Margin Protection Overview for 2018

Watts and Associates

May, 2017

Agenda

- Margin Protection
  - Overview
  - Highlights of changes for 2018
  - Margin Protection Fundamentals
    - The Margin Concept
    - Understanding expected costs in MP
    - A simple example: MP
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Background

- The Original Concept paper for Margin Protection was provided to RMA staff in 2007.
- The 2008 Farm bill included the “Concept” 508(h) process.
- Farm Risk and Watts & Associates submitted concepts under these provisions in 2009.
- The Agricultural Act of 2014 amended the Federal Crop Insurance Act to authorize MP.
- MP was offered for the first time in 2016 in select areas, only Iowa for Corn and Soybeans.
- For the 2018 Crop Year, FCIC has approved a major expansion of MP throughout the Midwest.

What is Margin Protection?

- MP provides growers with an insurance product that protects their expected operating margin, i.e., the difference between expected revenue and specific expected costs.
- MP takes into consideration changes in crop prices, reductions of yields, **and changes in the prices of inputs used to grow the crop**.

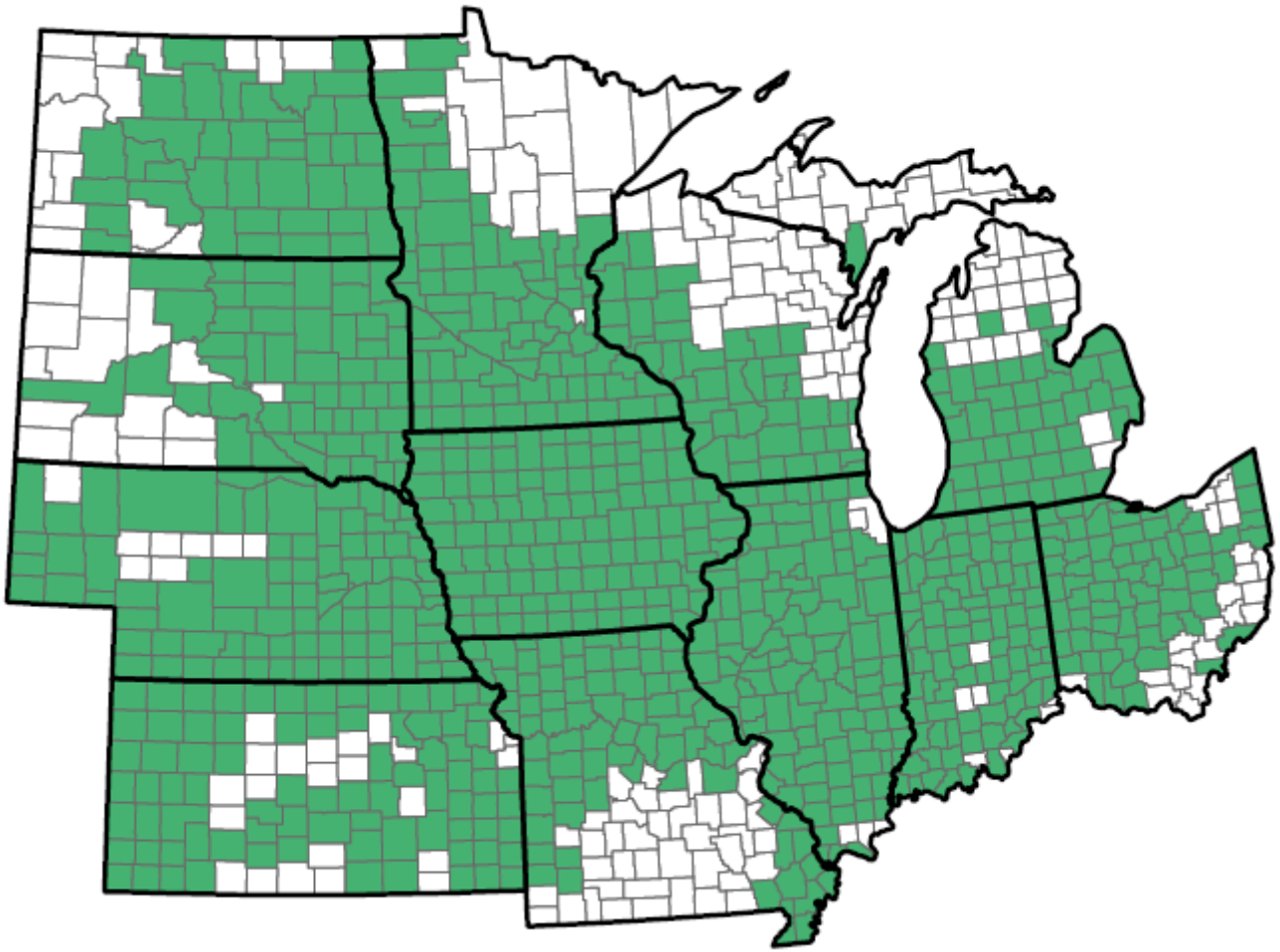
Why Margin Protection?

