Crop Marketing 101

Prairie Oat Growers Association

Annual meeting

Banff, Alberta

December 4, 2014

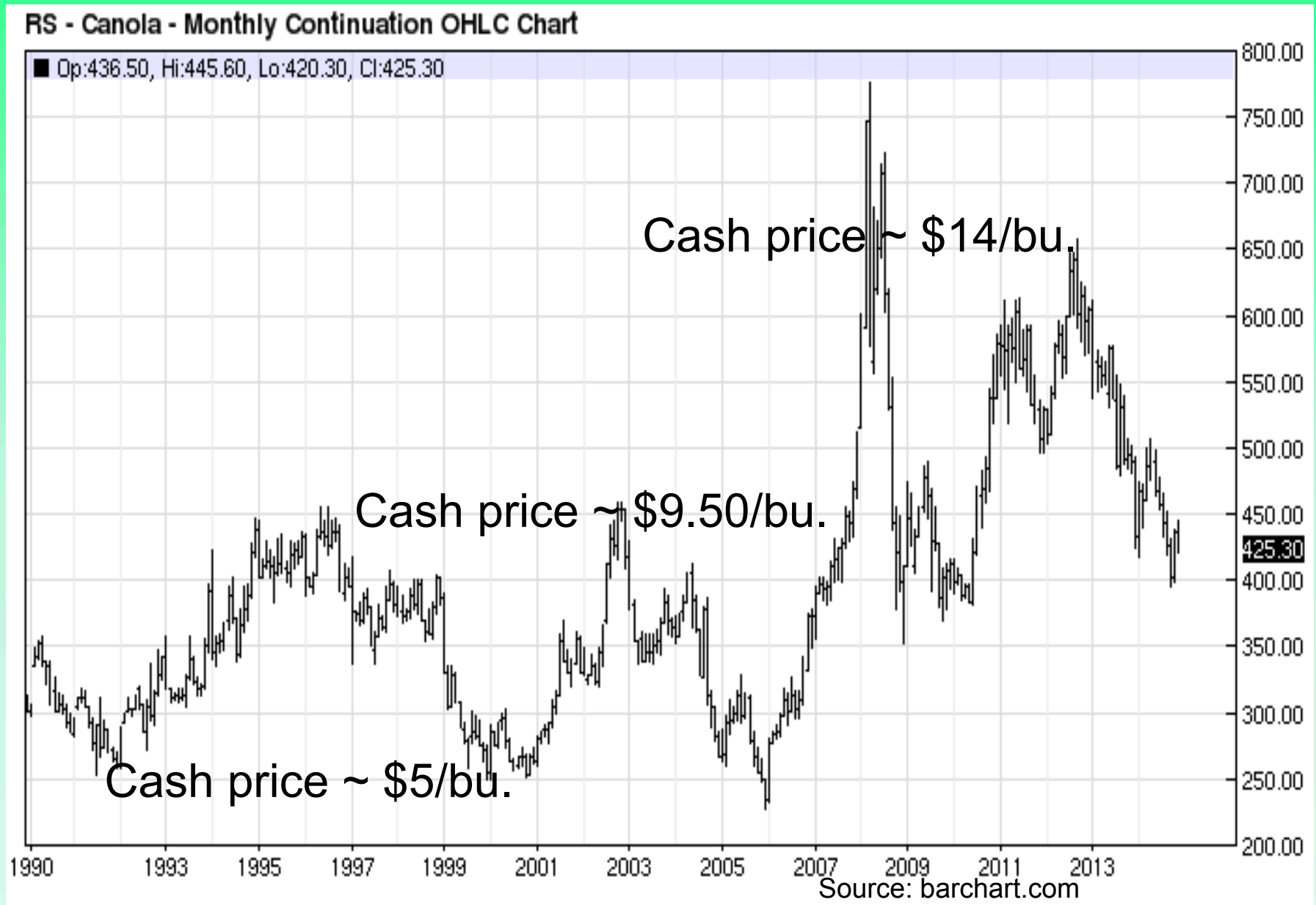
Risk in Agriculture

- **Production**
  -weather
  -insects
  -disease
  -weeds
- **Human**
  -injury, illness, death, divorce
  -labor

Risk in Agriculture

- **Legal**

- **Price & Delivery**
  - **-product produced**
  - **-costs of production**
  - **-inability to deliver product ****


RS - Canola - Monthly Continuation OHLC Chart
Op:436.50, Hi:445.60, Lo:420.30, Cl:425.30
800.00
750.00
700.00
650.00
600.00
550.00
500.00
450.00
425.30
400.00
350.00
300.00
250.00
200.00
1990
1993
1995
1997
1999
2001
2003
2005
2007
2009
2011
2013
Cash price ~ $14/bu.
Cash price ~ $9.50/bu.
Cash price ~ $5/bu.
Source: barchart.com

