Margin Management Tools For Crop Producers

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Back to the Basics

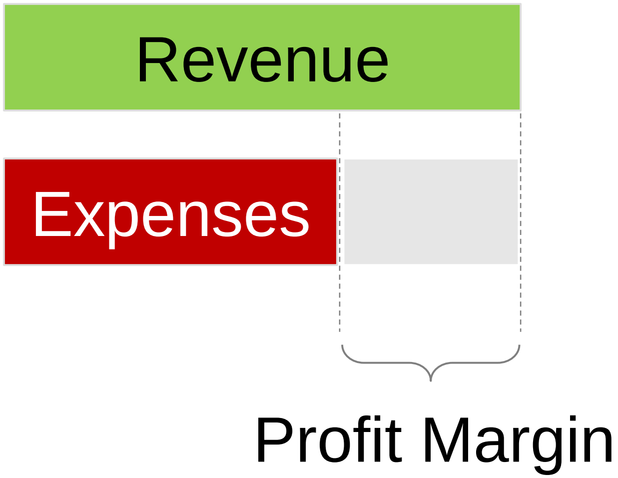
1) Know **YOUR** cost of production
2) Establish profit objectives
3) Execute marketing strategy

Acknowledge the Situation

What is a Margin?

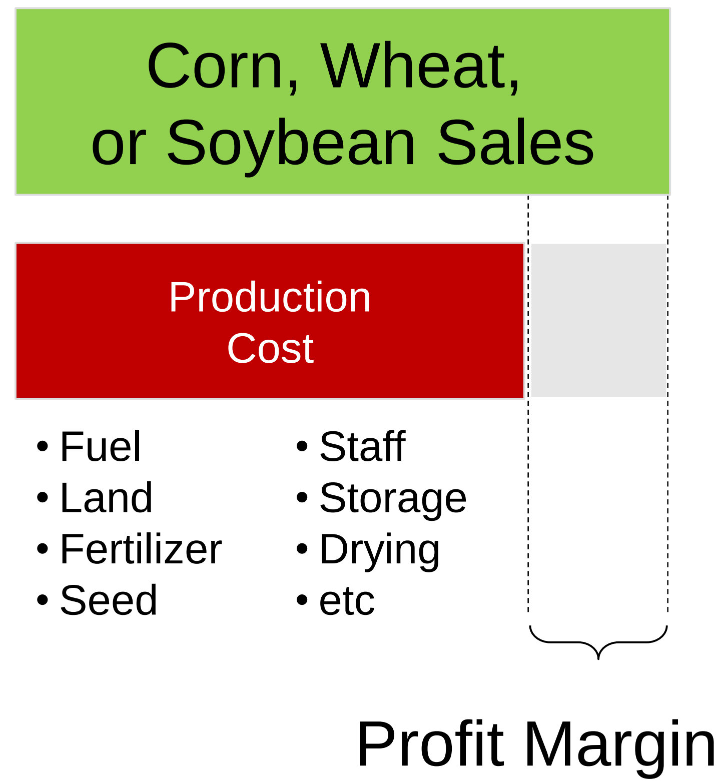
The concept of a profit margin is not new.

Revenues minus expenses equal the profit margin of a business.



Crop Production Margin

- Crop sales are on the revenue side of the equation
- Land, fuel, seed and fertilizer expenses are some of the costs.



Ways to Protect Future Profit Margins

- Utilizing contracting alternatives in the cash market, businesses can help secure both costs and revenue for deferred periods

- They can also use exchange-traded contracts to help control costs on the expense side, as well as revenue on the sales side

Why Protect Future Profit Margins?

- Help your business through the inevitable lean times that are part of any cyclical industry
- Significantly improve profitability
- Assist with planning, budgeting, borrowing discussions with lenders

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Projecting a Forward Profit Margin

The futures market allows a producer to contract around a combination of values for input costs as well as output sales that projects a profit.