- 1st Generation of Crop Insurance – Yield
  - GYC, APH, and YP
  - Insures against: reduction in yield
- 2nd Generation of Crop Insurance – Revenue
  - RA, CRC, IP, GRIP, RP, and ARP
  - Insures against: reduction in yield or price
  - Revenue = Price x Yield
- 3rd Generation of Crop Insurance – Margin
  - Margin Protection
  - Insures against: reduction in margin
  - Margin = (Price x Yield) - Cost

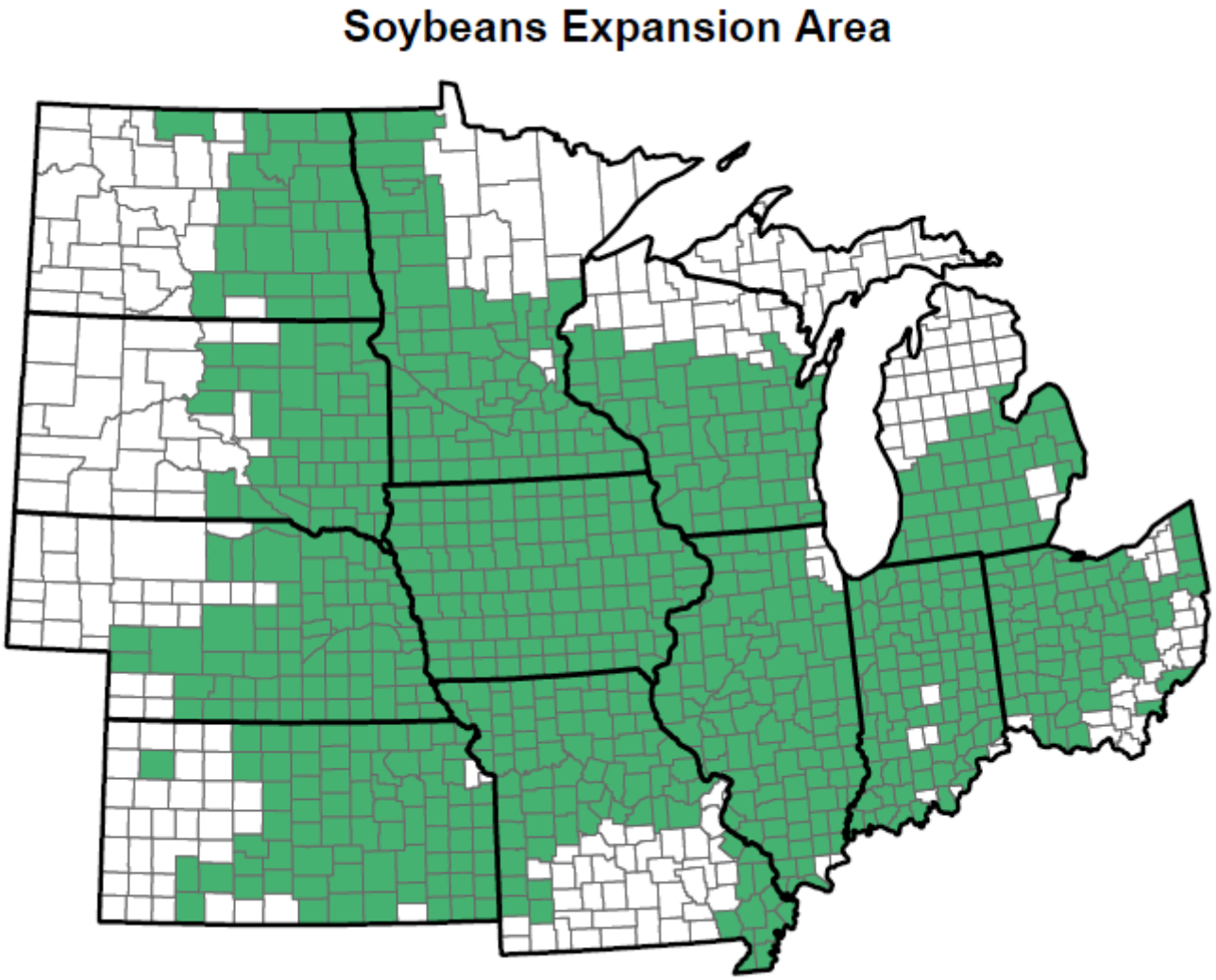
Highlights of changes for 2018

- Coverage Levels now reach to 70%- 95%
- Protection factors are now offered from 0.80 to 1.20
- Harvest Price Option is now available
- The calculation of deductibles and trigger margins has been revised
- There has been a major pilot area expansion for corn and soybeans
- Pilot areas remain unchanged for spring wheat and rice.

Corn Expansion



Soybeans Expansion



Margin Protection Basics

- Margin Protection has a September 30 SCD
  - Price discovery for Projected Prices is August 16 to September 15.
  - MP and RP use the same harvest prices.

- Margin Protection is Area-Based
  - The same expected county yields used for ARP are used for MP
  - MP offers coverage levels from 95% to 70% and protection factors from 0.8 to 1.2

- Margin Protection is Unique
  - Growers can choose to also buy (RP) in the spring. Growers who do so get a premium credit on the MP premium and receive the greater of the MP or RP indemnity in the fall.

The Margin Concept

- Crop insurance is designed to transfer risk from farmers to insurance companies. Crop insurance is designed to assure that at the end of the year farmers' potential losses are limited.
  - Yield Risk (bu/ac)
  - Price Risk ($/bu)
  - Revenue Risk (bu/ac x $/bu = $/ac)
  - Cost risk (Cost expended $/ac)
- The money that a farmer has left after harvesting bushels, selling them, and paying operating costs is the margin. This is the money the farmer has to cover land costs, pay for management labor, and support their family.