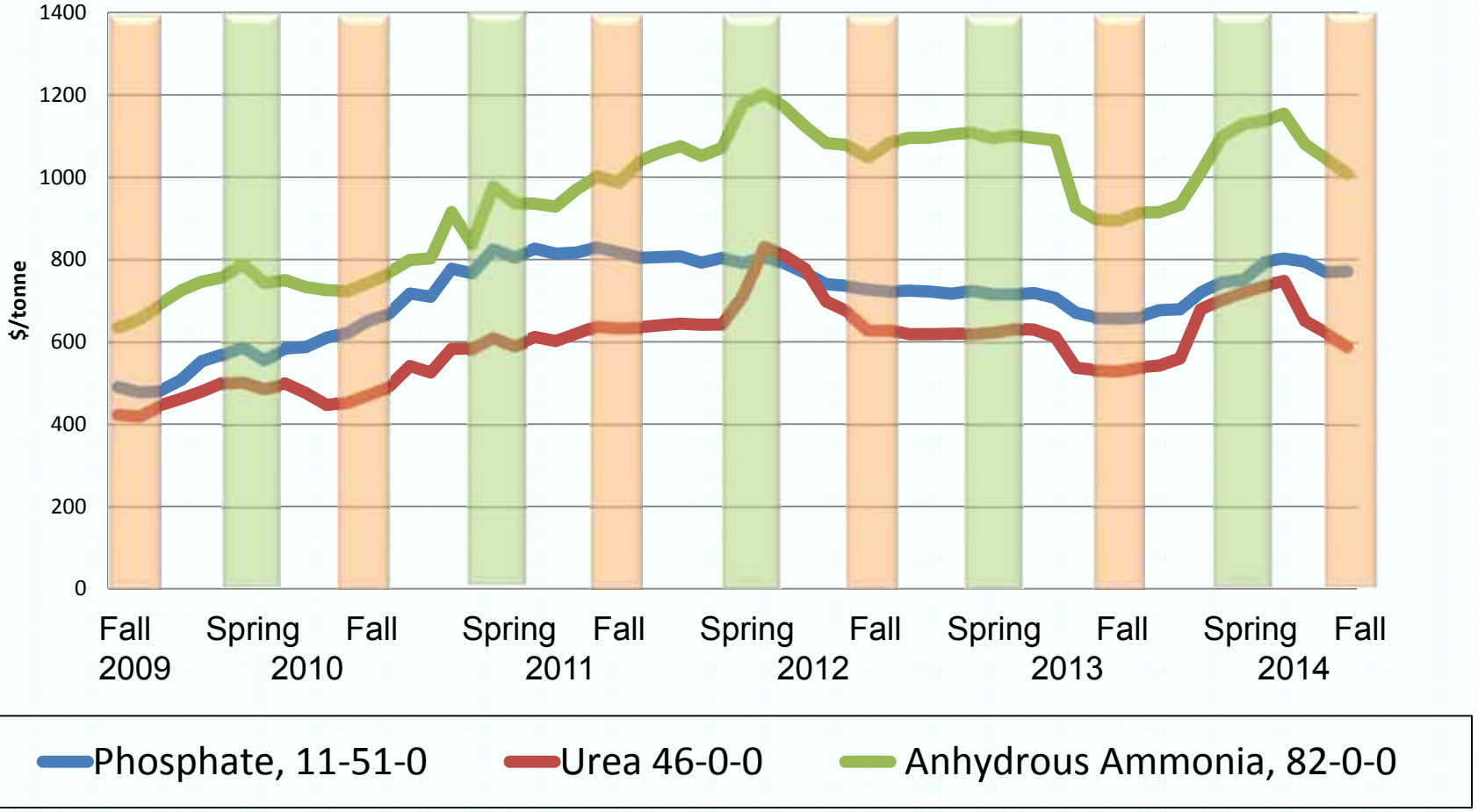
Oat Futures – weekly

Source: barchart.com

Oat futures – monthly

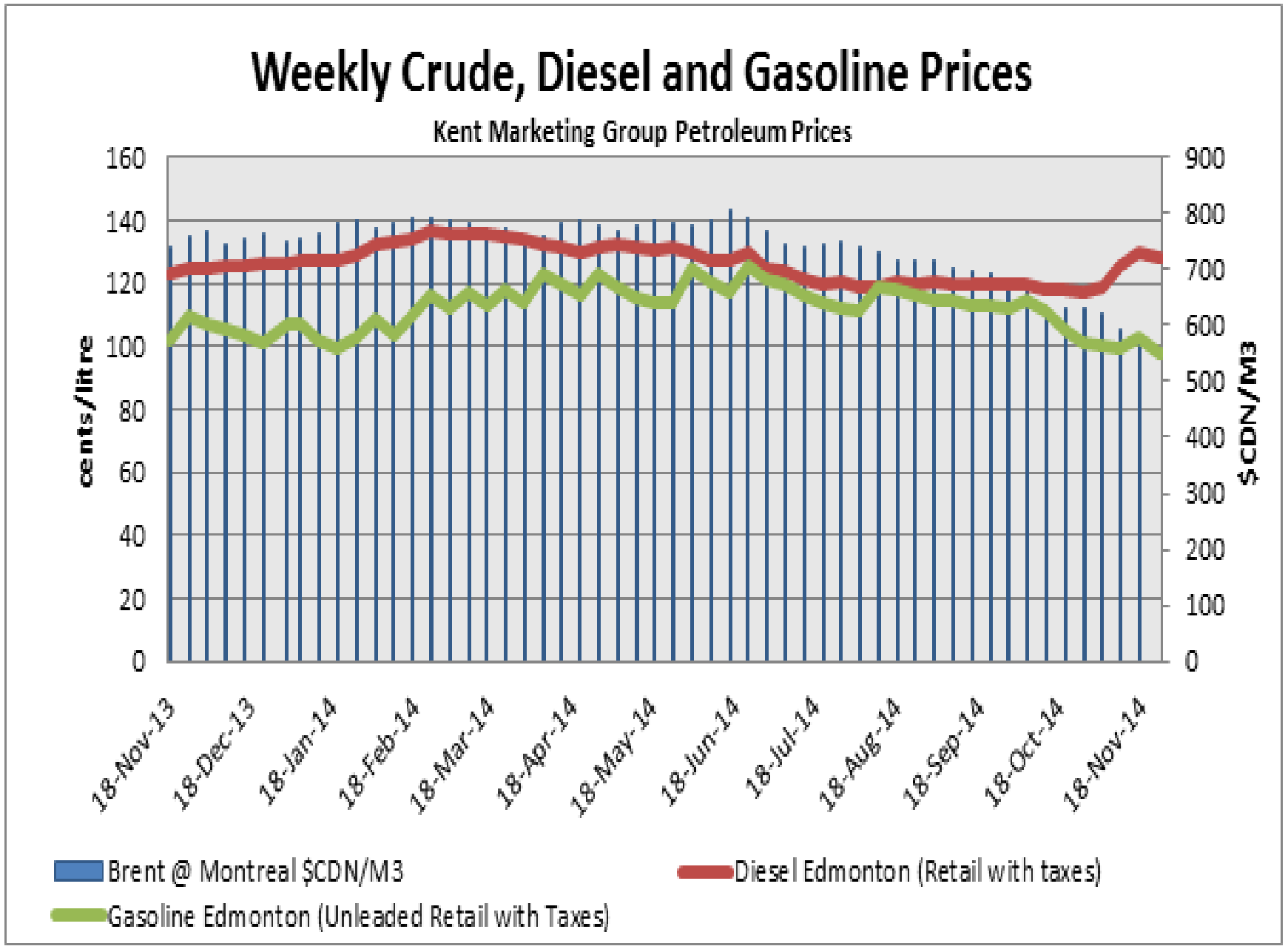
Fertilizer Prices

Alberta Retail Fertilizer Prices

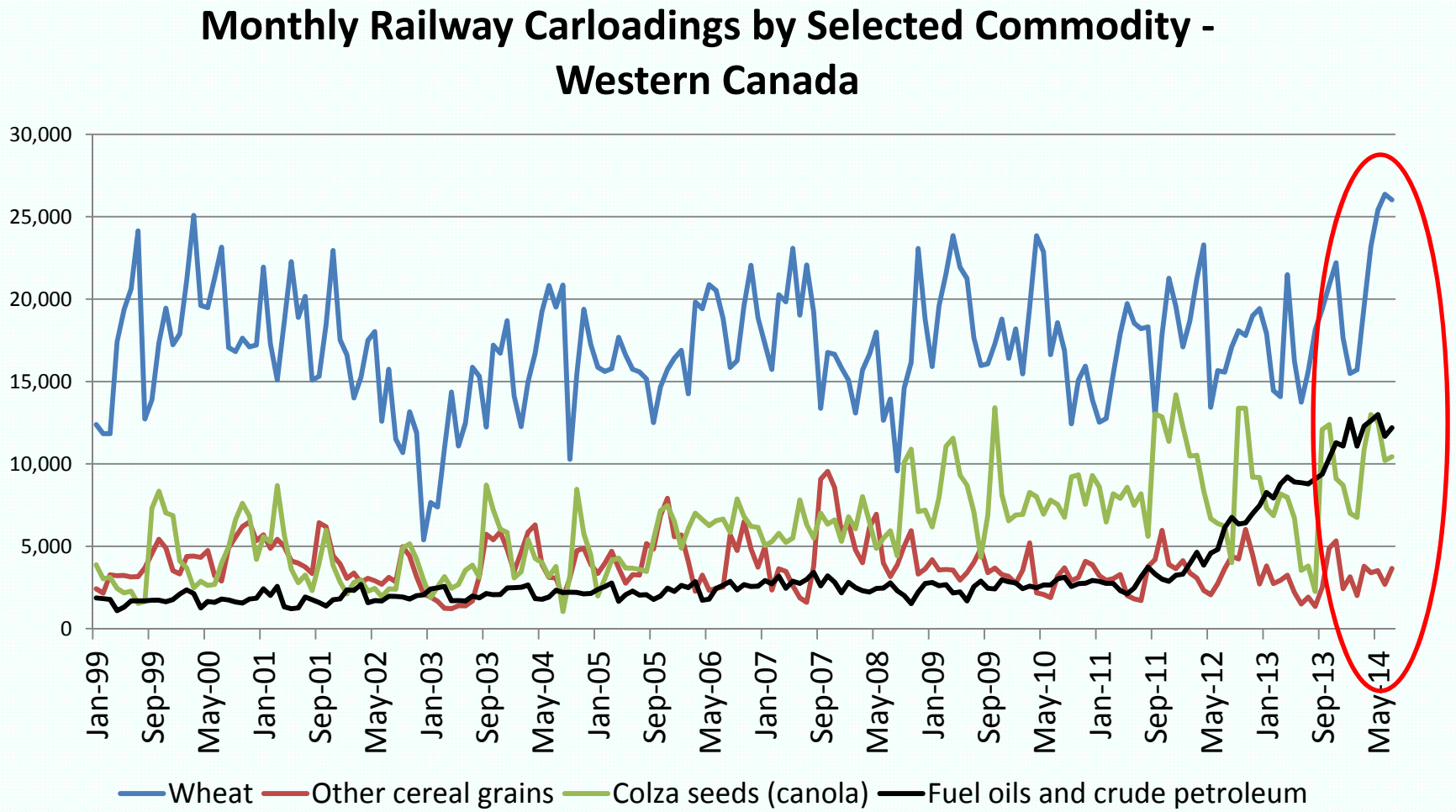


Source: Statistics and Data Development Branch

Weekly Crude, Diesel and Gasoline Prices



Transportation System – Grains vs Goods



Source: Statistics Canada

Risk Management Decision

- attitude towards risk
- financial position
- probability of loss or profit
  - your average yield vs. risk area average
  - variations from your average yield
  - price expectations
  - price setting alternatives & opportunities

Attitude toward RISK

Risk Averters

- avoid risk, sacrificing chance for higher income

Risk Takers

- accept risk, for chance of increased income

Risk Neutral

- manager who emphasizes maximizing net income

Effective Risk Management

- **anticipating** possible difficulties

  AND

  planning … to reduce their consequences,

  NOT just reacting to unfavourable events

Management Strategies to Reduce Risk

- Diversification
- Flexibility
- Insurance
- Marketing alternatives (price & delivery)

Crop Marketing Strategies

- Know Your Costs of Production
- Follow Situation and Outlook
- Set Target Prices
- Understand & Assess Delivery Alternatives
- Understand & Assess Pricing Alternatives
- Act on your Plan !
- Learn from your experiences

Individual Production Costs & Returns ($/Acre)

AgriProfit$	Crop 1	Crop 2	Crop 3	Crop 4	Crop 5
Expected Yield per Acre					
Expected Market Price per Unit					
Value of Production					
Direct Expenses:					
Seed, cleaning and treatment					
Fertilizer					
Chemical					
Hail & Crop Insurance					
Trucking & Marketing					
Fuel, Oil & Lube					
Irrigation: Pumping Costs					
Machinery Repairs					
Building Repairs					
Utilities & Miscellaneous					
Custom Work					
Paid Labour					
Unpaid Labour					
Operating Interest					
Summerfallow Expense					
Other Expenses					
Total Direct Expense					
Contribution Margin					
Cash/Share Rent & Land Lease					
Taxes, Licenses & Insurance					
Water Rates (Irrigation only)					
Depreciation & Lease Payments					
Paid Capital Interest					
Total Capital Costs					
Return to Mgmt & Equity					
Break-Even Yield					
Break-Even Price					

Source: ARD

Individual Production Costs & Returns ($/Acre)

AgriProfit$	Crop 1	Crop 2	Crop 3	Crop 4	Crop 5
Expected Yield per Acre					
Expected Market Price per Unit					
Value of Production					
Direct Expenses:					
Seed, cleaning and treatment					
Fertilizer					
Chemical					
Hail & Crop Insurance					
Trucking & Marketing					
Fuel, Oil & Lube					
Irrigation: Pumping Costs					
Machinery Repairs					
Building Repairs					
Utilities & Miscellaneous					
Custom Work					
Paid Labour					
Unpaid Labour					
Operating Interest					
Summerfallow Expense					
Other Expenses					
Total Direct Expense					

Individual Production Costs & Returns ($/Acre)

AgriProfit$	Crop 1	Crop 2	Crop 3	Crop 4	Crop 5
Total Direct Expense					
Contribution Margin					
Cash/Share Rent & Land Lease					
Taxes, Licenses & Insurance					
Water Rates (Irrigation only)					
Depreciation & Lease Payments					
Paid Capital Interest					
Total Capital Costs					
Return to Mgmt & Equity					
Break-Even Yield					
Break-Even Price					


Ghost of Christmas Future
Not what will be … but what might be!!

