



# Develop a Grain Marketing Plan

## A Proactive Strategy.....

Materials developed jointly by the Idaho Barley Commission (Cori Wittman and Kelly Olson) and University of Idaho Department of Agricultural Economics and Rural Sociology (Paul Patterson and Larry Makus), Dec. 2004. Price examples may be outdated but exercises are still relevant. **Grain Market Fundamentals Outlook was revised March 2010.**

### Why PLAN?

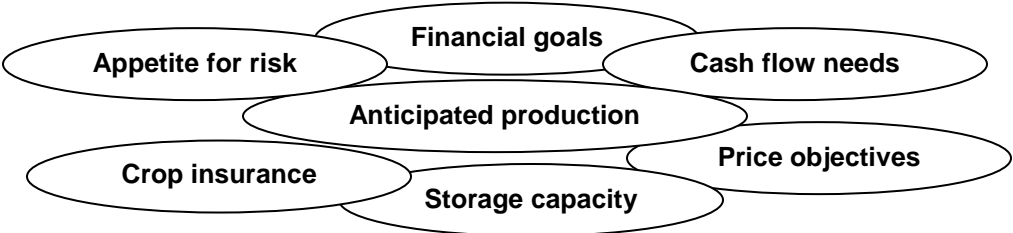
Planning helps manage risk associated with uncertainty.

### The importance of WRITING DOWN a marketing plan

Having a written plan increases the discipline used to follow the written strategy. It also provides a way in which producers may assess the logic, accuracy, and effectiveness of marketing decisions at the year's end.

### Factors to consider

Throughout the development of a marketing plan, the following factors must be considered:



A marketing plan works only if it fits *your* operation, *your* goals, *your* objectives, and *your* financial situation.

## Elements of Market Plan Development

- I. Know your Cost of Production
- II. Understand the Market
- III. Understand Marketing Alternatives
- IV. Develop Market Price and Date Objectives
- V. Test the Plan
- VI. Evaluate Plan Effectiveness

## I. **Know your Cost of Production**

---

### ***What is cost of production (COP) and how is it calculated?***

Cost of production can be calculated in several ways, depending on the intended use. The basis of cost of production is normally the crop enterprise, although other enterprise designations are possible. Cost of production can and should be calculated on a per acre basis when you wish to make a comparison among alternative crops. Use the gross margins analysis to rank the alternatives, where  $\text{Gross Margin} = \text{Gross Revenue (per acre)} - \text{minus operating costs (per acre)}$ .

For marketing purposes, however, you need to look at production costs on per unit of production basis, i.e. bushels or hundredweight. Again, there are several alternatives. First, the calculation can be done on a whole-farm basis. Simply take the total cost of producing a commodity and divide by the actual or expected yield. For planning purposes using actual production history is recommended. The downside to this approach is that it assumes that cost of production is equal across the farm. A second and the preferred alternative is to calculate cost of production for each field or groups of similar fields if your record keeping system allows for this. This is particularly important in looking at cost of production on owned vs. leased ground. If production costs are significantly higher on some rental property, perhaps it's time to renegotiate the lease.

**Costs can be categorized a number of different ways.** First, there are operating costs. These vary directly with production and include such things as seed, fertilizer, fuel, etc. These inputs are used up during the year and are generally cash expenses. Other inputs, such as tractors and equipment, last for several years and these must be allocated to different enterprises in a way that reflects their change in value (depreciation) over time. For calculating cost of production, management depreciation that uses the expected years of useful life rather than the tax life, is preferred. The type of record system that you use will influence how easy or difficult it is to get this information. These costs need to be allocated to different enterprises based on use.

Another complicating factor in calculating cost of productions is how to handle other sources of revenue. For example, wheat and barley produce straw in addition to grain, which also can be sold. To know the cost of production for grain independent of the straw price, initially ignore the cost of harvesting straw as well as the revenue. Next, subtract the gross margin for straw from the total per acre costs of wheat or barley and recalculate the cost per bushel or per hundredweight. The other potential source of revenue is from the government farm program. Just as with straw, initially calculate the cost per unit of production without including government program payments. This is an important number as it tells you what the market would need to provide in the absence of the farm program. Next, subtract the expected or actual farm program payments from the total farm or per acre cost of production, including the direct decoupled payment, loan deficiency payment (LDP), and the counter cyclical payment.

Wheat production costs and wheat bushels can be for the entire farm, one field, or a group of similar fields. Production costs and wheat bushels can be either projected, using historical farm data, or actual values for a given year.