- Margin, not bushels, prices, or costs, is the number a farmer has been looking to insure.

Expected Margin

- Expected Margin

Expected County Yield
x Projected Price
Expected Revenue

Expected Revenue
- Expected Cost
Expected Margin

Trigger Margin

- Trigger Margin

Expected Revenue
x (1.00 – Coverage Level)
Margin Deductible

Expected Margin
- Margin Deductible
Trigger Margin

Margin Liability

- Margin Liability

Expected County Yield
Projected Price
x Protection Factor
Margin Liability

Note: Margin Liability > Margin Trigger

Understanding Expected Costs

- Margin Protection makes no effort to measure any individual grower's actual costs incurred.
- Instead, assumptions are made based on the local agronomic conditions to establish the quantity of key inputs. These are based on the relationship between expected county yield and the volume of an input needed to grow a bushel
- Costs included:
  - Diesel
  - Nitrogen (Urea)
  - Phosphorus (DAP)
  - Potassium (Potash)
  - Interest
  - Other costs

Understanding Expected Costs

Diesel

- Based on the NYMEX ULSD futures contract

- Input quantity = (ECY*.04) + 2.5 gallons
- For Allen County, IN this is 9.06 gal

- Projected Price Discovery: Aug 15 - Sep 14
- Harvest Price Discovery: Apr 1 – Apr 30

Understanding Expected Costs

Nitrogen

- Based on the CME Swaps Urea contract

- Input quantity = (ECY*.83)/.46
- For Allen County, IN this is 295.93 lbs/ac

- Projected Price Discovery: Aug 15 - Sep 14
- Harvest Price Discovery: Apr 1 – Apr 30

Understanding Expected Costs

Phosphorus

- Based on the CME Swaps DAP contract

- Input quantity = (ECY* 0.35)/.46
- For Allen County, IN this is 124.78 lbs/ac

- Projected Price Discovery: Aug 15 - Sep 14
- Harvest Price Discovery: Apr 1 – Apr 30

