# Margin Protection and High Coverage Policies

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2023 Crop Insurance Workshop

Salina, KS

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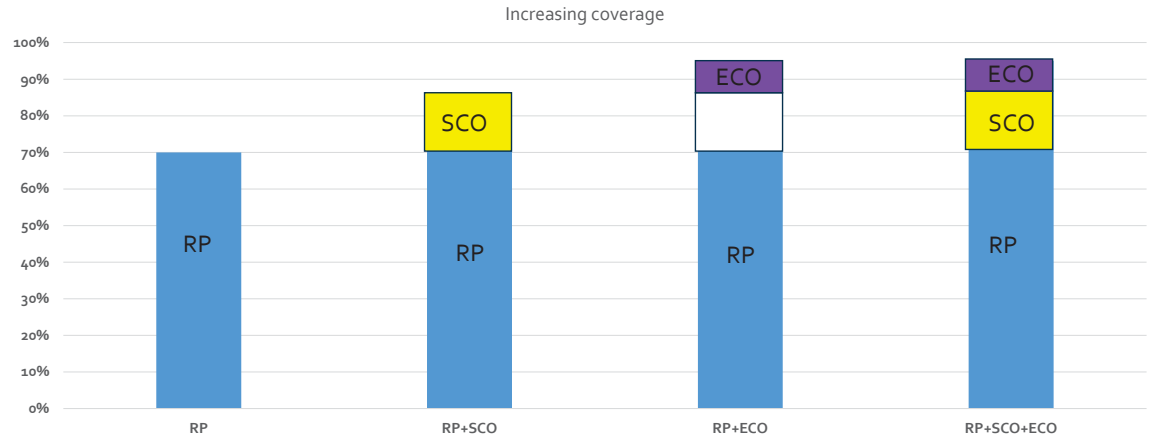
# High coverage policies: MP, ECO, SCO

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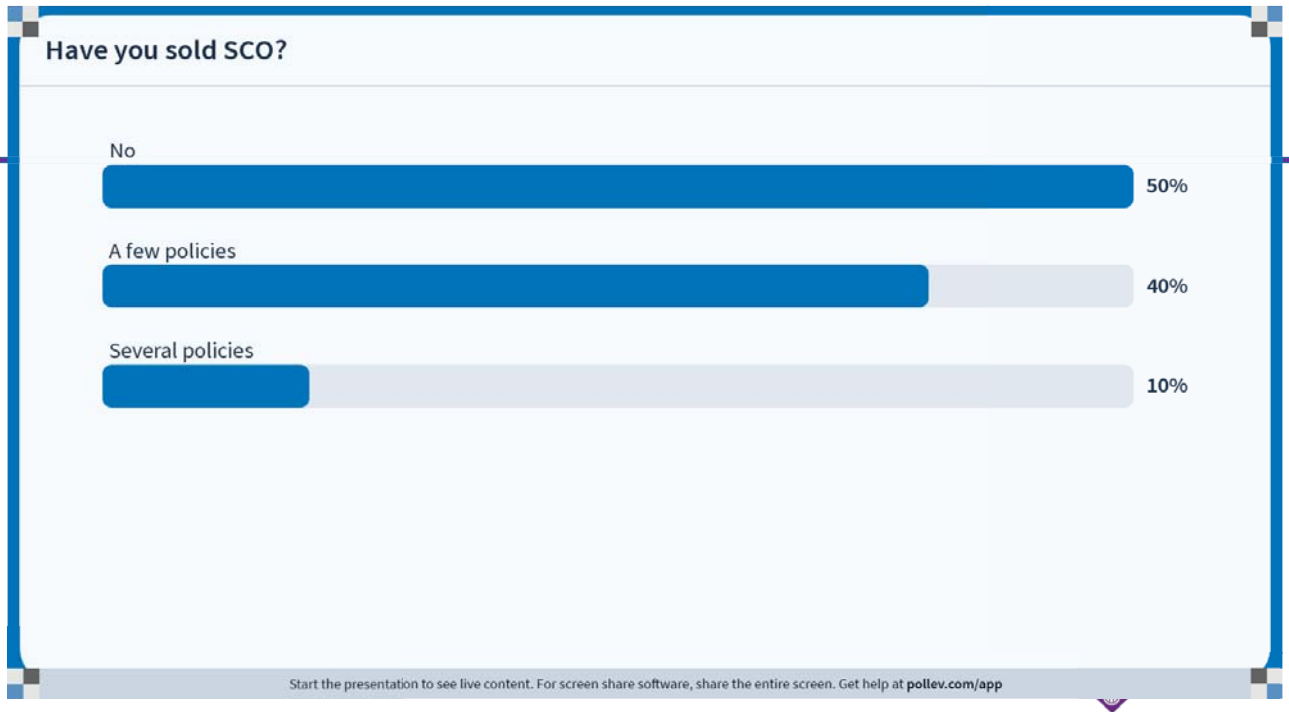
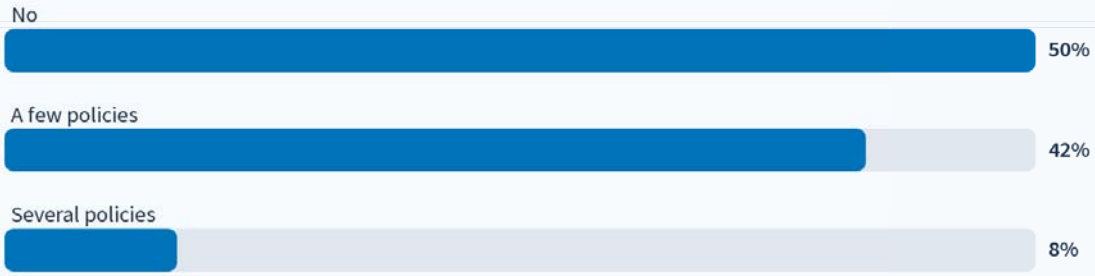
# High coverage policies: MP, ECO, SCO

