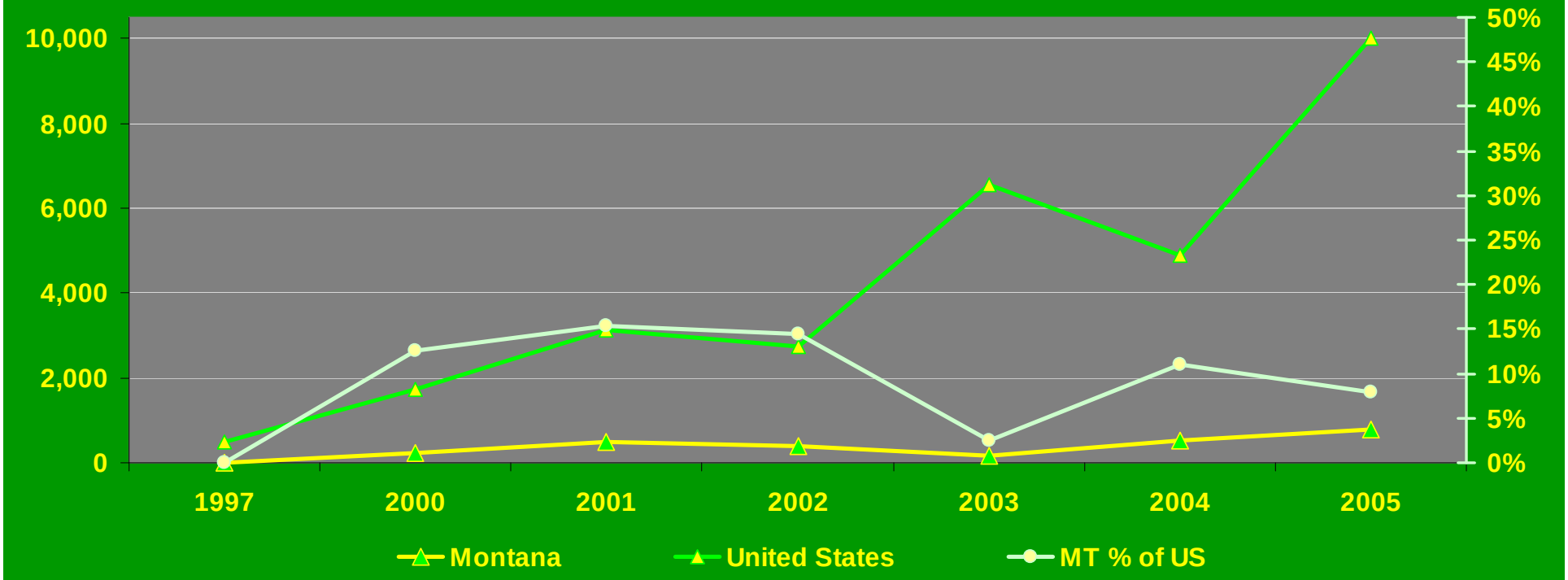
Organic Beef Cows



United States: 36,113 beef cows

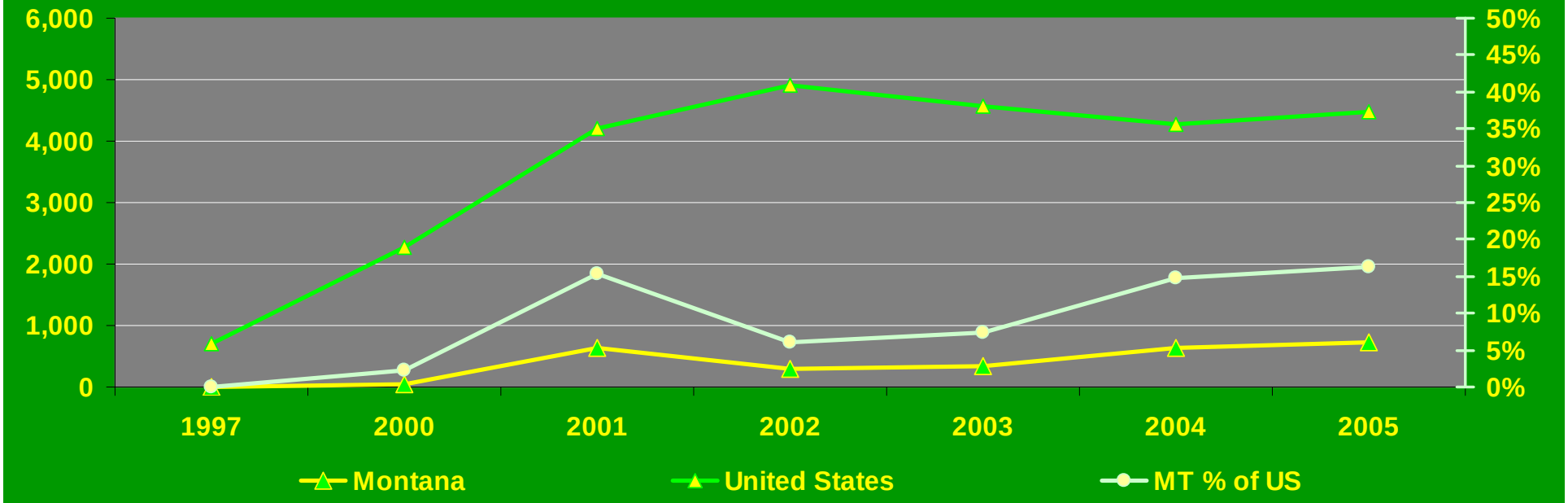
- Top 5 (USDA-ERS, 2005)
  - Alaska 7,500 (21%)
  - Missouri 5,540
  - Idaho 3,245
  - Wisconsin 3,204
  - Texas 2,661