### ***How do I calculate my Cost of Production?***

- A. Use the University of Idaho's Crop Enterprise Budget Worksheet (CEBW) Program**
  - i. See Appendix II
- B. Use Alternative Methods**
  - i. Develop your own or use a previously set up Excel spreadsheet
  - ii. Use commercial agricultural software (such as Farm Works program)



**ACTION POINT**

***Calculate your Cost of Production***

***Soft White Winter Wheat***  
SWW COP \_\_\_\_\_

***Hard Red Spring Wheat***  
HRW COP \_\_\_\_\_

***Barley***  
Barley COP \_\_\_\_\_

## II. Understanding the Market

---

### ***Why do I need to know about markets?***

Understanding market activity is essential in making informed marketing decisions, knowing when to buy or sell and capturing opportunities to capitalize on market fluctuations.

### ***What types of market information should I pay attention to?***

1. US and World Production/Supply
  - Beginning stocks
  - New crop production potential
  - Weather/growing conditions
2. US and World Consumption / Trade
  - Domestic consumption projection
  - Import / export activity
  - Transportation logistics
  - Market constraints (import barriers, tariffs, preferential access)
  - World political and economic factors, currency value fluctuations, population growth rates
3. US and World Ending Stocks
  - Carryover projections
  - Stocks-to-Use projections

### ***How can you predict where market prices (cash and futures) are going?***

No one can predict prices with absolute certainty. After all, one of the primary functions of these markets is “price discovery.” But there is plenty of information available regarding both market fundamentals and technical information (much of it at little or no cost) to help you determine appropriate prices to buy and sell.

### ***What are Market Fundamentals and Technicals?***

For cash markets, prices are mainly driven by fundamentals and for futures it is a combination of fundamental and technical signals. Both are explained below.

## **Grain Market Fundamentals**

### ***What are they?***

Market fundamentals involve a combination of supply and demand factors that are constantly changing. Numerous government and private forecasts and analyses are available to help you track these changes...

- Weather / natural disasters that can drastically cut production in major production areas
- Crop harvests / final quantities, quality and timing
- Transportation logistics
- World politics / population growth rates / economic prosperity will all determine consumers' purchasing power
- Currency values
- Consumer preferences / consumption patterns change with price, time, technology
- Changes in government farm programs and payments

## Global Grain Market Outlook, March 2011

- World barley production down 17% to the lowest level in 40 years (U.S. crop down 21%), usage down 4% (U.S. down 3%) and carryover down 40% (U.S. down 21%). Malting barley crops were significantly smaller in the EU, Canada, U.S. and Australia compared to last year's bumper crops, helping to draw down large malt inventories in the face of lackluster beer demand.
- World wheat production down 5% (U.S. crop down slightly), usage up 2% (U.S. up 3%) and carryover down 8% (U.S. down 14%).
- World corn production up slightly (U.S. crop down 5%), usage up 2% (U.S. up 4%) and carryover down 15% (U.S. down 60%).

### Key Drivers -

- **U.S. beer demand remains stagnant** (down more than 2% in 2010).
- **Australian wheat crop finished poorly, resulting in smaller milling stocks, larger share of exports from U.S. during 2<sup>nd</sup> half of the year and increased competition from feed wheat.**
- **U.S. winter wheat acres up 10%, but in generally poor condition.**
- **How much corn will China need to import this year to meet its expanding livestock feed demand?** Many analysts believe China will need to import several million metric tons of corn before the end of the marketing year to refill strategic reserves.
- **Outside market influences** – investment money flow, value of the dollar and crude oil will continue to strongly influence market direction.

MY 2011 U.S. Grain Supply & Demand, USDA, March 10, 2011 (million bu)						
	BARLEY		CORN		WHEAT	
	2009-10	2010-11	2009-10	2010-11	2009-10	2010-11
Harvested Acres (mln)	3.1	2.5	79.5	81.4	49.9	47.6
Carryin	89	115	1,673	1,708	657	976
Production	227	180	13,092	12,447	2,218	2,208
Imports	17	10	8	20	119	110
Total Supply	333	306	14,774	14,175	2,993	3,294
Food, seed & industrial	164	160	5,939	6,350	986	1,006
Ethanol			4,568	4,950		
Feed	48	45	5,140	5,200	150	170
Exports	6	8	1,987	1,950	881	1,275
Total usage	217	213	13,066	13,500	2,018	2,451
End stocks	115	93	1,708	675	976	843
Stocks to use	53%	44%	13%	5%	48%	34%

<b>World Grain Supply &amp; Demand USDA, March 10, 2011 (million metric tons, MMT)</b>						
	<b>BARLEY</b>		<b>CORN</b>		<b>WHEAT</b>	
	<b>2009-10</b>	<b>2010-11</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2009-10</b>	<b>2010-11</b>
<b>Carryin</b>	31.0	36.5	147.8	144.5	167.2	197.3
<b>Production</b>	149.6	124.2	812.4	813.8	682.6	647.6
<b>Total Supply</b>	180.6	160.7	960.2	958.3	849.8	844.9
<b>Export trade</b>	17.3	16.0	93.2	92.1	134.2	124.3
<b>Total Usage</b>	144.2	138.5	815.7	835.2	652.5	663.0
<b>Carryout</b>	36.5	22.1	144.5	123.1	197.3	181.9
<b>Stocks / Use</b>	25.3%	15.9%	17.7%	14.7%	30.2%	27.4%