- Endorsements that add additional county-based coverage to an underlying individual policy
  - MP can be stand-alone
- Covers a producer's profit margin (typically)
- Costly due to more frequent expected payouts, but a few years can pass without a payout
  - See in-depth Kansas-specific analysis in resources section
- Producer needs to be comfortable with the county-based trigger
  - See link to KS yield correlation tool in resources section
- (More) overlap with hedging





## Have you sold ECO?

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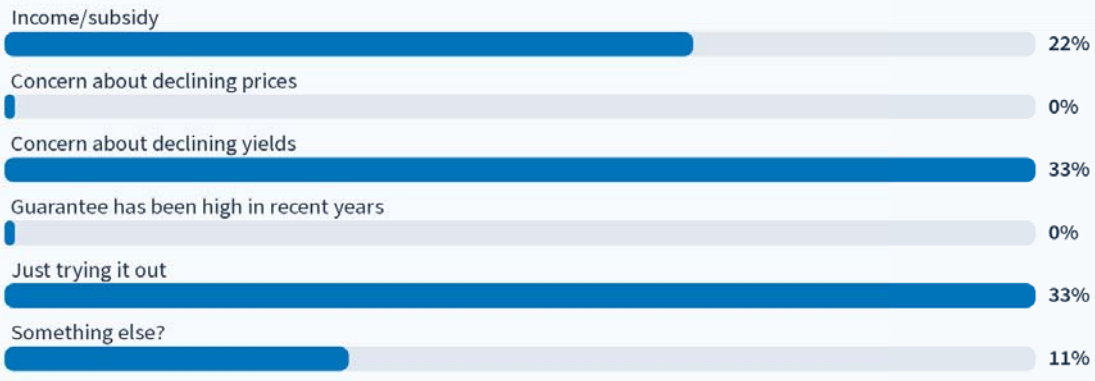
## If you have sold a high coverage policy, what is the primary reason producers purchased it?