2013 Production Costs and Returns ($/acre) — Black Soils

Stubble Seeded Crops

AgriProfit$	Spring Wheat 2 CWRS 11.5%	CPS Wheat 1 CPSR	Feed Barley 1 CW	Malt Barley Select CW 2R	Milling Oats 3 CW	Argentine HT Canola 1 CAN	Field Peas 2 CAN	Mixed Hay	Alfalfa Hay	Cereal Silage
Expected Yield per Acre	65.00 bu	75.00 bu	90.00 bu	75.00 bu	115.00 bu	45.00 bu	50.00 bu	2.25 t	2.50 t	6.50 t
Expected Market Price	7.08 /bu	6.94 /bu	4.57 /bu	5.23 /bu	3.16 /bu	12.02 /bu	7.89 /bu	70.00 /t	80.00 /t	54.87 /t
Crop Sales ($/acre)	**459.99**	**520.55**	**411.50**	**391.90**	**363.59**	**540.94**	**394.67**	**157.50**	**200.00**	**356.63**
Direct Expenses:										
Seed, Cleaning & Treatmen	28.31	27.76	18.29	20.90	15.81	39.66	47.36	3.55	10.63	20.57
Fertilizer (NPKS blend)	75.50 80-30-10-0	75.50 80-30-10-0	75.50 80-30-10-0	77.00 70-30-20-10	64.00 70-30-0-0	104.50 100-40-15-20	26.50 5-30-15-0	18.50 15-15-0-0	17.00 5-25-0-0	58.00 65-25-0-0
Chemical	32.00 *	27.00	16.00	50.42 *	11.50	24.00	35.80 *	1.25	1.56	11.50
Hail/Crop Insurance	18.30	23.67	16.02	16.02	15.70	24.37	21.05	0.00	6.38	11.32
Trucking & Marketing	13.27	15.31	14.69	12.24	13.30	7.65	10.20	16.88	18.75	48.75
Fuel, Oil & Lube	18.50	16.75	17.50	19.25	12.25	19.00	24.00	8.00	5.00	31.50
Machinery Repairs	17.25	17.00	11.50	16.75	11.50	15.25	17.75	15.00	7.00	11.00
Building Repairs	2.00	5.00	2.00	5.50	2.75	2.25	4.50	5.00	3.00	3.50
Custom Work	2.00	2.00	2.25	3.00	14.50	2.50	8.25	2.00	4.50	5.00
Labour (Paid and Unpaid)	18.00	22.00	14.50	23.50	19.50	18.50	22.00	25.00	11.00	32.00
Utilities & Miscellaneous	11.50	13.50	8.50	17.75	12.00	10.50	15.25	6.00	5.00	7.50
Operating Interest	6.79	6.51	5.49	7.42	4.57	8.41	5.48	1.16	1.46	4.50
Total Direct Expense	**243.41**	**252.00**	**202.24**	**269.76**	**197.37**	**276.59**	**238.15**	**102.34**	**91.28**	**245.15**
Contribution Margin	**216.58**	**268.55**	**209.25**	**122.14**	**166.21**	**264.35**	**156.52**	**55.16**	**108.72**	**111.48**
Total Cost per Unit	**5.05**	**4.49**	**3.19**	**4.73**	**2.45**	**8.03**	**6.46**	**78.04**	**65.81**	**48.98**
Break-Even Yield	**47.00 bu**	**49.00 bu**	**63.00 bu**	**68.00 bu**	**90.00 bu**	**31.00 bu**	**41.00 bu**	**2.51 t**	**2.06 t**	**5.80 t**

Capital Costs by Enterprise	Crops	Forages
Crop Share/Cash Rent	52.00	41.50
Licenses and Insurance	11.00	5.50
Depreciation	40.00	42.50
Paid Capital Interest	6.75	4.50
Total Capital Costs	109.75	94.00
Adjusted Capital Costs	84.75	73.25

Questions?
Jason Wood 780-422-3122
Production Crops Economist, Economics Branch
Alberta Agriculture and Rural Development
Note: Please refer to 2013 Methodology on Ropin the Web.

Prepared May 10, 2013

2013 Production Costs and Returns ($/acre) — Brown Soils

Stubble Seeded Crops

AgriProfit$	Spring Wheat 1 CWRS 13.5%	CPS Wheat 1 CPSR	Durum Wheat 1 CWAD 13%	Feed Barley 1 CW	Malt Barley Select CW 2R	Milling Oats 3 CW	Argentine HT Canola 1 CAN	Field Peas 2 CAN	Lentils 2 CAN	Kabuli Chickpea 2 CW 8mm	Yellow Mustard 1 CAN	Mixed Hay	Summer Fallow
Expected Yield per Acre	40.00 bu	45.00 bu	40.00 bu	65.00 bu	50.00 bu	75.00 bu	25.00 bu	40.00 bu	900.00 lbs	1200.00 lbs	750.00 lbs	1.50 t	0.00
Expected Market Price	7.62 /bu	6.94 /bu	7.08 /bu	4.57 /bu	5.23 /bu	3.16 /bu	12.02 /bu	7.89 /lb	0.20 /lb	0.26 /lb	0.35 /lb	70.00 /t	0.00
Crop Sales ($/acre)	**304.84**	**312.33**	**283.07**	**297.19**	**261.27**	**237.12**	**300.52**	**315.73**	**177.55**	**315.65**	**261.90**	**105.00**	**0.00**
Direct Expenses:													
Seed, Cleaning & Treatment	24.77	24.29	23.82	16.00	18.29	12.65	31.73	43.41	23.67	63.13	12.57	3.25	0.00
Fertilizer (NPKS blend)	47.50 50-20-5-0	47.50 50-20-5-0	47.50 50-20-5-0	57.00 60-25-5-0	59.00 50-30-10-10	45.00 50-20-0-0	66.50 65-25-10-10	19.00 5-20-10-0	14.00 5-20-0-0	19.50 5-30-0-0	42.00 40-20-0-10	12.50 10-10-0-0	0.00
Chemical	25.60 *	21.60	25.60	12.80	45.38 *	10.35	21.60	19.50	36.00 *	57.00 *	16.00	1.25	15.00
Hail/Crop Insurance	17.41	22.15	18.34	16.11	16.11	11.72	27.78	17.14	18.06	27.89	18.41	0.00	0.00
Trucking & Marketing	8.16	9.18	8.16	10.61	8.16	8.67	4.25	8.16	5.31	7.07	4.42	2.25	0.00
Fuel, Oil & Lube	13.25	12.40	12.50	13.00	13.75	13.50	13.75	13.03	11.50	13.75	13.00	6.75	7.25
Machinery Repairs	14.75	11.25	12.00	8.50	8.00	10.00	8.00	10.75	8.00	9.00	8.50	10.00	9.00
Building Repairs	1.50	2.50	1.25	1.00	1.00	2.50	1.50	2.25	2.75	2.00	1.00	3.00	1.00
Custom Work	4.00	1.50	3.50	4.00	2.50	2.50	8.00	2.00	2.00	4.00	3.00	2.00	0.00
Labour (Paid and Unpaid)	21.00	17.50	17.50	16.00	16.00	14.00	18.50	13.25	13.00	15.00	13.50	16.00	10.00
Utilities & Miscellaneous	12.00	12.50	12.50	8.50	8.50	10.00	10.00	11.00	12.50	12.50	9.50	11.25	3.00
Operating Interest	4.89	4.67	4.85	4.29	6.13	3.40	5.99	4.10	3.68	6.98	3.53	0.85	0.75
Total Direct Expense	**194.84**	**187.05**	**187.52**	**167.81**	**202.83**	**144.29**	**217.60**	**163.59**	**150.47**	**237.83**	**145.43**	**69.10**	**46.00**
Contribution Margin	**110.01**	**125.28**	**95.56**	**129.38**	**58.44**	**92.83**	**82.92**	**152.15**	**27.08**	**77.82**	**116.47**	**35.90**	**(46.00)**
Total Cost per Unit	**6.33**	**5.46**	**6.15**	**3.48**	**5.23**	**2.70**	**11.04**	**5.55**	**0.23**	**0.25**	**0.27**	**81.07**	**N/A**
Break-Even Yield	**34.00 bu**	**36.00 bu**	**35.00 bu**	**50.00 bu**	**51.00 bu**	**65.00 bu**	**23.00 bu**	**29.00 bu**	**1060.00 lbs**	**1127.00 lbs**	**584.00 lbs**	**1.74 t**	**N/A**

Capital Costs by Enterprise	Crops	Forages
Crop Share/Cash Rent	35.00	28.00
Licenses and Insurance	5.50	8.00
Depreciation	24.00	27.50
Paid Capital Interest	11.50	3.00
Total Capital Costs	76.00	66.50
Adjusted Capital Costs	58.50	52.50

Questions?
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Production Crops Economist, Economics Branch
Alberta Agriculture and Rural Development
Note: Please refer to 2013 Methodology on Ropin the Web.