### **ACTION POINT** **fundamentals?**

### ***What do you know about current market***

1. What affect is the weather having on production in the US Grain Belt? Have there been any natural disasters? Will this cause prices to be bearish or bullish?
2. How does the approaching harvest look? Will it be on time? Will the grain be of high quality?
3. Is anything happening in the transportation industry that may affect prices?
4. Is the economy healthy? How are world politics, etc. affecting consumer purchasing power?
5. How are consumer preferences influencing prices?
6. Has the value of the US dollar changed recently? What if anything is the likely affect?

### **Grain Futures Technicals**

Speculative traders (funds and other investors) typically will take futures positions based on a combination of technical trends and fundamentals, although technicals will be the dominant feature.

### ***What are technical charts?***

Technical charts are graphical presentations of futures market trend data and statistics that are readily available from various computer programs. These technical trading charts will track price trends and identify buy and sell signals based on moving averages of closing futures prices. Technical charts support the old adage, "one picture is worth a thousand words."

Some chart sources: [www.ino.com](http://www.ino.com) or [www.tfc-charts.wad.com](http://www.tfc-charts.wad.com)

Grain producers who use futures should consider using both fundamentals and technical charts / moving averages to guide your hedging program. Moving averages will be most useful in helping you pull the trigger on taking a futures position.

#### **A useful rule of thumb:**

- 2 consecutive closes below an uptrend line would trigger a sell.
- 2 consecutive closes below a downtrend line would trigger a buy.

## How might I use Technical Charts?

### Take advantage of Entry and Exit Strategies

- Goal should be to catch a big part of any upward price move (up trend) and get out with decent profit before market turns against you.
- Trade with the trend, not against it.
- Great perils in trying to pick market tops and bottoms.
- Don't enter any trade without a well thought-out exit plan – can be modified in a break-out market.
- Minor corrections within a trend usually offer good entry points.
- Entry and exit points should be based on pre-determined support and resistance price levels, as identified in the technical chart trend lines.

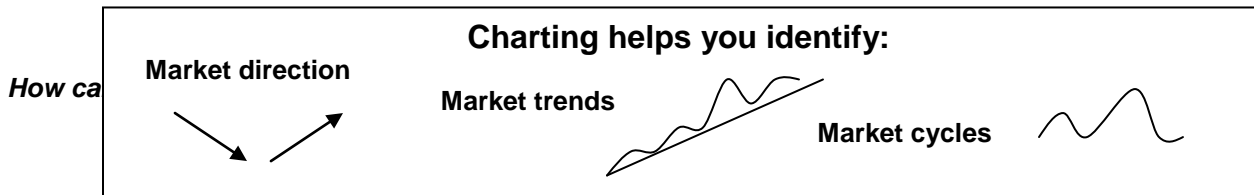
### Take advantage of Seasonal Trading Patterns

**Corn** seasonality can be divided into three time periods –

- Late spring to midsummer - prices trend higher as existing pipeline supplies tighten and uncertainties with new crop (may be highest in July if pollination is hurt by high temps).
- Midsummer through harvest – most pronounced seasonal trend is downward as new supplies weigh on market.
- Post harvest – prices usually rise as demand becomes dominant feature as cooler temperatures require more animal feeding, but a “February break” lower is a common trend.

**Wheat** has two seasonal pricing patterns –

- Post harvest to early winter -- prices rise as supplies are largely known and interest shifts to the demand side.
- Late winter into mid point of harvest (July) – prices decline.



### ***MOST IMPORTANTLY.... What do I do with this information?***

Using current and historical information about the market can help you to develop price expectations for the marketing year.

- Estimate a realistic average price for your crop by predicting future market behavior
- Benchmark for comparison

US Average Farm Price Received Database

<http://www.farmdoc.uiuc.edu/marketing/index.html>

Idaho Crop and Livestock Long Range Planning Prices

<http://www.ag.uidaho.edu/AERS>, click on Resources, then Crops

**ACTION POINT*****Estimate a realistic average price.***

Based on information gathered regarding market fundamentals, historical price trends, and seasonal price fluctuations, estimate a range of prices you may expect to receive for each crop in the given periods.