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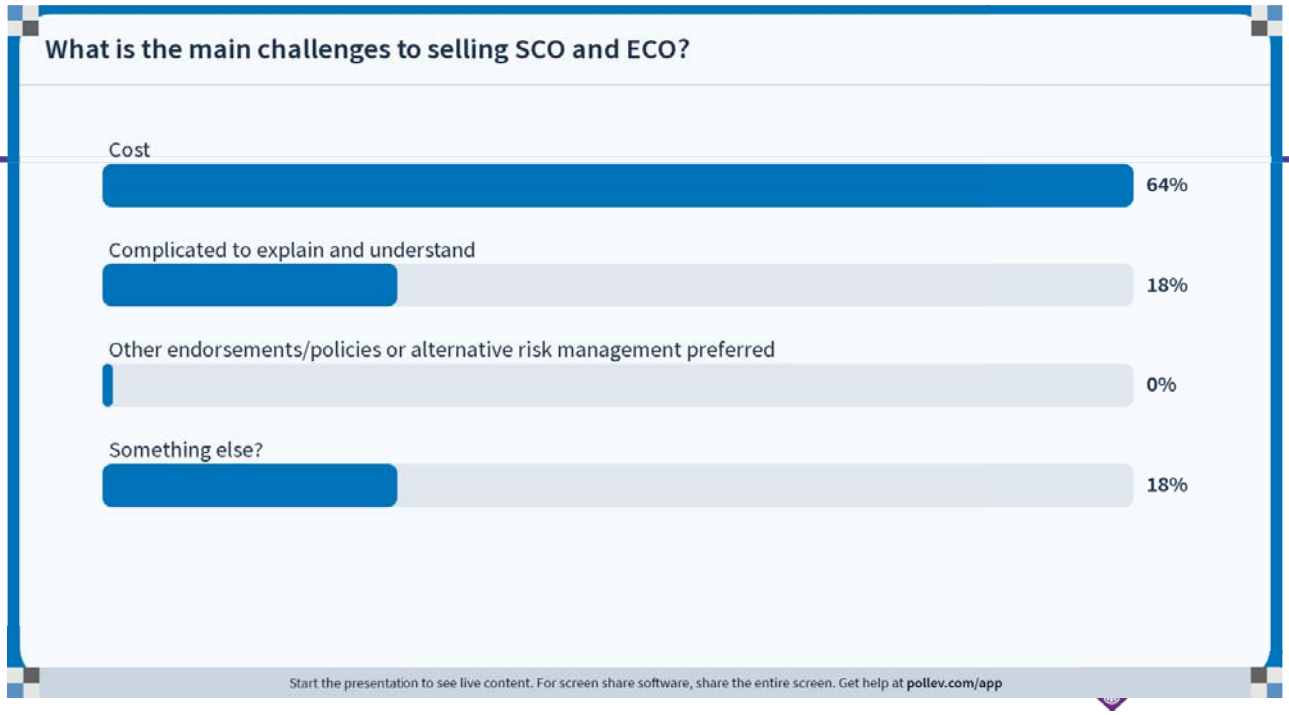



# Refresher-Supplemental Coverage Option

- Increases underlying coverage to 86%
- Not available if ARC (Agricultural Risk Coverage) is used for the covered crop
- 65% premium subsidy
- County based trigger

| | 2015 | 2022 | 2023 |
|---|---|---|---|
| Policies | 1522 | 1949 | 2903 |
| Acres | 310,000 | 730,000 | 1.2 million |
| Loss ratio | 0.82 | 1.62 | TBD |



Source: RMA Summary of Business

# Refresher-Enhanced Coverage Option

- Can be used with or without SCO
- Covers revenue from 86% to either
  - 90%
  - 95%
- Premium subsidy
  - 44% - RP
  - 51% - YP

| | 2021 | 2022 | 2023 |
|---|---|---|---|
| Policies | 724 | 981 | 1467 |
| Acres | 339,000 | 459,000 | 706,000 |
| Loss ratio | 0.68 | 1.54 | TBD |



Source: RMA Summary of Business



# Refresher: profit margins

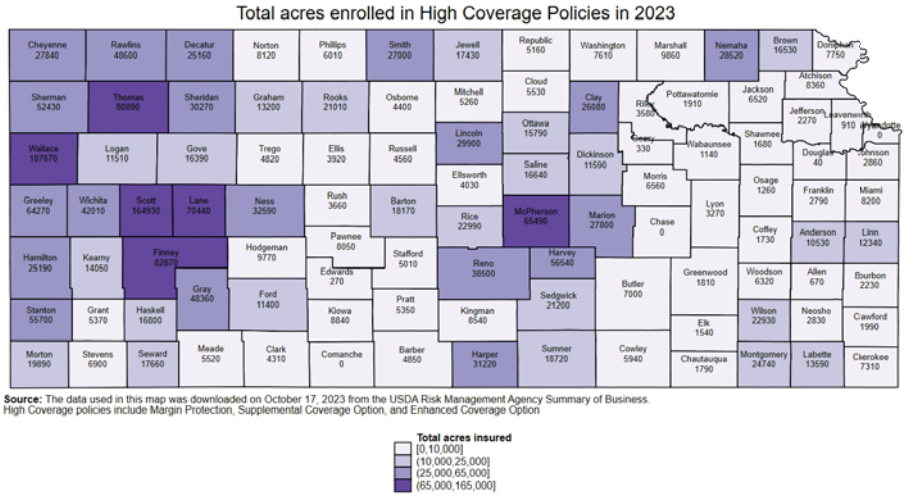
Example: 2023 NE KS non-irrigated corn, 145 bushels per acre at $6.03 per acre, expected revenue of $874/acre (estimated Nov. 2022)