Building the Margin Management Tool - 2014

Worksheet - 2014 Corn

Add New Farm Print

Unrealized Net Margin	Midwest Farms 2014	Feb Shipment	June shipment
Current Margin based on Inputs & Position	$(67,605)	$(64,235)	$(55,582)
Max Percent Coverage	45.00%	45.00%	45.00%

Farm Summary — Enabled?			
MidWest Farms 2014 ☑ Acreage	1,000	1,000	1,000
Yield (bu per acre)	200	200	200
Cost/Acre	$863.00	$863.00	$863.00
Insurance Payout/Acre	$0.00	$0.00	$0.00
Total Planted Acreage	1,000	1,000	1,000
Total bu	200,000	200,000	200,000
Total Net Production Cost/bu	$4.315	$4.315	$4.315

Delivery Period			
Projected Delivery Month and Year	October 14	February 15	June 15

Cost of Carry			
Edit — Based on $0.02 per bu per month storage starting Nov 2014. Interest rate per month is 0.375%	$0.000	$0.130	$0.267

Building the Margin Management Tool - 2014

Delivery Period

Projected Delivery Month and Year	October 14	February 15	June 15

Cost of Carry

Edit Based on $0.02 per bu per month storage starting Nov 2014. Interest rate per month is 0.375%	$0.000	$0.130	$0.267

Price Summary

FUTURES	Futures Contract Month & Year	Dec 14	Mar 15	Jul 15
	Futures Price	3.46	3.585	3.7525
CASH	Projected Selling Basis ($/bu)	$-0.300	$-0.250	$-0.200
	Cash Price based on Inputs & Position	$3.977	$4.124	$4.304
COVERAGE	Current Coverage	45.00%	45.00%	45.00%
	Max Coverage	45.00%	45.00%	45.00%

Margin

Open Market Margin	$-1.155	$-1.110	$-1.029
Unrealized Net Margin			
Current Margin based on Inputs & Position	$-0.338	$-0.321	$-0.278
$/acre	$- 67.60	$- 64.23	$- 55.58
Total	$-67,605.00	$-64,235.00	$-55,582.49

What If | Save Worksheet

Building the Margin Management Tool - 2015

Worksheet - 2015 Corn

Add New Farm   Print

Unrealized Net Margin	Midwest Farms	10% yield reduction	10% cost increase
Current Margin based on Inputs & Position	$(130,300)	$(195,460)	$(208,300)
Max Percent Coverage	0.00%	0.00%	0.00%

Farm Summary	Enabled?				
MidWest Farms 2015	☑	Acreage	1,000	1,000	1,000
		Yield (bu per acre)	185	167	185
		Cost/Acre	$800.00	$800.00	$878.00
		Insurance Payout/Acre	$0.00	$0.00	$0.00
		Total Planted Acreage	1,000	1,000	1,000
		Total bu	185,000	167,000	185,000
		Total Net Production Cost/bu	$4.324	$4.790	$4.746

Delivery Period			
Projected Delivery Month and Year	October 15	October 15	October 15

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Building the Margin Management Tool - 2015

Cost of Carry			
Edit Based on $0.02 per bu per month storage starting Oct 2015. Interest rate per month is 0.0333%	$0.000	$0.000	$0.000

Price Summary				
FUTURES	Futures Contract Month & Year	Dec 15	Dec 15	Dec 15
	Futures Price	3.92	3.92	3.92
CASH	Projected Selling Basis ($/bu)	$-0.300	$-0.300	$-0.300
	Cash Price based on Inputs & Position	$3.620	$3.620	$3.620
COVERAGE	Current Coverage	0.00%	0.00%	0.00%
	Max Coverage	0.00%	0.00%	0.00%

Margin			
Open Market Margin	$-0.704	$-1.170	$-1.126
Unrealized Net Margin			
Current Margin based on Inputs & Position	$-0.704	$-1.170	$-1.126
$/acre	$-130.30	$-195.46	$-208.30
Total	$-130,299.99	$-195,459.99	$-208,299.99