	<b>SWW</b>	<b>HRS</b>	<b>Barley</b>	<b>Other</b>
<b>Pre-harvest (APR-MAY)</b>				
<b>Post-harvest (OCT-NOV)</b>				
<b>FEB</b>				

EXAMPLE using real world prices from 2002-03

	<b>SWW</b>	<b>HRS</b>	<b>Barley</b>	<b>Other</b>
<b>Pre-harvest (APR-MAY)</b>				
<b>Post-harvest (OCT-NOV)</b>				
<b>FEB</b>				

### III. **Understanding Market Alternatives**

---

***Why do I need to understand market alternatives?***

The objective in understanding and analyzing marketing alternatives is to find the alternative with the **highest net return**, the **capacity to reduce income variability**, and an **acceptable level of risk**.

Alternative methods are formed through combinations of **when** and **how** you market

- **When** – planting, pre-harvest, harvest, or post-harvest
- **How** – cash sale, deferred pricing, forward contract, basis contract, hedging with futures or options

***Marketing methods discussed in this section:***

1. Cash sale at harvest
2. Store for later sale
3. Delayed pricing contract
4. Forward contract
5. Hedging with futures
6. Basis contract
7. Hedging with options

Each section will discuss advantages and disadvantages of the marketing method, give insight as to when the method is most effective, offer real-life scenarios and give you the opportunity to personalize the method with your own farm example.

## 1. CASH SALE AT HARVEST

**Grain is delivered and sold for cash at harvest in convenient market.**

### Advantages

- No costs or inconvenience of storage
- No accumulating interest costs
- Easily understood
- Price is known immediately
- No shrink or deterioration

### Disadvantages

- Shortens marketing window
- Harvest price is often lowest
- Eliminates other cash-based alternatives
- Congestion at elevators

### When to Use

- When prices are favorable and at levels anticipated in the marketing plan

**SCENARIO 1:** Harvest 30,000 bu of SWW and deliver to local elevator. Settle immediately (August 10) at posted price of \$3.35/bu (after any applicable discounts). Settlement was \$100,500.



### **ACTION POINT**

***When and how would you use this on your farm?***

## 2. STORE FOR LATER SALE

**Grain is placed in on-farm or commercial storage and sold at a later time determined by the grower.**

### Advantages

- Extends pricing decision window
- Increases flexibility with on-farm storage or increases delivery convenience with commercial storage
- Return on storage if price rises

### Disadvantages

- Quality may deteriorate
- Decreased delivery flexibility if stored commercially
- Increased storage and interest costs
- Risk of adverse price change during storage

### When to use

- When prices are below the level anticipated in the marketing plan, assuming the producer has adequate financial resources
- When there is a realistic expectation of a market price increase

**SCENARIO 1:** Harvest 30,000 bu SWW and deliver to local elevator for later sale (agreed to sell on Oct. 15). Posted price at harvest (Aug 10) was \$3.35/bu. Storage cost \$.025/bu/month, with 20 day free storage). Price on October 15 was \$3.50/bu. Settlement was \$103,500 (\$105,000 minus storage costs).



### **ACTION POINT**

***When and how would you use this on your farm?***

### **3. DELAYED PRICING CONTRACT**

**Grain is delivered to a commercial elevator and title passes to the elevator but the price is to be determined in the future. Price is tied to local posted bid or a terminal market bid. Another option is delayed payment, where price is set at delivery but payment is taken at later date.**

#### Advantages

- Extends pricing decision window
- Gain when prices rise
- May eliminate or reduce commercial storage fees (title usually passes to elevator upon delivery)
- Possible advance payment
- Convenient contract quantities

#### Disadvantages

- Interest cost and storage fees
- Unsecured creditor in bankruptcy
- Risk of adverse price or basis change until grain is priced
- Potential repayment of part of the advance if price drops

#### When to use

- When storage is tight
- When unsatisfied with current prices and local elevator wants to move more grain into the marketing channel

**SCENARIO 1:** Harvest 30,000 bu SWW and deliver to local elevator for later pricing (agreed to price in mid April when wheat prices show seasonal strength). Posted price at harvest (Aug 10) was \$3.35/bu. Price on April 15 was \$3.92/bu. Settlement was \$117,600.



### **ACTION POINT**

***When and how would you use this on your farm?***

#### 4. FORWARD CONTRACT

**Grower agrees to deliver a specified quantity and quality of grain to the buyer, at a designated place and date, and at a pre-determined price.**

##### Advantages

- Contract quantity can be small allowing for 'spreading' sales throughout the season.
- Easy to initiate and little or no costs to sign a contract
- Eliminates risk of adverse price or basis change
- Extends pricing decision window

##### Disadvantages

- Guarantees a fixed price, no gain if price raises or basis strengthens
- Increases production risk as delivery is an obligation
- Reduces flexibility when market conditions change

##### When to use

- To schedule deliveries that better fit with labor, grain quality and logistics
- When crops are large or storage is tight
- When the market price reaches the objective in the marketing plan
- If price and basis are both considered acceptable

**SCENARIO 1:** Contract to deliver 30,000 bu of SWW to local elevator for established price of \$3.50/bu. Settle immediately upon delivery (August 10) at net price of \$3.45/bu (contract \$3.50 minus quality discounts). Settlement was \$103,500.