Prepared May 10, 2013

Production Costs and Returns ($/acre) — Dark Brown Soils

Stubble Seeded Crops

AgriProfit$	Spring Wheat 1 CWRS 13.5%	CPS Wheat 1 CPS/R	Durum Wheat 1 CWAD 13%	Winter Wheat Select CWRW	Feed Barley 1 CW	Malt Barley Select CW 2R	Milling Oats 3 CW	Argentine HT Canola 1 CAN	Field Peas 2 CAN	Flax 1 CW	Yellow Mustard 1 CAN	Mixed Hay	Cereal Silage	Summer Fallow
Expected Yield per Acre	45.00 bu	50.00 bu	45.00 bu	50.00 bu	70.00 bu	55.00 bu	85.00 bu	30.00 bu	45.00 bu	20.00 bu	850.00 lbs	1.75 t	5.00 t	0.00
Expected Market Price	7.62 /bu	6.94 /bu	7.08 /bu	6.53 /bu	4.57 /bu	5.23 /bu	3.16 /bu	12.02 /bu	7.89 /bu	13.72 /bu	0.35 /lb	70.00 /t	54.87 /t	0.00
Crop Sales ($/acre)	**342.86**	**347.03**	**318.46**	**326.62**	**320.06**	**287.38**	**268.74**	**360.83**	**355.20**	**274.32**	**298.83**	**122.50**	**274.33**	**0.00**
Direct Expenses:														
Seed, Cleaning & Treatment	24.77	24.29	23.82	26.13	18.29	20.90	14.23	39.66	43.41	27.55	13.97	3.25	18.29	0.00
Fertilizer (NPKS blend)	57.00 60-25-5-0	57.00 60-25-5-0	57.00 60-25-5-0	57.00 60-25-5-0	64.00 70-25-5-0	68.00 60-30-15-10	48.50 55-20-0-0	78.00 7-30-10-15	19.00 5-20-10-0	45.00 50-20-0-0	51.50 50-25-0-10	15.00 10-15-0-0	52.00 60-20-0-0	0.00
Chemical	28.80 *	24.30	28.80	10.35	12.80	45.38 *	11.50	24.00	35.80 *	21.50 *	16.00	1.25	11.50	15.00
Hail/Crop Insurance	19.04	24.00	19.11	20.51	16.09	16.09	13.38	29.43	17.14	22.22	18.84	0.00	0.00	0.00
Trucking & Marketing	9.18	10.20	9.18	10.20	11.43	8.98	9.83	5.10	9.18	3.81	5.01	2.63	7.50	0.00
Fuel, Oil & Lube	11.38	13.39	13.62	13.21	12.50	13.97	11.25	13.93	14.06	10.27	13.00	8.80	13.00	8.50
Machinery Repairs	12.25	12.50	11.00	12.00	12.00	12.50	11.00	15.00	13.50	11.00	11.00	9.50	7.00	8.00
Building Repairs	1.00	1.50	1.00	1.00	2.00	2.50	1.00	1.50	1.75	1.50	1.50	2.50	1.25	1.50
Custom Work	2.00	3.00	3.00	3.00	6.00	6.00	2.00	5.00	3.00	8.00	4.50	9.50	40.00	0.00
Labour (Paid and Unpaid)	12.50	13.00	11.50	12.50	12.25	13.00	13.00	14.00	12.25	14.50	13.50	10.00	10.00	10.00
Utilities & Miscellaneous	6.00	6.50	7.50	7.00	7.00	10.00	6.00	8.00	8.25	5.00	9.00	10.00	8.00	3.00
Operating Interest	5.53	5.28	5.48	4.67	4.75	6.71	3.71	7.08	4.91	4.70	4.07	0.98	4.09	0.75
Total Direct Expense	**189.46**	**194.87**	**181.01**	**177.58**	**179.11**	**224.04**	**146.40**	**240.70**	**182.28**	**176.06**	**161.89**	**73.40**	**172.83**	**48.76**
Contribution Margin	**153.50**	**152.08**	**127.46**	**149.04**	**140.94**	**63.35**	**123.34**	**119.92**	**172.94**	**98.27**	**134.93**	**49.10**	**101.70**	**(48.76)**
Total Cost per Unit	**5.70**	**5.24**	**5.74**	**4.80**	**3.62**	**5.30**	**2.50**	**10.27**	**5.64**	**12.12**	**0.27**	**68.80**	**43.93**	**N/A**
Break-Even Yield	**34.00 bu**	**38.00 bu**	**37.00 bu**	**38.00 bu**	**54.00 bu**	**68.00 bu**	**88.00 bu**	**28.00 bu**	**32.00 bu**	**18.00 bu**	**867.00 lbs**	**1.72 t**	**4.00 t**	**N/A**

Capital Costs by Enterprise	Crops	Forages
Crop Share/Cash Rent	63.00	26.00
Licenses and Insurance	4.75	5.00
Depreciation	25.00	15.50
Paid Capital Interest	6.00	13.50
Total Capital Costs	98.75	60.00
Adjusted Capital Costs	67.25	47.00

Questions?
Jason Wood 780-422-3122
Production Crops Economist, Economics Branch
Alberta Agriculture and Rural Development
Note: Please refer to 2013 Methodology on Ropin the Web.

Prepared May 10, 2013

Alberta Government

AgriProfit#	
Expected Yield per Acre	Milling Oats 3CW 85 bu/ac
Expected Market Price	3.16/bu.
Crop Sales ($/acre)	268.60
Direct Expenses:	
Seed, Cleaning & Treatment	14.23
Fertilizer (NPKS blend)	48.50 55-20-0-0
Chemical	11.50
Hail/Crop Insurance	13.38
Trucking & Marketing	9.83
Fuel, Oil & Lube	11.25
Machinery Repairs	11.00
Building Repairs	1.00
Custom Work	2.00
Labour (Paid and Unpaid)	13.00
Utilities & Miscellaneous	6.00
Operating Interest	3.71
Total Direct Expense	145.40
Contribution Margin	123.34
Total Cost per Unit	**1.71**
Break-Even Yield	**46**

at this cost level

Contribution Margins (Dark Brown Soil Zone)
Return Above Direct Expenses
(excludes capital costs, dep'n, rent, cap interest)

Hay	49.10
Malt Barley	63.35
Flax	99.27
HT Canola	119.92
Oats	**123.34**
Durum	127.45
Feed Barley	140.94
W. Wheat	149.04
RS Wheat	153.50
Field Peas	172.94

Alberta Government

Gain Perspective With Breakeven Approach

Given costs and average yields, what is your BE price?

Example: Oats @ _____bu/ac. yield
Direct expenses of $_____/acre
"Breakeven" price = $_____/____ = $_____/bu.

+ Other Costs (fixed cash, dep'n, interest) @ $____/acre
…Breakeven price = $_____/____ = $_____/bu.

PROFIT???
Breakeven Yield @ $_____bu. =
Total Costs $_____/ac ÷ $____/bu. = _____ bu./acre

Gain Perspective With Breakeven Approach

Given costs and average yields, what is your BE price?

Example: Milling Oats @ 85 bu./ac. yield
Direct expenses of $145/acre (excl. rent, insur.,dep'n, cap interest)
"Breakeven" price = $145/85 = $1.71/bu.

+ Capital Costs of $99/acre (rent, insurance, dep'n, cap int.)

"Breakeven" price (incl. Capital costs) =

$244/85 = $2.87/bushel

Example "Breakeven" Yield @ $3.00/bu. = $244/$3 = 81 bu./ac.

What is a GOOD Price ???

- Recent History
- Past History
- Better than your Neighbor
- Profitable for your farm !!

MARKET INFORMATION SOURCES

- Radio
- Phone
- Papers
- Newsletters – fax, internet, e-mail
- Grain Companies
- Brokerage Firms
- Marketing Meetings
- Internet

Marketing Plan For_____

Date_____, 20_____
Crop & Grade _____ Location _____
Dockage _____ Moisture _____

Market Notes

3 month_____

_____

Know Your Product !

6 month_____

_____

1 year_____

_____

Marketing Plan For_____

PRICING PLAN

Estimated Costs/Acre _____ Breakeven Price _____

Target Price	Probability of Reaching Target Price	# of tonnes	% of crop
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Profit per acre $_____

What would change my plan? _____

_____

Delivery Alternatives - Grains

- Line Elevator
- Rail Car or Truck (local or export)
  - reference: Exporting Grains to the US
- Processor (crusher, mill)
- Feedlot/Feedmill
- Other Farmers (seed, feed)
- Specialty market (e.g., organic)

Pricing Alternatives

Before Delivery

- deferred delivery contract
- minimum or floor price contract
- hedging via futures market
- using options on futures

At Delivery

- deliver when able or price is acceptable
- price on delivery

After Delivery

- storage ticket (e.g. 30 day pricing)
- deliver when basis acceptable
  & replace with Buy futures or Buy call option

Considerations of your Marketing Plan

- Breakeven price levels
- Cash flow needs: amounts and timing
- Seasonality of price and basis
- Your risk-taking ability
    - Financial
    - Personality
- Storage Considerations
    - Volume
    - Conditioning required

What is “The Basis”?

- Cash Price - Futures Price = Basis
- Basis includes:
  - Freight
  - Elevation, Handling & Administration
  - Cleaning
  - Storage
  - Interest
  - Exchange rate?
  - Company profit

Basis = Cash Price MINUS Futures Price

Example:

Nov. 20 #2 Oats (Manitoba elevator) oat cash price 2.87/bu. Cdn.

MINUS

Nov. 20 CBT Dec Oat futures 3.26/bu. US

= $2.87 MINUS 3.26 = (0.39/bu.)

= spot basis level for that buyer at that location

What about the currency difference?

Basis = Cash Price MINUS Futures Price (same currency)

Example:

Nov. 20 #2 Oats (Manitoba elevator oat cash price)	2.87/bu. Cdn
MINUS	
Nov. 20 CBT Dec Oat futures	3.26/bu. US
Adjustment for US/Cdn currency	1.131
CBT Dec Oat futures	3.69/bu. Cdn

= $2.87 MINUS $3.69 = (0.82/bu)

= spot basis level in Cdn $ for that buyer at that location

VITERRA®

START ONLINE TPA NOW

Prices are subject to change. See pricing note

Viterra Grain Prices | My Locations | Units of Measure | Delivery Method

Select a Crop - Camrose Specialty Oats

★ Oats (2 CW)

Delivery Month	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	
Futures Month	Mar	Mar	Mar	Mar	May	May	Jul	Jul	Dec	
Futures	$3.25	$3.25	$3.25	$3.25	$3.26	$3.26	$3.27	$3.27	$3.22	$
Basis	$-0.98	$-0.87	$-0.32	$-0.32	$-0.32	$-0.32	$-0.21	$-0.21	$-0.21	$-
Net Price	**$2.27**	**$2.38**	**$2.93**	**$2.93**	**$2.94**	**$2.94**	**$3.06**	**$3.06**	**$3.00**	**$**

These prices are to be used as a guideline only. For current prices, please contact your Viterra representative.