Organic Swine

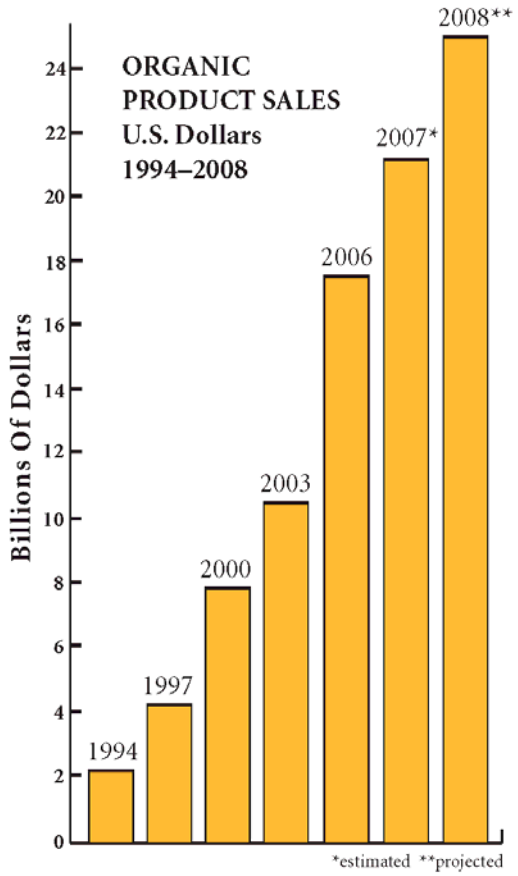


United States:	10,018 hogs & pigs
- Top 5 (USDA-ERS, 2005)	
• Iowa	4,566 (46%)
• Indiana	2,000
• Kansas	999
• Montana	786
• Washington	406

Organic Sheep



United States:	4,471 sheep
- Top 5 (USDA-ERS, 2005)	
• Montana	731 (16%)
• Oregon	581
• New Mexico	500
• Alaska	400
• Maine	371



Projected 2008 U.S. Organic Food Sales: $23.6 billion

1990 – 2007: 18.1% annual growth

Projected Annual Growth (2007 – 2010): 18%

Projected Annual Growth Rate by 2025: 5% – 10%

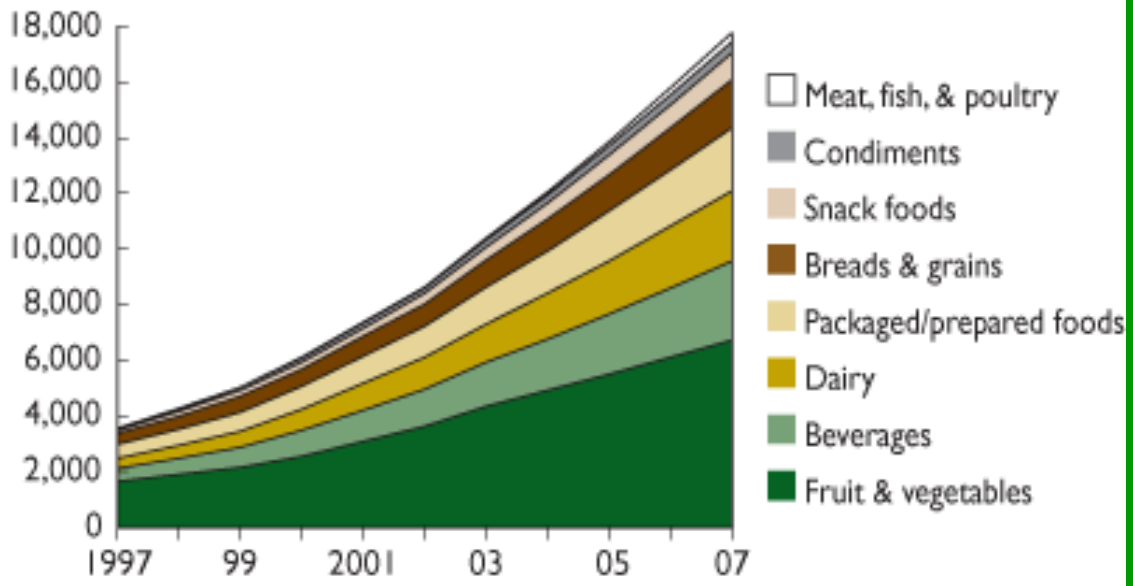
Total Foods and Organic Foods Consumer Sales and Penetration, 1997–2006