#### **ACTION POINT**

***When and how would you use this on your farm?***

#### 5. HEDGING WITH FUTURES

**Using a futures contract as a temporary substitute for an intended transaction in the cash market that will occur at a later date.**

##### Advantages

- Extends pricing decision window
- Risk of adverse price change is eliminated
- Easy to reverse position
- Basis is more predictable than price

##### Disadvantages

- Risk of adverse basis change
- Margin requirements increase interest costs and may cause cash flow problems
- Contracts only offered in fixed increments
- Requires knowledge of futures and basis
- Eliminates gain from rising cash price

##### When to use

- To protect the value of grain in inventory or the value of expected production
- To help reduce downside price risk

➤ *When price is acceptable and basis is unacceptable??? And hope basis improves*

**SCENARIO 1:**

Date: Mid January  
 Expected production: 30,000 bu of wheat in August  
 Sell date: Approximately 15-Aug  
 Appropriate futures contract month is Sep

Evaluate expected hedge price using CBOT Sep futures contract:

$$\begin{aligned}
 \text{Sep futures price} &= \$3.35/\text{bu} \\
 + \text{ expected local basis} &= (\$.10) \\
 \hline
 \text{- cost of hedging} &= \underline{\$.02} \\
 \hline
 \text{= expected hedge price} &= \$3.23 \text{ cents}
 \end{aligned}$$

Compare hedge to other alternatives

- Cash forward contract
- Price with options
- Don't price

Decision price with hedge:

- Quantity to hedge: 67% of production (~20,000 bu)
- Number of contracts: four (20,000/5,000)
- Sell four Sep contracts at \$3.35
- Expected hedge price = \$3.23/bu

**Situation A – Aug 15**

Market Activity: Local price increases to \$3.50/bu  
 Basis holds at (\$.10)

**Jan 15**

Sep futures price \$ 3.35 bu.  
 Local basis (\$.10)

**Aug 15**

Local cash price \$3.50 bu.  
 Local basis (\$.10)  
 Sep futures price \$3.60 bu.

Date	Cash Market	Futures Market	Basis
Jan 15		Sell 20,000 bu Sep04 futures @ \$ <u>3.35</u>	(\$.10)
August 15 <sup>th</sup>	Sell wheat @ \$ <u>3.50</u>	Buy 20,000 bu Sep04 futures @ \$ <u>3.60</u>	(\$.10)
<b>Gain/Loss</b>		<b>(\$.25)</b>	<b>unchanged</b>
Cash price (wheat, Aug 15)	\$ 3.50		
Loss on futures contract		(\$.25)	
Cost of hedge		(\$.02)	
<b>Realized Price</b>	<b>\$ 3.23/bu</b>		

\* Basis held – you get net expected hedge price.

**Situation B – Aug 15**

Market Activity: Local price decreases to \$2.60/bu  
Basis holds at (\$.10)

**Jan 15**  
Sep futures price \$ 3.35 bu.  
Local basis (\$ .10)

**Aug 15**  
Local cash price \$2.60 bu.  
Local basis (\$ .10)  
Sep futures price \$2.70 bu.

Date	Cash Market	Futures Market	Basis
Jan 15		Sell 20,000 bu Sep04 futures @ \$ <u>3.35</u>	(\$ .10)
August 15 <sup>th</sup>	Sell wheat @ \$ <u>2.60</u>	Buy 20,000 bu Sep04 futures @ \$ <u>2.70</u>	(\$ .10)
<b>Gain/Loss</b>		<b>\$ .65</b>	<b>unchanged</b>
Cash price (wheat, Aug 15)	\$ 2.60		
Gain on futures contract	\$ .65		
Cost of hedge	(\$ .02)		
<b>Realized Price</b>	<b>\$ 3.23/bu</b>		

\* Basis held – you get net expected hedge price.