Advantages of Following Basis Levels

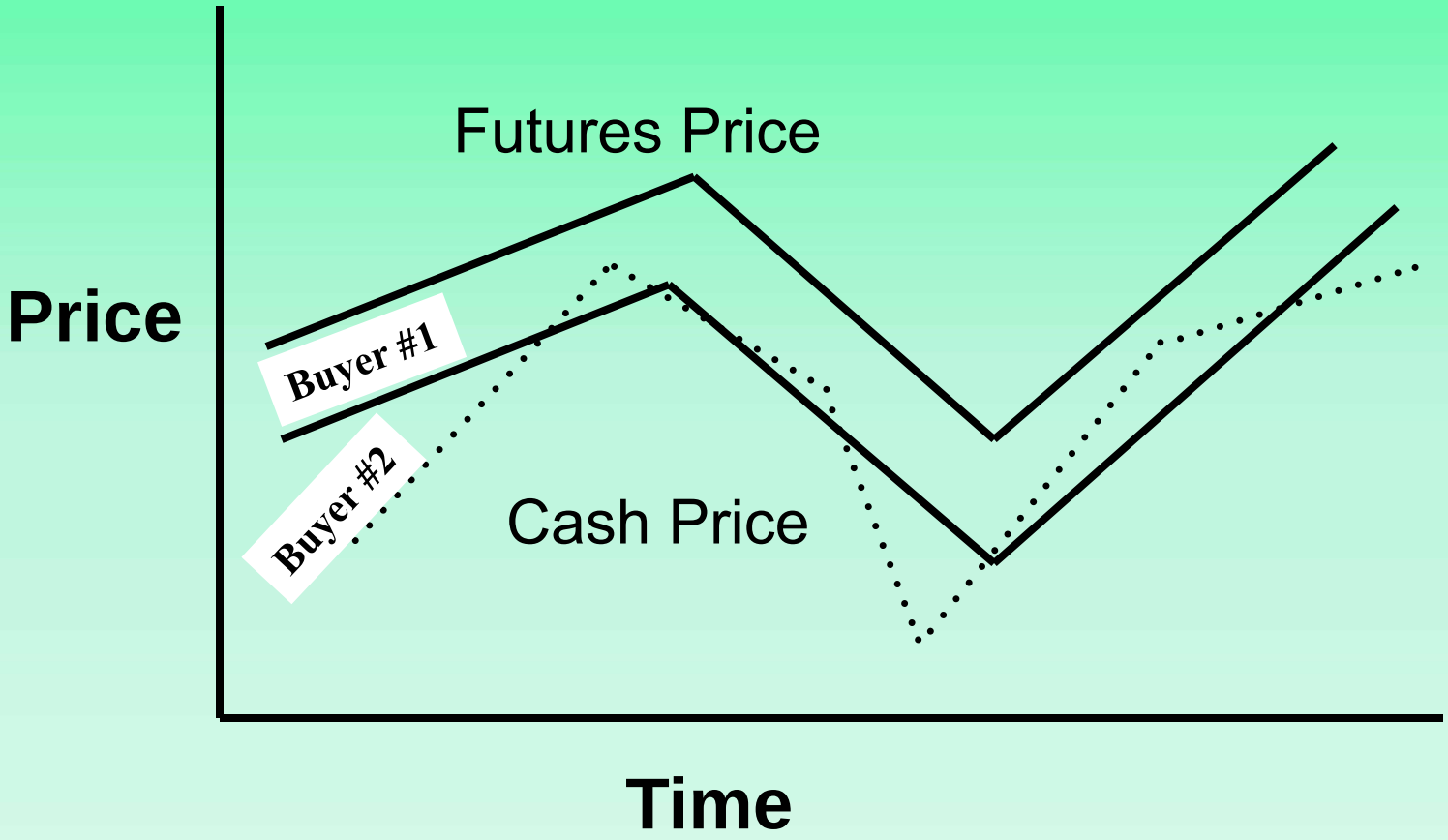
Basis:

- provides market information
- reflects local supply and demand
- change gives commercial demand indication
- can move independently from futures
- can be locked in separately from futures

Futures Hedge

- price insurance to reduce risk of adverse price change
- hedger either has or expects to have “cash” position to offset futures position
- speculator has only cash OR futures position
- hedge is an opposite position on the cash and futures markets

Why Hedging Works



Steps of Futures Hedging (producer)

- set up hedge account with brokerage firm
- arrange to handle margin calls
- costs of production and yield estimates
- follow market information
- set target prices
- open hedge by selling futures contract(s) in month close to expected delivery month
- meet margin calls
- roll hedge if necessary (avoid open position in delivery month)
- deliver and price physical grain … close futures hedge by buying same quantity for same month

January 2015 Canola Futures

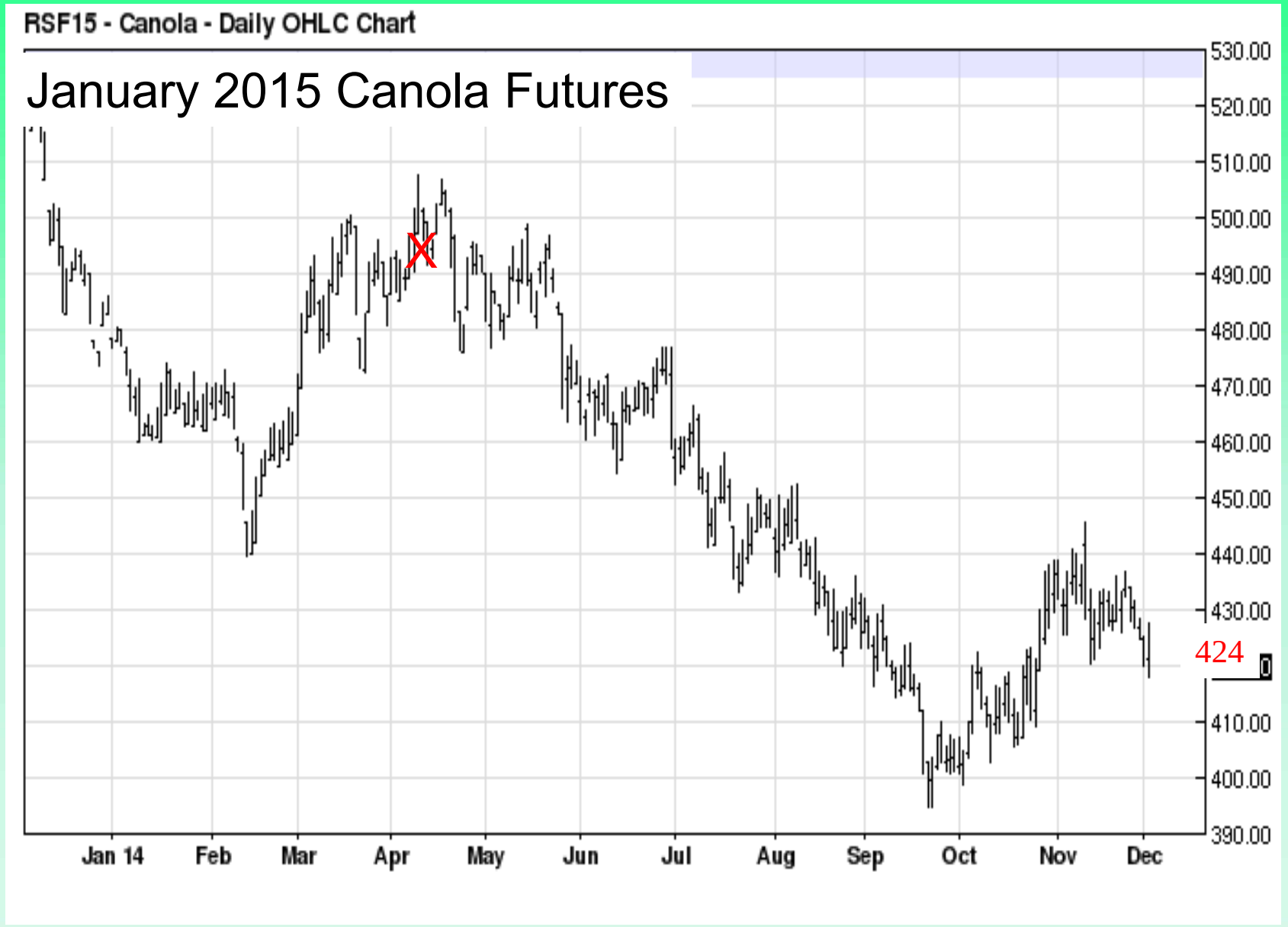
Source: barchart.com

Hedging Worksheet (producer)

(ID risk as: a canola futures price drop)

Commodity Canola

FUTURES		CASH
3. Target Futures	2. Estimate Basis	1.Target Cash Price
April 21, 2014 Sell Jan 2015 Canola @ 494/tonne		
= 494 Cdn.	(20.00)	474
		$10.75/bu.



Source: barchart.com

Hedging Worksheet (close hedge) Ex #1

Commodity Canola

FUTURES		CASH
Date - April 21, 2014 Sold @ $494/t		Target = 474/t
2. Offset futures	3. Calculate Basis	1. Sell canola
December 2, 2014 Buy Jan 2015 Canola @ 424/t	(20)	404

Futures Gain/loss = 494 (April 21) – 424 (now) = +70/tonne

Total Canola Returns = 404 cash price + futures gain 70 = 474/tonne

Note: excludes commission

Hedging Worksheet (producer) Ex #2

Same setup as Example #1

Commodity Canola

FUTURES		CASH
3. Target Futures	2. Estimated Basis	1. Target Cash Price
April 21, 2014 Sell Jan 2015 Canola @ 494/tonne		
= 494 Cdn.	(20.00)	474
		$10.75/bu.