	Organic Food Sales ($ million)	Organic Food Sales Growth	Total Food Sales ($ million)	Organic Penetration
1997	$3,594	N/A	$443,790	0.8%
1998	$4,286	19.2%	$454,140	0.9%
1999	$5,039	17.6%	$474,790	1.1%
2000	$6,100	21.0%	$498,380	1.2%
2001	$7,360	20.7%	$521,830	1.4%
2002	$8,625	17.3%	$530,612	1.6%
2003	$10,381	20.2%	$535,406	1.9%
2004	$11,902	14.6%	$544,141	2.2%
2005	$13,831	16.2%	$556,791	2.5%
2006	$16,718	20.9%	$598,136	2.8%

Source: OTA's Manufacturer Survey, 2006 and 2007

Fruits and vegetables remain the largest category of sales, accounting for 42 percent of organic food sales in 2003

Total sales: $ million



2004-2007 estimated.

Source: *Nutrition Business Journal*, 2004.

Global Demand:

- **increases by $5 billion/yr**
- **2006 international sales = $38.6 billion**

Most important markets:

- **European Union**
- **United States**
- **Japan**

U.S. Household Penetration (2007)

- **59%**
- **Core Users: 18%**

Organic Food Sales and Growth Forecasts by Category

Organic Food Category	2005 ($million)	Growth %	2006 ($million)	Growth %	Projected 2007 (million)
Dairy	2,140	24%	2,668	25%	3,201
Bread & Grains	1,360	19%	1,667	23%	2,001
Beverages	1,940	13%	2,173	12%	2,401
Fruits & Vegs	5,369	11%	6669	24%	8,003
Snack Foods	667	18%	807	21%	1,000
Packaged	1,758	19%	2001	14%	2,401
Sauces	341	24%	402	18%	400
Meat	256	55%	330	29%	400
Total	**13,831**	**16%**	**16,718**	**21%**	**20,008**

Source: OTA's Manufacturer Survey, 2006 and 2007

Looking to the Future
Deciding Whether to Transition

- **Input costs:**
  - Fertilizer Costs
  - Herbicide Costs
  - Fuel Costs / Trucking Costs
- **Crop Prices**
- **Yield**
  - Soil Fertility
  - Weed populations
  - Weather patterns / Climate Change
- **Globalization / Trade / Economies**
- **Market Demographics / Food Safety Concerns**
- **Biotechnology**
- **Greenhouse Gas Mitigation – the "Carbon Economy"**

CONCLUSIONS

- **Organic appears to provide a premium for some situations**
  - Is the premium enough? Is it achievable?
  - Ultimately, each farmer applies a "personal calculus" that accounts for variability and risk.

- **Comparison Over Time:**
  - In general, the relative differences (relationship) between organic and conventional rotations are similar between different crop price and input price levels (Fall 2007 vs. 2006)
  - Differences may be amplified or muted by the crops selected or a region's cropping patterns

- **Economics in Different Regions:**
  - Organic rotations seem to offer greater relative premiums in drier areas *(when comparing conservative moisture-saving rotations)*
  - Organic rotations may not have an economic advantage in areas that continuous crop
    - the organic rotations compared are generally crop-fallow *(for weed control and moisture saving reasons)*
    - more intensive organic rotations (if possible) might change the equation

CONCLUSIONS

- **There is an economic cost for the transition period that must be overcome to benefit from organic economics**
  - Careful planning needed to maintain cash flow
  - EQIP program may help

- **There still are some big information gaps** *(especially for minor crops)*
  - Yield information
  - Crop Prices
  - Best practices for rotation selection and weed control
  - Irrigated Organic Production????
  - Farmers constantly face changing conditions and incomplete information

- **Need to perform your own analysis using your own best judgment**
  - What may work is very farm specific
  - Start with basic analysis and keep refining it
  - Difference in fixed costs between the systems may exist that this analysis ignores
  - Self-examination: is this for you? (record keeping, marketing, risk tolerance, skills and knowledge, etc)

CONCLUSIONS

The spreadsheet developed by the Montana Department of Agriculture is tool for:

- Conventional Farms considering transitioning to organic production:
  - To compare economics with conventional practices
  - Model the economics of different transition strategies
  - Model the economics of different organic rotations
- Conventional <u>and</u> Organic Farms:
  - Compare different rotations
  - Compare the profitability of individual crops
- To discuss more, contact Chad Lee: chlee@mt.gov or 406.444.2402