**Situation C – Aug 15**

Market Activity: Local price decreases to \$2.60/bu  
Basis weakens to (\$.20)

**Jan 15**  
Sep futures price \$ 3.35 bu.  
Local basis (\$ .10)

**Aug 15**  
Local cash price \$2.60 bu.  
Local basis (\$ .20)  
Sep futures price \$2.80 bu.

Date	Cash Market	Futures Market	Basis
Jan 15		Sell 20,000 bu Sep04 futures @ \$ <u>3.35</u>	(\$ .10)
August 15 <sup>th</sup>	Sell wheat @ \$ <u>2.60</u>	Buy 20,000 bu Sep04 futures @ \$ <u>2.80</u>	(\$ .20)
<b>Gain/Loss</b>		<b>\$ .55</b>	<b>- \$ .10</b>
Cash price (wheat, Aug 15)	\$ 2.60		
Gain on futures contract	\$ .55		
Cost of hedge	(\$ .02)		
<b>Realized Price</b>	<b>\$ 3.13/bu</b>		

\* Basis weakens – reduces net hedge selling price by basis change.

**Situation D – Aug 15**

Market Activity: Local price increases to \$3.50/bu  
Basis strengthens to (\$.00)

**Jan 15**  
Sep futures price \$ 3.35 bu.

**Aug 15**  
Local cash price \$3.50 bu.

Local basis (\$ .10)

Local basis (\$ .00)  
Sep futures price \$3.50 bu.

Date	Cash Market	Futures Market	Basis
Jan 15		Sell 20,000 bu Sep04 futures @ \$ <u>3.35</u>	(\$ .10)
August 15 <sup>th</sup>	Sell wheat @ \$ <u>3.50</u>	Buy 20,000 bu Sep04 futures @ \$ <u>3.50</u>	(\$ .00)
<b>Gain/Loss</b>		<b>(\$ .15)</b>	<b>+ \$ .10</b>
Cash price (wheat, Aug 15)	\$ 3.50		
Loss on futures contract	(\$ .15)		
Cost of hedge	(\$ .02)		
<b>Realized Price</b>	<b>\$ 3.33/bu</b>		

\*Basis strengthens – increases net hedge selling price by basis change.



**ACTION POINT**

*When and how would you use this on your farm?*

## 6. BASIS CONTRACT

**Grain is delivered to a commercial elevator and sold prior to a designated date at a specified amount above or below a futures price (or basis).**

### Advantages

- Extends pricing decision window
- May reduce commercial storage costs
- No risk of adverse basis change
- Convenient contract quantities
- Possible advance partial payment

### Disadvantages

- Unsecured creditor in bankruptcy
- Risk of adverse price change until grain is priced
- Potential repayment of advance
- Basis knowledge is required

### When to use

- When basis is strong (cash prices are high relative to futures) and there is some potential for an increase in futures prices
- *When basis offer is acceptable but price is unacceptable???*

Tracking basis is important in managing basis risk and effectively using basis contracts. Area and/or regional basis estimates are available from \_\_\_\_\_.

EXAMPLE of basis chart in Appendix III.



**ACTION POINT**

***Create your own basis table.***

Commodity \_\_\_\_\_ Location \_\_\_\_\_

Nearby Futures Contract				
Date	Cash price	Futures contract month	Futures contract price	Basis

Harvest Delivery			
Forward cash contract offer	Harvest contract futures price	Implied basis	Basis contract offer

## 7. HEDGING WITH OPTIONS

### A put option purchase sets a floor on the crop price throughout the life of the contract

#### Advantages

- Extends pricing decision window
- Risk of adverse price change is eliminated
- Partial gain from rising cash price
- Eliminates margin requirements
- Easy to reverse position (liquidity)

#### Disadvantages

- Risk of adverse basis change
- Cost may be greater than value of price protection
- Contracts in fixed quantities only
- Requires significant knowledge and substantial data

#### When to use

- When you need to eliminate downside price risk but want to maintain ability to capture possible upside price gains

A put option that allows the holder to take a futures position is purchased for the actual or expected cash position.

- Options can be exercised, sold, or allowed to expire
- Net price received is a combination of the cash market and options market transactions

### SCENARIO 1:

Date: January 15

Objective: Evaluate price protection available through harvest (August)

Current futures/options market situation:

CBOT Sep wheat futures price = \$3.35 per bushel

Strike Price	Premium (cents/bu)
3.00	12.25
3.10	16.25
3.20	21.25
3.30	27.00
3.40	33.50

We know:

- Have ability to purchase “right to sell” (put option) CBOT Sep futures
- Have right to sell at several different strike prices above or below the current market price
- Premiums vary by strike price; right to sell increases in price as strike price increases
- Option on Sep wheat expires Aug 25

Option premium influenced by:

- Strike price relative to the current futures; intrinsic value exists if strike price is above futures price
  - \$3.00 put has 0 cents of intrinsic value
  - \$3.40 put has 5 cents of intrinsic value
- Time until expiration; futures price can change
  - \$3.00 put can have intrinsic value if futures price goes below \$3.00
  - More time to expiration = more time value
  - More market volatility = more time value

Closing a put position

- “Sell” at the current premium; premium changes over time as futures price changes and expiration approaches