Hedging Worksheet (close hedge) Ex #2

Commodity Canola

FUTURES		CASH
Date - April 21, 2014 Sold @ $494/t		Target = 474/t
2. Offset futures	3. Calculate Basis	1. Sell canola
December 2, 2014 If		
Buy Jan 2015 Canola @ 500/t	(20)	480

Futures Gain/loss = 494 (April 21) – 500 (now) = (6)/tonne

Total Canola Returns = 480 cash price + futures loss (6) = 474/tonne

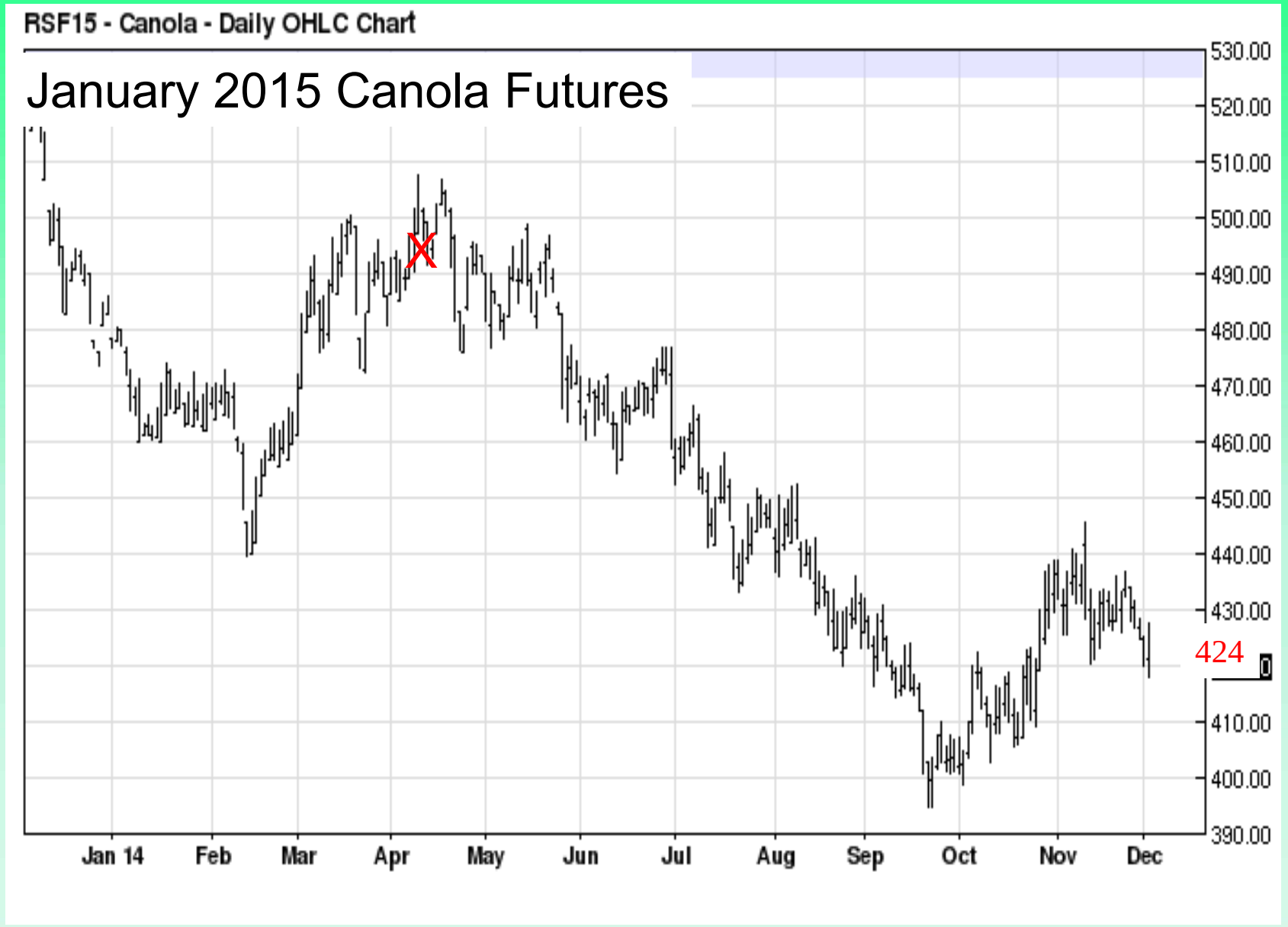
Note: excludes commission

Hedging Worksheet (producer) Ex #3

Same setup as Examples #1 & 2

Commodity Canola

FUTURES			CASH
3. Target Futures		2. Estimated Basis	1. Target Cash Price
April 21, 2014 Sell Jan 2015 Canola @ 494/tonne			
= 494	Cdn.	(20.00)	474
			$10.75/bu.



Source: barchart.com

Hedging Worksheet (close hedge) Ex #3

Commodity Canola

FUTURES		CASH
Date - April 21, 2014 Sold @ $494/t		Target = 474/t
2. Offset futures	3. Calculate Basis	1. Sell canola
December 2, 2014 Buy Jan 2015 Canola @ 424/t	(12)	412

Futures Gain/loss = 494 (April 21) – 424 (now) = +70/tonne

Total Canola Returns = 412 cash price + futures gain 70 = 482/tonne
$10.93/bu.

Note: excludes commission of ~ $1/T.

Futures Hedge

- Locks in futures price
- Could “lift” hedge position at any time
- No obligation to a specific buyer
- Basis risk remains unless also basis contract
- More complex than DDC contract
  (margin, brokerage costs)

A futures hedge is effective at locking in a cash price IF basis at date of sale of physical product is the same or better than the basis estimate when the hedge was entered

Put and Call Options

- Option to buy/sell futures at a certain price

  -but not the obligation to do so

- **Call options** provide the **right to buy futures** at a specified price (sets ceiling price)

- **Put options** provide the **right to sell futures** at a specified price (sets floor price)

- Option purchase does not require margin, just a premium & commission

Alternatives For an Option Buyer

- Sell it as an option
- Exercise it (create a futures position)
- Let it expire worthless

Definitions

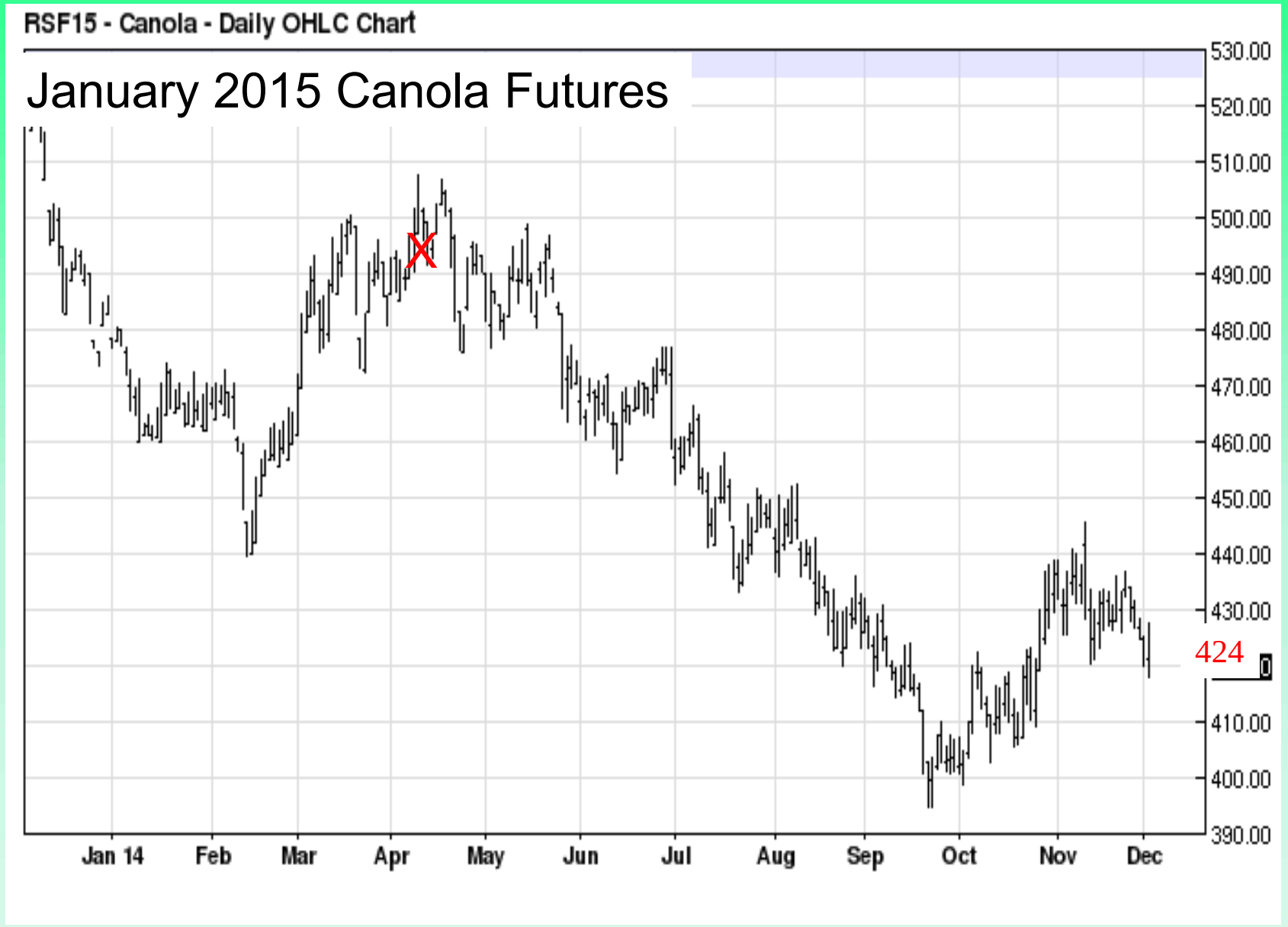
- Underlying – instrument to which the option relates
- Premium – total value of the option
- Strike Price – predetermined price at which the option buyer can enter the market of the underlying instrument
- Expiration Date – the day that the option will cease trading

Definitions

- Intrinsic Value – the amount the option would be worth if exercised (cannot be < 0)
- Time Value – portion of the option premium not due to intrinsic value

Definitions

- In the Money - an option that has intrinsic value
- Out of the Money – an option that has no intrinsic value
- At the Money – the option with a strike price closest to the current underlying price



Source: barchart.com

Canola PUT Option

Example: April 21, 2014

Month January 2015 Strike Price 490 Premium 27/t

Provides minimum futures price of 463/t. net of premium

MINUS brokerage cost ~ .50/tonne
Equals 462.50/tonne

462.50/tonne – estimated Basis of 20/tonne

= estimated minimum cash price of 442.50/tonne

Note: 1. can still benefit from higher prices if available
2. No margin calls!