| | $ per acre | Share of revenue |
|---|---|---|
| Direct expenses | $559 | 64% |
| Fixed expenses | $177 | 20% |
| Total expenses | $733 | 84% |



https://agmanager.info/sites/default/files/wysiwyg/Corn%20Cost-Return%20Budget%20in%20Northeast%20Kansas_Average%20yields_Nov-01-2022.pdf

# Many Kansas counties use high coverage policies




**Source:** The data used in this map was downloaded on October 17, 2023 from the USDA Risk Management Agency Summary of Business.
High Coverage policies include Margin Protection, Supplemental Coverage Option, and Enhanced Coverage Option



# Many questions

- What is it?
- Trends
- 2023 example and expected margin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## What is margin protection insurance?

When the operating margin (difference between revenue and *select* costs) *at the county level* for corn or soybeans is lower than expected, you get paid

OR

Similar to ECO (Enhanced Coverage Option) with earlier price discovery AND *some* adjustment for input costs



## Interest in MP appears to be increasing

# Margin Protection Insurance

Not personalized but basic

More personalized but more complicated

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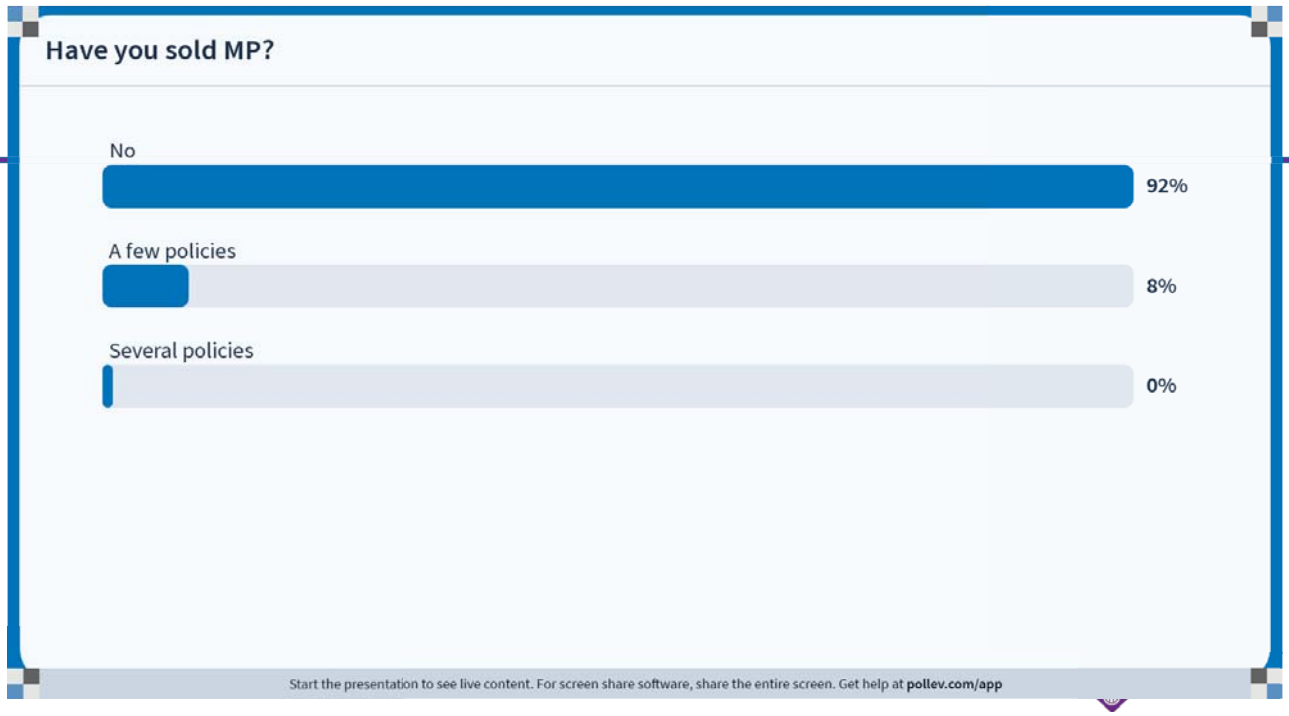
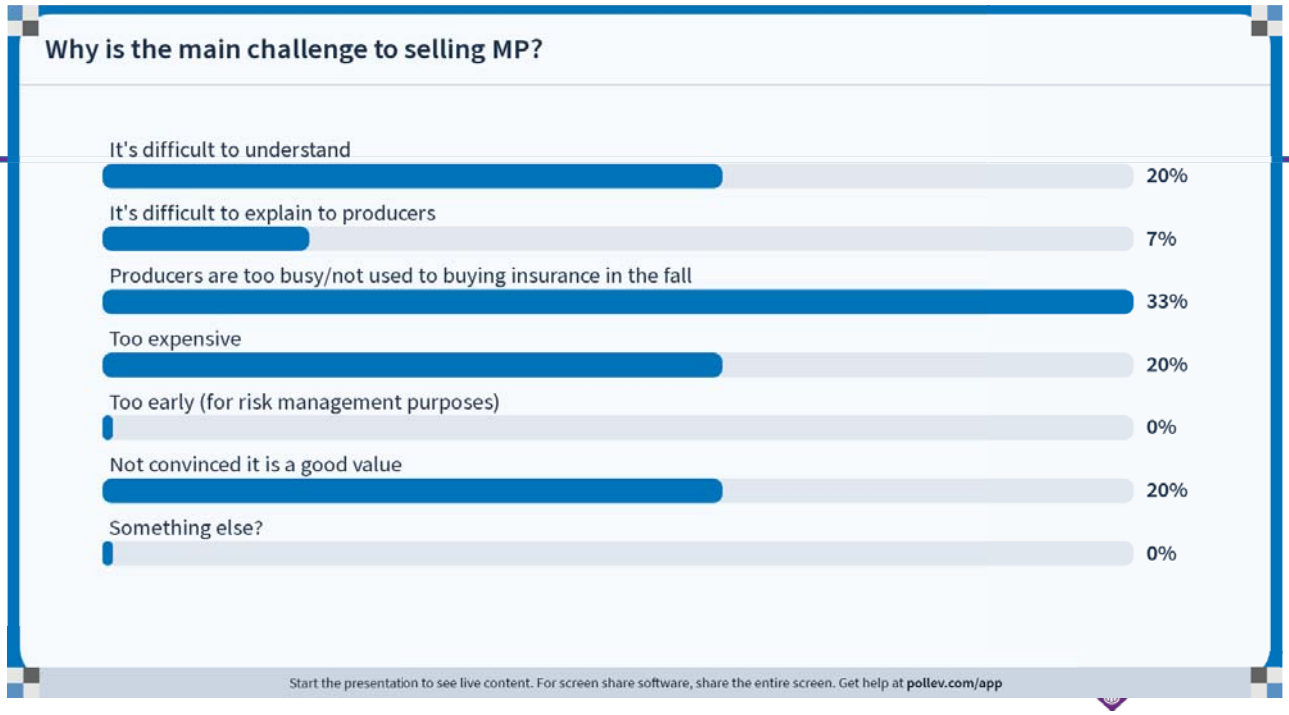
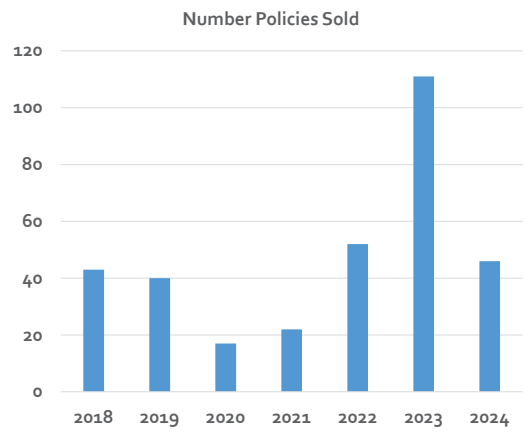
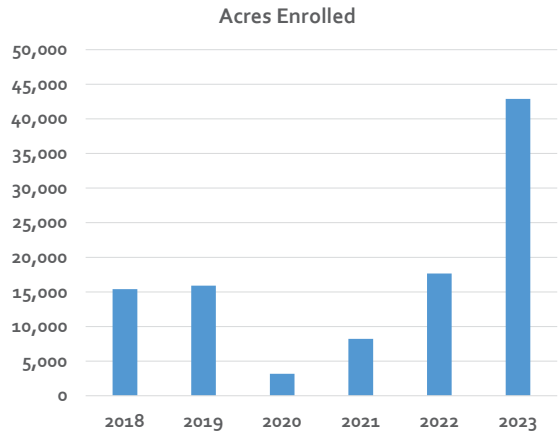