- Let option expire if worthless; option expires with no intrinsic value
- Exercise and obtain futures position; may be automatic if expires with value

### EXAMPLE 1

Date: January 15

Objective: Expects to harvest 30,000 bushels of wheat in **August**

- 1- Evaluate expected price protection
 

Strike price of Sep put	=	3.30
+ expected local basis	=	(.10)
- put cost (premium + fee)	=	<u>.28</u>
= Expected price protection	=	2.92
  
- 2- Decision to buy
  - a. Quantity to protect: 67% of production = 20,000 bushels
  - b. Number of contracts: 4 (= 20,000/5,000)
  
- 3- Buy put options
  - a. Four CBOT 3.30 Sep wheat put options at \$.28 (= \$.27 premium + \$.01 broker fee)
  - b. Expected minimum price = \$2.92/bu with potential to benefit if price increases



### ACTION POINT

*When and how would you use this on your farm?*

## IV. Develop Market Price and Date Objectives

---

### *What do I do with all the information up to this point?*

In this stage of the development of your marketing plan, you can begin to combine the information from the previous sections and start identifying price and date triggers.

- Consider your personal situation and risk-bearing ability
  1. Farm and family financial situation – What profit level are you aiming for?
  2. What are your cash flow needs?
  3. How much storage capacity do you have available?
  
- Also consider
  1. Expected production
  2. Your cost of production/break-even prices
  3. Market outlook and realistic price expectations
  4. Contingencies – rising and declining prices
  
- **THEN... Begin to identify decision dimensions**
  1. By what **date** would you like to have some pre-harvest sales made?
  2. What **price** is needed pre-harvest versus what would be accepted post-harvest?
  3. Are there some **seasonal price tendencies** you should try to capture?



4. Should tax considerations play a role in your decision of when to sell?

**Consider an upcoming wheat crop and answer the following questions:**

1. At what price would the first portion of the crop be sold or hedged?
2. What tool should be used to price the crop?
3. If pre-harvest, would you price only the insured portion of the crop?
4. What if, by **March**, prices had **risen** to **\$4.00**, the US crop was looking **great** and prices were expected to **drop**? How much would you price using what tool?
5. What will you do if prices decline to the break-even point and you have not yet priced any of the crop yet?
6. Do you need some downside risk protection even if you think prices will rise?

**How do I actually establish price and date objectives? What might they look like?**

The following are examples of different methods of establishing price and date objectives:

1. Price-based with time dimension
2. Production-based with time dimension

**Price-based decision with time dimension**

Sell if the market hits \$3.20 , but not later than Feb. 1.

Begin scaling sales as soon as the market price exceeds my cost of production.



Your response...

\_\_\_\_\_.

*Fixed and Flexible production-based strategies with time dimension*

**Fixed**

- Sell (or price) 1/3 of the crop at harvest, 1/3 on Dec. 15, 1/3 on Feb. 15.
- Sell (or price) 20% of production when cash costs are covered.

**Flexible**

- Sell (or price) 25-50% at harvest based on price. Sell (or price) only 25% if price is below 5-yr average and 50% if above.
- Sell (or price) 50% if price exceeds 5-yr average.
- Sell (or price) 20% of production if price covers cash costs, add additional 20% if US stocks/use ratio exceeds 30%.

  
Your response...

**PUT IT ALL TOGETHER!**

*What might a marketing plan look like?*

**Example 1 – Marketing Plan**

**Objective:** Buy crop insurance to protect my production risk, and have 70% of my insured (APH) spring wheat crop priced by late May.

*Based on anticipated production*

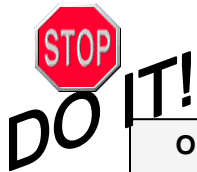
*Price Steps*

*Marketing Alternatives*

*Decision Dates*

Price	2500	bushels at	\$3.10	cash price (\$3.50 Sep. futures) using forward contract/futures hedge/futures fixed contract.
Price	2500	bushels at	\$3.20,	or by March 18 using some form of fixed price contract.
Price	2500	bushels at	\$3.30,	or by March 30 using some form of fixed price contract.
Price	2500	bushels at	\$3.40,	or by April 16, consider options or a trend system.
Price	2500	bushels at	\$3.50,	or by April 30, consider options or a trend system.

**Plan starts on** Sept. 1, 2002. Earlier sales will be made at a 15 cent premium to price targets noted above.  
**Ignore decision dates and make no sale if prices are lower than** \$3.10 local cash price/\$3.50 September futures.



**Objective:** Buy crop insurance to protect my production risk, and have \_\_\_\_ % of my insured (APH) \_\_\_\_\_ crop priced by \_\_\_\_\_.

Price \_\_\_\_ bushels at \$ \_\_\_\_\_ cash price (\$ \_\_\_\_\_ Sep. futures) using \_\_\_\_\_.