Option Premium Analysis

Futures Market Price: On April 21, 2014 January 2015 Canola Futures = 494.00

PUT Option Strike Price	Premium =	Intrinsic	+	Time
510	37.00	16.00		21.00
500	31.50	6.00		25.50
490	27.00	0		27.00
480	22.50	0		22.50
470	18.60	0		18.60

PUTS: Strike Price - Futures Price = Intrinsic Value (not less than 0)

Option Premium Analysis

Futures Market Price:_____

CALL Option

Strike Price	Premium	=	Intrinsic	+	Time
_____	_____		_____		
_____	_____		_____		
_____	_____		_____		
_____	_____		_____		
_____	_____		_____		
_____	_____		_____		
_____	_____		_____		

Example Canola Put Option (sale)

Date: December 2, 2014 January futures = 424.00

Sale of January 490 January Put Option: $ 66.00/t.

MINUS Option Cost $ 27.00 /t.

MINUS Commission $ 1.00 /t.

Equals Option **Profit** $ 38.00 /bu.

Dec. 2 canola cash price	=	$ 412.00	Basis (12)
+ net value of 390 PUT option		$ 38.00	
Total Canola Price		$ 451.00	$10.23/bu.

PUT Options Use

- Locks in minimum futures price
- Can still benefit from a price rise
- No margin calls
- No obligation to a specific buyer
- Could exit and recover some premium before expiry

- Basis risk remains unless also basis contract
- Need to use a broker (complication; premium cost)

CALL Options

Buying CALLS:

- Replace priced grain to capture futures upside
- Product user protects from price increase
- Speculate on increasing futures price

Call Option Example: Oats

Date: Dec. 2, 2014 — May 2015 oat futures = $3.10/bu.

Month May Strike Price 3.20 Premium $ 0.13/bu.

PLUS Brokerage $ .015 /bu.

Equals Cost of Call Option $ 0.145/bu.

IF:

Date: January 30, 2015 — May 2015 oat futures = $3.40/bu.

Sale Premium of Option: $ 0.275 /bu. (estimated)

MINUS Brokerage (paid up front) $ /bu.

MINUS Option Cost $ 0.145 /bu.

Equals Option Profit (Loss) $ 0.13 /bu.

Call Option Example: Oats

Date: Dec. 2, 2014 May oat futures = $3.10/bu.

Month May Strike Price 3.20 Premium $ 0.13/bu.

PLUS Brokerage $ .015 /bu.

Equals Cost of Call Option $ 0.145 /bu.

Date: _____

Sale Premium of Option: $_____/bu.

MINUS Brokerage $_____/bu.

MINUS Option Cost $_____/bu.

Equals Option Profit (Loss) $_____/bu.

Advantages of Options

- Options provide some protection against price risk while allowing the hedger to benefit if prices move in a favorable direction (right but not an obligation)
- There is no MARGIN required to buy options … premium paid is the maximum risk
- The cost to buy an option is known by the buyer before the purchase (i.e., cash flow is predictable)

Disadvantages of options

- Options strategies do not normally provide 100 % price risk protection because of Delta

$$\text{Delta} = \frac{\text{change in option premium}}{\text{change in futures price}}$$

- Options have an eroding time value (part of premium)

- Like futures, option trading has broker commission and exchange fees

Grain Marketing Strategy Organizer

Strong Futures
Weak Basis

Avoid Delivery commitment
Sell Futures
Buy Put Option

Strong Futures
Strong Basis

Deliver and Price
DDC – locks both
Basis contract & Sell Futures
or Buy PUTS
Minimum price contract

Weak Futures
Weak Basis

Store if able, set Targets
If need to sell, consider:
replacement strategy:
buy Futures
buy Call option

Weak Futures
Strong Basis

Basis contract/Target Futures
Basis contract/Buy Put options
Deliver, price and consider
replacement strategy:
buy futures
buy Call option

Futures, Options or Contracts - What's Best?

It depends!

Contracts

Advantages:

- lock only basis or both basis & futures
- removes price risk, locking basis and futures
- provides delivery opportunity (when?)

Disadvantages:

- obligation to deliver quantity and quality
- commitment to one buyer
- cannot take advantage of higher prices

Futures Hedge

Advantages:

- locks in a futures price
- easily entered
- could offset and remove hedged position
- no delivery commitment

Disadvantages:

- basis risk remains unless basis contract also
- may be only available in US dollars (exchange rate risk)
- involves complication of brokerage account
- margin calls & commissions

PUT Option Hedge

Advantages:

- locks in a minimum futures price
- can still take advantage of higher price available
- easily entered into
- could exit and recover current premium
- no margin calls

Disadvantages:

- basis risk remains unless basis contract also
- may be only available in US dollars (exchange rate risk)
- involves complication of brokerage account
- cost of premium and commissions

OPTION WRITER

- sells the option to the buyer
- collects premium from buyer
- must be prepared to enter opposite futures position to option buyer
- margin required with short option
- option buyer has the exercise rights

SHORT OPTION POSITION

THREE POSSIBILITIES:

1. Offset with buy order at any time
   (same month and strike price)
   Profit (loss) = Premium difference - commission

2. Option expires worthless
   (Writer keeps premium - commission)

3. Option holder exercises right, creates futures position AND opposite futures position is assigned to option writer

WRITING OPTIONS

- CALL writer must be prepared to enter a SELL futures position if and when the CALL holder decides to exercise
- PUT writer must be prepared to enter a BUY futures position if and when the PUT holder exercises
- Option could be exercised at any time, however, any remaining time value is then lost

Covered CALL Option

- Call writer has a long (buy) futures position
  (or is long the physical product)

- If Call is exercised, Call writer is assigned a Short (sell) futures position, which is offset by the long futures position
  (or creates a sell hedge position against physical)

- Upside price benefit capped at option strike price

Storing Canola?
Not satisfied with the current futures price?

Consider Selling a Call Option

Date: _____ Futures Month & Price_____

Month _____ Strike Price _____ Premium _____

Sale Premium of Option: $_____/T.

MINUS Brokerage $_____/T.

= Option Credit $_____/T.

Storing Canola?
Not satisfied with the current futures price?

Consider Selling a Call Option

Date: Mar. **Futures Month & Price** July $/T.

Month July **Strike Price** 500 **Premium** 8.10/T.

Sale Premium of Option:	**$** 8.10 **/T.**
MINUS Brokerage	**$** 0.50 **/T.**
= Option Credit	**$** 7.60 **/T.**

Oat Hedging Comments

Futures & Options Volume: Oats

Daily Exchange Volume Chart

Oct 23	1,349	242
Oct 24	1,127	280
Oct 27	396	27
Oct 28	879	226
Oct 29	901	61
Oct 30	2,009	156
Oct 31	1,491	81
Nov 03	1,651	70
Nov 04	425	29
Nov 05	916	130
Nov 06	1,420	227

Trading volume concentrated in nearby two months

Source: CME Group

Futures & Options Volume: Oats

DATE	Futures	Options
Nov 07	1,296	17
Nov 10	1,419	50
Nov 11	966	168
Nov 12	830	191
Nov 13	1,373	97
Nov 14	400	251
Nov 17	437	14
Nov 18	1,149	142
Nov 19	1,293	311
Nov 20	622	142
Nov 21	729	37
Nov 24	2,473	261
Nov 25	2,828	424
Nov 26	1,173	39
Nov 27	0	0
Nov 28	503	73

Trading volume concentrated in nearby two months

Source: CME Group

December 1, 2014 Oat Options Trade Report

MAY 15 Puts

Strike	Volume						Exercises	Open Interest	
	Venue Detail				Trade Type Detail				
	Globex	Open Outcry	PNT / Clearport	Total Volume	Block Trades	EOOv		At Close	Change
290	0	0	0	0	0	0	0	20	0
300	30	0	0	30	0	0	0	130	0
310	0	0	0	0	0	0	0	200	0
320	0	0	0	0	0	0	0	50	0
350	0	0	0	0	0	0	0	25	0
TOTALS	30	0	0	30	0	0	0	425	0

Source: CME Group

December 1, 2014 Oat Options Trade Report

JUL 15 Puts

Strike	Volume						Exercises	Open Interest	
	Venue Detail				Trade Type Detail				
	Globex	Open Outcry	PNT / Clearport	Total Volume	Block Trades	EOOv		At Close	Change
300	0	0	0	0	0	0	0	10	0
TOTALS	0	0	0	0	0	0	0	10	0

Source: CME Group

December 1, 2014 Oat Options Trade Report

DEC 15 Calls

Strike	Volume						Exercises	Open Interest	
	Venue Detail				Trade Type Detail				
	Globex	Open Outcry	PNT / Clearport	Total Volume	Block Trades	EOOv		At Close	Change
310	0	0	0	0	0	0	0	30	0
320	0	0	0	0	0	0	0	230	0
330	0	0	0	0	0	0	0	50	0
340	0	0	0	0	0	0	0	30	0
350	0	0	0	0	0	0	0	30	0
TOTALS	0	0	0	0	0	0	0	370	0