# MP Trends for KS

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Source: RMA Summary of Business, policies sold are reported for comparison to 2024; 2024 sales may be incomplete

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# MP Trends – Total Kansas Payouts

| Year | Producer Premium | Indemnities |
|---|---|---|
| 2018 | 168,000 | 193,000 |
| 2019 | 174,000 | 275,000 |
| 2020 | 56,000 | 7,000 |
| 2021 | 203,000 | 0 |
| 2022 | 618,000 | 572,000* |
| 2023 | 2,432,000 | n/a |

Source: RMA Summary of Business, rounded to the nearest 1,000



# Nemaha 2024 example MP premiums

95% coverage: $72/ acre
90% coverage: $60/acre
85% coverage: $46/acre
80% coverage: $34/acre
75% coverage: $28/acre
70% coverage: $21/acre

Premium subsidy ranges from 44-59%

USDA RMA Cost estimator – sample premiums only – HPO. Most producers use MP + RP, which changes the premium amount.

# 2023 participation

**Acres enrolled**

~33,600 acres corn

~9,300 acres soybeans

**Most policies have**

- 95% coverage level
- Underlying RP policy
- Harvest price option

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Source: RMA Summary of Business

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# Corn Example - Nemaha County

148 bu/acre expected yield in 2024

| | MP Projected Price | RP Price | Expected margin | Harvest Price | Final Margin |
|---|---|---|---|---|---|
| 2018 | $3.97 | $3.96 | $244 | $3.68 | -$20.00 |
| 2019 | $3.95 | $4.00 | $219 | $3.90 | $291 |
| 2020 | $4.03 | $3.88 | $259 | $3.99 | $461 |
| 2021 | $3.82 | $4.58 | $253 | $5.37 | $715 |
| 2022 | $5.06 | $5.90 | $384 | $6.86 | $679 |
| 2023 | $6.11 | $5.91 | $497 | $4.90* | ? |
| 2024 | $5.09 | ? | $438 | ? | ? |

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USDA RMA AIB, marginprotection.com

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# MP components: 2023 Revenue

| | Projected | Actual |
|---|---|---|
| Price | $6.11 | $4.90* |
| Yield | 148.4 | 190* |
| Revenue | $907 | $931* |

Example is for 2023 non-irrigated corn in Nemaha County. Yield is estimated (a guess) and harvest prices are currently in discovery. Currently revenue is **$24/acre higher** than expected.



# Expense formulas

| Corn Input Amounts (per Acre) | Urea (lbs./acre) | DAP (lbs./acre) | Potash (lbs./acre) | Diesel (gal/acre) | Costs not subject to price change |
|---|---|---|---|---|---|
| Corn Irrigated | (ECY*.83)/.46 | (ECY*.35)/.46 | (ECY*.25)/.6 | (ECY*.10) + 2.5 | $206.90 |
| Corn Non-Irrigated | (ECY*.83)/.46 | (ECY*.35)/.46 | (ECY*.25)/.6 | (ECY*.04) + 2.5 | $206.90 |

| Soybean Input Amounts (per Acre) | Urea (lbs./acre) | DAP (lbs./acre) | Potash (lbs./acre) | Diesel (gal/acre) | Costs not subject to price change |
|---|---|---|---|---|---|
| Soybean Irrigated | 0 | (ECY*.73)/.46 | (ECY*1.1)/.6 | (ECY*.30) + 2.5 | $111.50 |
| Soybean Non-irrigated | 0 | (ECY*.73)/.46 | (ECY*1.1)/.6 | (ECY*.10) + 2.5 | $111.50 |