What If | Save Worksheet

December CME contract

Indicator Type: Daily Price | Commodity: Corn | Dec

Range or Year: 10 Years | Chart Type: Price History | Select

December Corn Daily Price - 10 years from 2004-10-08 to 2014-10-08

View as Table

Min = 1.8625	Max = 8.3875	Avg = 4.45	Last = 3.395

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November CME contract

Indicator Type: Daily Price | Commodity: Soybeans | Nov
Range or Year: 10 Years | Chart Type: Price History | Select

November Soybeans Daily Price - 10 years from 2004-10-09 to 2014-10-09

View as Table

Min = 5.095	Max = 17.685	Avg = 10.28	Last = 9.4025

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Typical Contracting Progression

Cash

- Spot or Forward contract
- HTA, Basis, GMP

Options

- Buying Puts or Calls
- Put or Call Spreads

Options & Futures

- Long or Short
- Collars, 3 way Spreads

Core Strategies

Strategy Descriptions

Printer Friendly

When the Market is...	Protect Against Higher Prices	Protect Against Lower Prices
Bearish	Buy Call Spread	Sell Futures
	Buy Call	Buy Put & Sell Call
Negative		
	Sell Put	Buy Put
Neutral	Buy Call Spread & Sell Put	Buy Put Spread & Sell Call
	Buy Call	Sell Call
Friendly		
	Buy Call & Sell Put	Buy Put
Bullish	Buy Futures	Buy Put Spread

Corn Marketing Strategies

2014 & 2015 unsold corn production

Z14 @ $3.50/ H15 @ $3.60

(2014 Breakeven = $4.31)

Z15 @ $3.95

(2015 Breakeven = $4.30-$4.80)

Core Short Strategies

Protect Against
Lower Prices

Long Put

Long Put

Futures Price	$3.00	$3.50	$4.00	$4.50	$5.00	$5.50	$6.00
Buy 4.50 PUT for $0.35	+1.15	+0.65	+0.15	-0.35	-0.35	-0.35	-0.35
Your Price	**$4.15**	**$4.15**	**$4.15**	**$4.15**	**$4.65**	**$5.15**	**$5.65**

1. Sets a Minimum Sales Price
2. Used to Retain Flexibility for Higher Prices
3. Fixed Premium, No Maintenance Margin Requirement

Long Put Strategy Features

Margin Requirement: ***No, pay premium***

Advantages:

- ***Minimum futures price is established***
- Higher futures price may improve your selling price
- Flexible, offset at any time and receive the remaining value
- Maximum flexibility for adjustments to both higher and lower prices

Disadvantages:

- Premium paid in full at time of purchase. Can be substantial for ATM or ITM put option
- ***Most expensive option strategy alternative***

When To Apply:

- If downside risk is undefined or hard to define
- If flexibility to participate in all higher prices is necessary
- ***If capital constraints require maximum pre-defined margin exposure***
- If low implied volatility environment historically and/or seasonally

Potential Adjustments:

- <u>In a rising market,</u> roll put up to a higher strike price, and or sell higher strike call against position to capture benefit from increase in price
- <u>In a falling market,</u> roll put down to a lower strike, and/or sell lower strike put against position to help offset initial cost by creating a credit

Core Short Strategies

Protect Against
Lower Prices

Long Put Spread

Long Put Spread

Futures Price	$3.00	$3.50	$4.00	$4.50	$5.00	$5.50	$6.00
Buy 4.50 PUT for $0.35	+1.15	+0.65	+0.15	-0.35	-0.35	-0.35	-0.35
Sell 3.50 PUT for $0.10	-0.40	+0.10	+0.10	+0.10	+0.10	+0.10	+0.10
Your Price	**$3.75**	**$4.25**	**$4.25**	**$4.25**	**$4.75**	**$5.25**	**$5.75**

1. Establishes a Range of Protection to Lower Prices
2. Used to Retain Flexibility for Higher Prices
3. Fixed Premium, No Maintenance Margin Requirement