Price \_\_\_\_ bushels at \$ \_\_\_\_\_, or by \_\_\_\_\_ using \_\_\_\_\_.

Price \_\_\_\_ bushels at \$ \_\_\_\_\_, or by \_\_\_\_\_ using \_\_\_\_\_.

Price \_\_\_\_ bushels at \$ \_\_\_\_\_, or by \_\_\_\_\_ using \_\_\_\_\_.

Price \_\_\_\_ bushels at \$ \_\_\_\_\_, or by \_\_\_\_\_ using \_\_\_\_\_.

**Plan starts on** \_\_\_\_\_. Earlier sales will be made at a \_\_\_\_\_ cent premium to price targets noted above.  
**Ignore decision dates and make no sale if prices are lower than** \$ \_\_\_\_\_ local cash price/\$ \_\_\_\_\_ September futures.

# TIMEOUT!



**A marketing plan is necessary but NOT SUFFICIENT.**

***Keep in mind...***

A marketing plan should

- Complement your *farm plan*
  - This includes short term and long term goals and quantifiable, timely objectives
- Use information included in *financial statements*
  - This includes risk-bearing capacity, cash flow needs, etc.
- Good strategies improve your chances of success.

## V. Test the Plan

---

***How do I know if this plan will work?***

Before executing the marketing plan, go through the following steps :

1. Evaluate “what if” situations
2. Forecast possible end results
3. Refine the plan if needed

## VI. Evaluate Plan Effectiveness

---

***Evaluate your marketing plan both during and after the end of the marketing year.***

1. Did you reach your price objectives?
2. What was the average price reached?
3. What was the market’s average price?
4. How did the experts do?

***What worked, what didn’t, and why?***

Revise your plan and make changes where needed in order to continually improve your ability to manage risk, ensure the recovery of your cost of production, and gain a solid return on your crops.

## Appendix I

### Acknowledgements

**The Idaho Barley Commission would like to thank the Western Center for Risk Management Education at Washington State University and the USDA Risk Management Agency for their support in providing grant funding for this project.**

Material in this workbook was gathered from the following sources:

- Larry D. Makus and Paul E. Patterson, Ag Economists, University of Idaho
- Randy Neiwirth, Great Western Malting Co., Blackfoot, ID; and Craig Corbett, barley producer, Grace, ID, risk management advisors to the Idaho Barley Commission
- R.L. Wittman, farmer and owner Wittman Consulting, Culatesac, ID
- Keith Schumacher, former grain trader, Primeland Cooperative
- *"The Road to Marketing Success" ppt., by Edward C. Usset & Bob Craven*
- John Berry, Penn State Cooperative Extension
  - <http://agmarketing.extension.psu.edu/>
- Iowa Soybean Association, A Farmer Guide to Revenue Management and Marketing

## Appendix II

### Crop Enterprise Budget Worksheets

---

The UI Crop Enterprise Budget Worksheet is a window-based computer program that allows the user to develop crop enterprise specific costs and returns. Program and data files with crop budgets for different regions of the state are available from the UI Agricultural Economics and Rural Sociology website at <http://www.ag.uidaho.edu/aers/>, select Resources, then Software.

**For data files**, select Resources, then Crops, then Year. These are organized by region. COP Excel files are also available at this site.

### Market Fundamentals

---

- World Agriculture Supply & Demand Estimates (WASDE), USDA publ.  
<http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1194>
- National Agricultural Statistics Service, USDA  
<http://www.usda.gov/nass/>
- Pro Farmer Ag Newsletter  
[http://www.agweb.com/pub\\_home.asp?sigcat=profarmer](http://www.agweb.com/pub_home.asp?sigcat=profarmer)



### Prices

- Chicago Board of Trade <http://www.cmegroup.com/>
- Minneapolis Grain Exchange <http://www.mgex.com/>
- Kansas Board of Trade <http://www.kcbt.com/>
- USDA Agricultural Marketing Service  
<http://www.ams.usda.gov/>

### Market Advisory Services

---

- Sampling of Grain Market Advisory Services  
<http://www.agweb.com>  
<http://www.allendale-inc.com>  
<http://www.countryhedging.com>

### Other Market Outlook Information Sources

---

- Jim Hilker's **Market Outlook and Probabilistic Forecasts for Grain and Livestock**, Michigan State University <https://www.msu.edu/~hilker/>
- University of Idaho's Department of Agricultural Economics & Rural Sociology (AERS)  
<http://www.ag.uidaho.edu/aers>
- **Idaho Spring Barley Production Guide**, UI Bulletin 742, 2003; and **Southern Idaho Dryland Winter Wheat Production Guide**, UI Bulletin 827, 2004.