Source: CME Group

December 1, 2014 Oat Options Trade Report

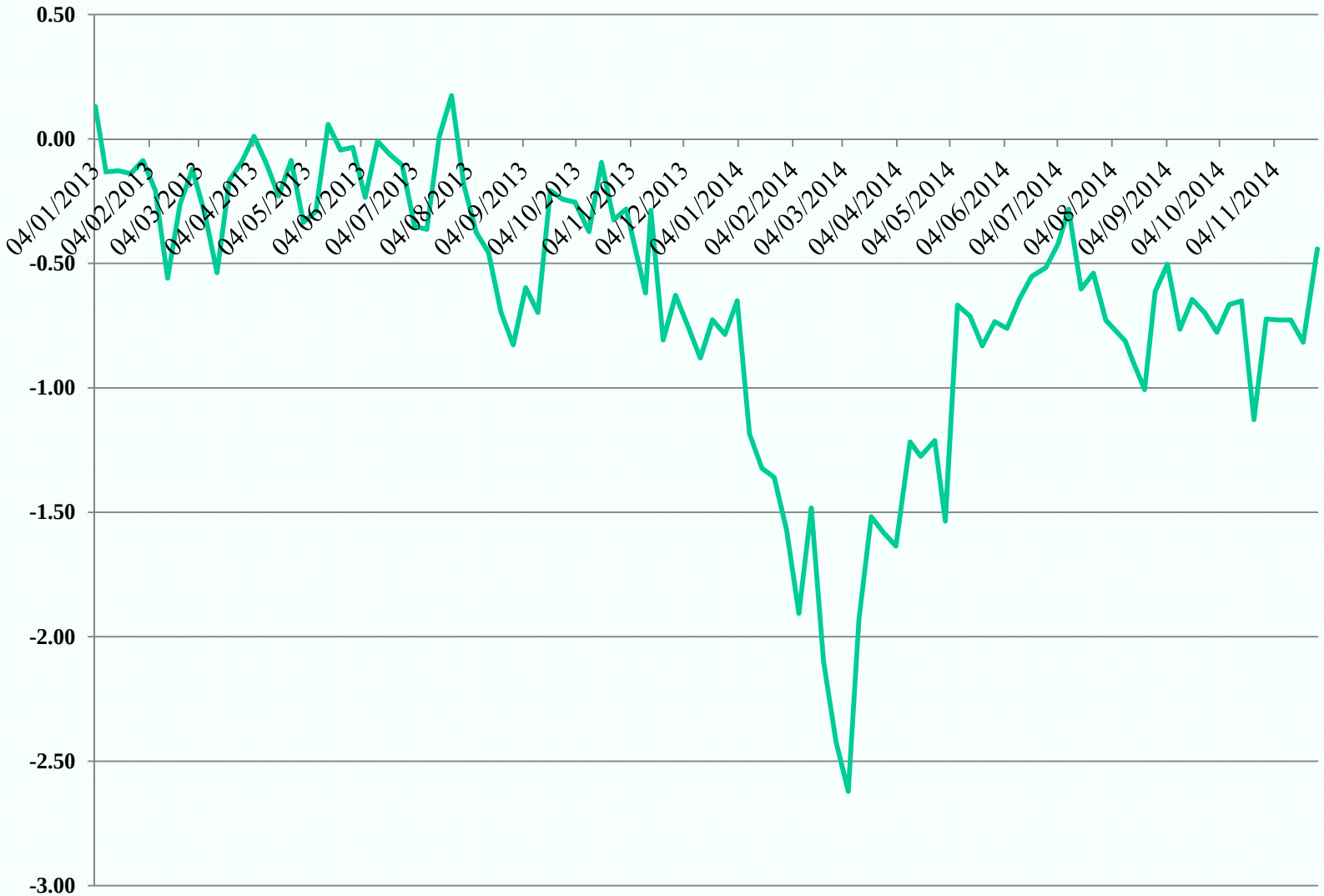
DEC 15 Puts

Strike	Volume						Exercises	Open Interest	
	Venue Detail				Trade Type Detail				
	Globex	Open Outcry	PNT / Clearport	Total Volume	Block Trades	EOOv		At Close	Change
TOTALS	0	0	0	0	0	0	0	0	0

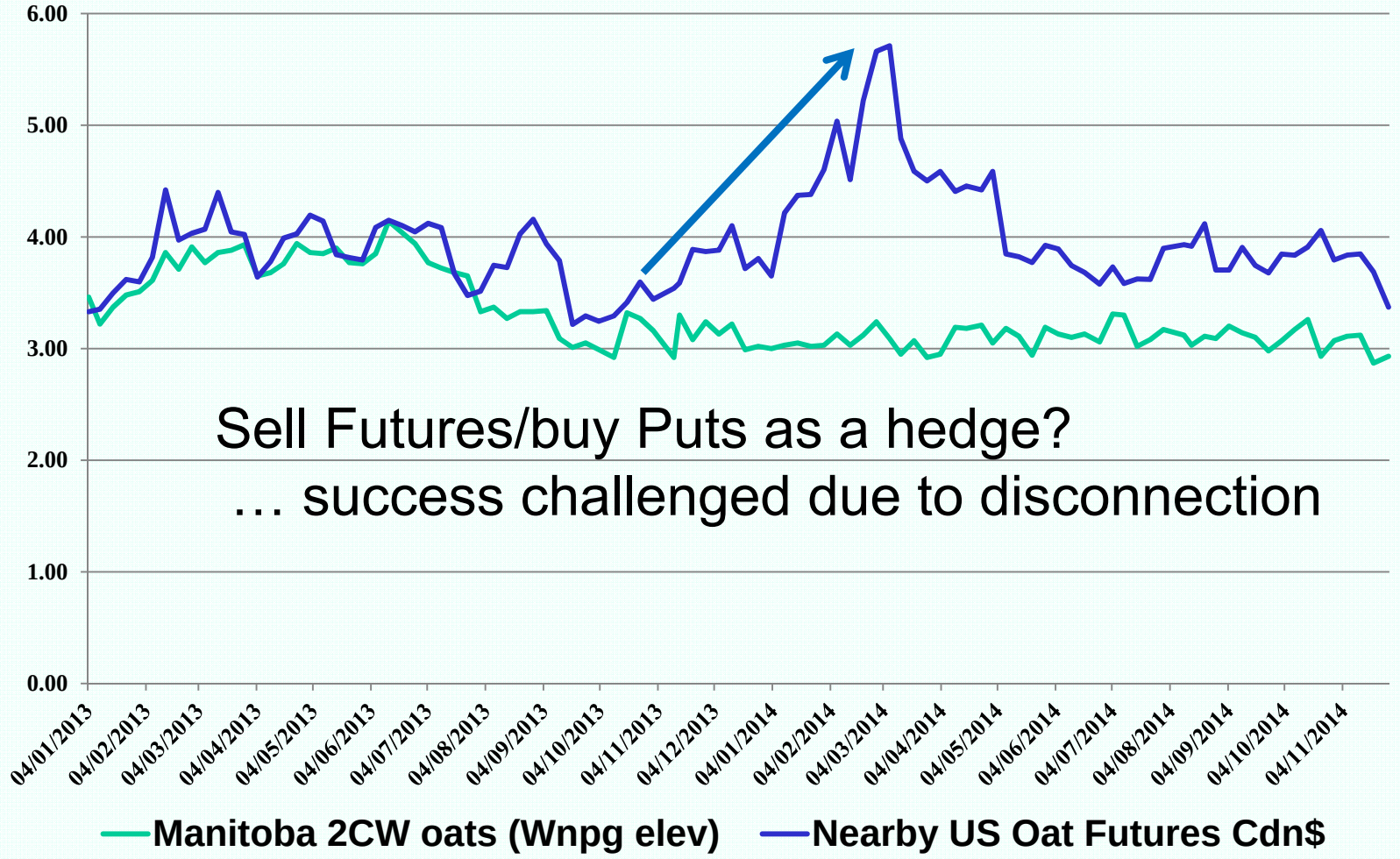
370 open CALL contracts … No open PUTS in Dec 2015

Source: CME Group

#2 Oat Basis Winnipeg area elevator Cdn $



#2 Oats: Cash vs. Futures Winnipeg area elevator Cdn $



Currency Risk Protection Alternatives

1. Cash contract the crop sale in Canadian dollars
2. Currency contract purchased through a bank (pay premium)
3. Buy hedge on currency futures market
4. Purchase “call” option on currency futures (pay premium)
   “call” provides protection from rising dollar after a certain level
5. Do nothing to protect currency risk

Portfolio Approach

- Evaluate your price outlook for each crop produced
- Compare likelihood of price movements and set targets accordingly
- Consider seasonality of price for your different crops

  Example: If you have three crop types in storage and one is offering you profitable prices, this is valuable management information

Grain Marketing Resources

- Grain Marketing Manual → ARD
- CWB, Other Grain company representatives
- Brokers
- Marketing courses
- Subscription Services
- “Learn to do by doing”

Summary

- Price and basis risk remains
- There are ways to reduce risk
  - Different levels of risk tolerance
- Starting point to manage risk is developing a marketing plan.

Questions ?

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Alberta Government

Oat commentary in notes below: Nov 27, 2014

Reference quotes for canola

March 14th:

Nov14 $500 Canola put = $33.00

Nov14 $510 Canola put = $39.30

Nov14 $520 Canola put = $46.40

Jan15 $470 Canola put = $16.90

Jan15 $480 Canola put = $20.80

Jan15 $490 Canola put = $25.50

April 21st: Jan Futures fill@ 494.00

Nov14 $500 Canola put = $33.00

Nov14 $510 Canola put = $39.30

Nov14 $520 Canola put = $46.20

Jan15 $470 Canola put = $18.60

Jan15 $480 Canola put = $22.50

Jan15 $490 Canola put = $27.20