Long Put Spread Strategy Features

Margin Requirement:	***No, pay the difference in premiums***
Advantages:	• Establishes a *Range of Protection* from lower prices • ***Cost is reduced by selling lower strike put*** • Higher futures price may improve your selling price • Flexible, offset at any time and receive the remaining value
Disadvantages:	• Premium paid in full at time of purchase • ***Protection is limited to the lower put strike plus the cost*** • Offsetting before expiration will change the cost & P/L (advantage in higher market, disadvantage in lower market)
When to Apply:	• If market outlook is bullish • If unlimited protection to lower prices is not necessary or if downside risk can be better defined or measured • If flexibility is needed to participate in all higher prices • ***If capital constraints require maximum pre-defined margin exposure*** • As an adjustment to a short future, long put or short collar position after a drop in price • If in a neutral implied volatility environment
Potential Adjustments:	• <u>In a rising market,</u> buy back short put option to capture decay in premium, roll up long put to capture increase in price and/or sell call option to create credit to help offset initial cost • <u>In a falling market,</u> roll down short put to a lower strike price to extend range of protection, roll down long put to capture gain from drop in price and/or sell call option to create credit or help offset cost

Core Short Strategies

Protect Against
Lower Prices

Short (Bearish) 3-Way

Typical Contracting Progression

Cash

- Spot or Forward contract
- HTA, Basis, GMP

Options

- Buying Puts or Calls
- Put or Call Spreads

Options & Futures

- Long or Short
- Collars, 3 way Spreads

Long Put Spread & Short Call (Bearish 3-Way)

Futures Price	$3.00	$3.50	$4.00	$4.50	$5.00	$5.50	$6.00
Buy 4.50 PUT for $0.35	+1.15	+0.65	+0.15	-0.35	-0.35	-0.35	-0.35
Sell 3.50 PUT for $0.10	-0.40	+0.10	+0.10	+0.10	+0.10	+0.10	+0.10
Sell 5.50 CALL for $0.16	+0.16	+0.16	+0.16	+0.16	+0.16	+0.16	-0.34
Your Price	**$3.91**	**$4.41**	**$4.41**	**$4.41**	**$4.91**	**$5.41**	**$5.41**

1. Range of Protection with a Maximum Price Feature
2. Used to Retain Flexibility and Minimize Cost
3. Performance Bond Requirement

Short (Bear) 3-Way Strategy Features

Margin Requirement:

Yes, pay premium difference in premiums and post variable margin on the call similar to futures in a rising market

Advantages:

- Establishes a *Range of Protection* from lower prices
- Some benefit to higher prices
- ***Cost is reduced by selling both call & put***
- Flexible, offset at any time
- Least expensive option strategy alternative

Disadvantages:

- ***Limited benefit from higher futures price (to call's strike price)***
- ***Protection limited to the lower put strike plus the net cost***
- Offsetting before expiration will change the cost & P/L (disadvantage in both a lower and higher market)

When to Apply:

- If market outlook is neutral or perceived risk to lower and higher prices is balanced
- ***If minimum cost in strategy selection is a priority***
- If unlimited protection from lower prices is unnecessary AND potential short futures position above the market is acceptable
- In a high volatility environment historically and/or seasonally

Potential Adjustments:

- <u>In a rising market,</u> buy back short put option to capture decay in premium, roll up short call option to extend opportunity to participate in higher prices, and/or roll up long put option to capture benefit from increase in price
- <u>In a falling market,</u> buy back short call option to capture decay in premium, roll down short put option to extend range of protection to lower prices and/or roll down long put option to capture gain from drop in price

Best Practices & Notes

- Remove Short Option Positions that have decayed more than 80% of the initial premium sold – particularly when there is still is a lot of time left ahead of expiration.

- Roll Long Call (Put) Positions Up (Down) when it is possible to capture more than 80% of the range between strike prices that the market has moved by. This will help turn long option positions that were initially costs into eventual credits.

- Evaluate Positions from the perspective of current market prices, not from price levels in which the position was initiated.

- Weigh the cost/benefit analysis of adjusting positions and try to minimize adjustments.

- When buying an at-the-money (ATM) Call Spread or Put Spread, expect to pay 30%-40% of the range being purchased. Costs below (above) these levels would be considered cheap (expensive).

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