DAP FERTILIZER

Understanding Expected Costs

Potassium

- Based on the NASS Illinois Cash Market for Potash

- Input quantity = (ECY*.25)/.60
- For Allen County, IN this is 68.33 lbs/ac

- Projected Price Discovery: Aug 15 – Sep 14
- Harvest Price Discovery: price does not change

Understanding Expected Costs

Interest

- Based on the CME 30 Day Fed Funds futures contract

- Input quantity = Futures rate + 6%

- Projected Price Discovery: Aug 15 - Sep 14
- Harvest Price Discovery: Oct 1 – Oct 30

Understanding Expected Costs

Other Costs

- Based on extension data from land grant universities.

- Includes seed, lubrication, and select crop protection products.
- For Allen County, IN for 2018: $206.90

- Not subject to price change within a season

Margin Protection Concepts

- Prior to SCD, RMA releases
  - County Expected Yield (ECY)
  - Projected Price
  - Expected Cost

  - Expected Margin is calculated

Expected Margin = (ECY x Projected Price) – Expected Cost

- After Harvest, RMA releases
  - Final County Yield (FY)
  - Harvest Price
  - Harvest Cost

  - Harvest Margin is calculated

Harvest Margin = (final Yld x Harvest Price) – Harvest Cost

Simple Example: MP

Calculating an MP Trigger

- Expected Margin
  (Expected Yield x Projected Price) – Expected Cost
  (180 bu/ac x $4.00) - $320/ac = $400/ac

- Margin Deductible
  Expected Revenue x (1-Coverage Level)
  (180 bu/ac x $4.00 x (1-95%) = $36/ac

- Trigger Margin
  Expected Margin – Margin Deductible
  $400/ac - $36/ac = $364/ac

Simple Example: MP

Calculating an MP Indemnity

- Harvest Margin
  (Harvest Yield x Harvest Price) – Harvest Cost
  (160 bu/ac x $3.80) - $320/ac = $288/ac

- Margin Loss
  Trigger Margin – Harvest Margin
  $364 - $288 = $76/ac

- Margin Indemnity
  Margin Loss x Protection Factor
  $76/ac x 1.20 = $91.20/ac

Simple Example: MP-HPO

Calculating an MP Trigger

- Expected Margin
  (Expected Yield x max{Proj, Harv}) – Expected Cost
  (180 bu/ac x max{$4.00, $4.10}) - $260/ac = $478/ac

- Margin Deductible
  Expected Revenue x (1-Coverage Level)
  (180 bu/ac x $4.10 x (1-95%) = $36.90/ac

- Trigger Margin
  Expected Margin – Margin Deductible
  $478/ac - $36.9/ac = $441.10/ac

Simple Example: MP-HPO

Calculating an MP Indemnity

- Harvest Margin
  (Harvest Yield x Harvest Price) – Harvest Cost
  (160 bu/ac x $4.10) - $260/ac = $396/ac

- Margin Loss
  Trigger Margin – Harvest Margin
  $441.10 - $396 = $45.10/ac

- Margin Indemnity
  Margin Loss x Protection Factor
  $45.1/ac x 1.20 = $54.12/ac

Premium Credit

- If a grower buys MP in the fall, and then buys a base policy in the spring:
  - The grower may receive only the greater of the RP and MP indemnity.*
  - A premium credit applies to the MP premium.
- The credit is the actuarially determined value of the expected overlapping indemnities between MP and RP at the time of RP sales closing.
- These can be estimated at the www.marginprotection.com website (when this is turned on for 2018.

Timeline for MP

- July 1 – premium estimates updated weekly on www.marginprotection.com
- Sep 15 – end of price discovery, premium rates finalized
- Sep 30 – SCD
- Mar 15 – base policy SCD, premium credits estimated
- July – Acreage reports, premium credits finalized
- October – Harvest prices discovered, production reports
- November – RP indemnities determined
- February – MP indemnities determined

Questions?

- If you have additional questions about Margin Protection, please contact your Approved Insurance Provider.
- For additional questions, the developer has agreed to offer answer to Frequently Asked Questions, posted at www.marginprotection.com.
- To add a question, please contact the developer at: ehenry@wattsandassociates.com