# Expense formulas

| MP Total Cost Calculation | | |
|---|---|---|
| Costs not subject to price change | = | "Use Costs not subject to price change" |
| Costs subject to price change | = | (Input Price x Unit per acre) |
| Preliminary Total Costs | = | Total Costs + Variable Costs |
| Interest Rate Cost | = | Apply Interest Rate Calculation |
| MP Total Costs | = | Costs not subject to price change + Costs subject to price change + Interest cost |



https://www.marginprotection.com/



# MP Components: 2023 Expenses (price)

| | Projected | Actual |
|---|---|---|
| DAP - price | $735 / ton | $578 / ton |
| Diesel - price | $3.15 / gallon | $2.58 / gallon |
| Interest – price | 9.58% | 11.37%* |
| Potash – price | $864.31 /ton | $864.31 / ton |
| Urea - Price | $672.59 /ton | $347.95 /ton |

Example is for 2023 non-irrigated corn in Nemaha county. Price discovery for DAP, Diesel, and Urea was April 2023. Interest rates are currently in price discovery. Prices are based on futures markets for DAP, Diesel, Interest, and Urea. Source- marginprotection.com

# MP Components: 2023 Expenses (expenditure)

| | Projected | Actual | Difference |
|---|---|---|---|
| DAP - price | $41.38 | $32.54 | $8.84 |
| Diesel - price | $26.52 | $21.72 | $4.80 |
| Interest – price | $18.74 | $19.00* | $0.26* |
| Potash – price | $26.65 | $26.65 | $0.00 |
| Urea - Price | $89.81 | $46.46 | $43.35 |

Example is for 2023 non-irrigated corn in Nehama county. Price discovery for DAP, Diesel, and Urea was April 2023. Interest rates are currently in price discovery. Prices are based on futures markets for DAP, Diesel, Interest, and Urea. Source- marginprotection.com

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# Estimated 2023 Margin

| | Projected | Actual | Difference |
|---|---|---|---|
| Revenue | $907 | $931* | $24 |
| Costs subject to price changes | $184.36 | $127.38 | $57 |
| Costs not subject to price changes | $206.90 | $206.90 | $0 |
| Interest | $18.74 | $19.00* | $0.26* |
| Total expenses | $410/acre | $353.28/acre* | $56.72* |
| Margin | $496.72 | $578 | $81 |

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Source: marginprotection.com, corn prices and interest rates are currently in discovery. Yields of 190 bu/acre are based on local estimates; final county yields won't be reported until summer 2024

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# 2023 – Nemaha summary

- Margins **$81/acre** higher than expected, due to (likely) outstanding yields and lower expenses
  - Despite lower corn prices
  - Expected 2023 margin was the highest expected margin since 2018
- Average yields would have led to a margin of around **$371/acre**; indemnities of about **$80/acre** might cover 95% MP premium
  - Impact of corn price decline is **larger** than impact of input price decline
- Yields of around of around **174 bu/acre** would have led to actual margin being equal to expected margin
- 2018 yields of **72 bu/acre** would have led to a margin of $0.48/acre payouts of around **$450/acre**



# Other details

- Harvest margin can be negative, liability (max payout) for an MP policy is similar to RP liability
- Deductible is based on expected revenue, not expected margin
- Premiums due at same time as RP, but payouts for 2024 crop year made in summer of 2025 (area product)
- Protection factor can scale up or down premium & indemnities
- When used with RP (which is typical), MP will only cover losses that are not covered by RP (RP pays out "first")

# Margin protection and expenses

- Price discovery is  in April for Urea, DAP, and diesel, October for interest rates
  - Raw material vs retail prices?
- How do producers currently manage input costs?
  - Prepay in fall?
  - Hedging?
  - Adjust application rates?
  - Self insure?
- Many expenses are not covered in MP
- Yield and prices tend to have a larger impact on profit margins



# High coverage policies and hedging

- Price declines alone will rarely trigger a 70-75% RP payout
- Prices declines are much more likely to trigger high coverage policies
  - For counties with average yields (or worse), 2023 corn ECO policies are likely to receive the maximum payout
- "Some" were promoting MP as "locking in" $5.00 corn
  - Does not provide same protection as a hedge when yields are higher than average or expenses also decline
  - But….there is some overlap with hedging
- How does hedging 1 year in advance fit into a producer's marketing plan?

# Concluding thoughts

- High coverage policies protect profit margins, at a cost
- Producers need to be comfortable with
  - County yield trigger
  - A few years without indemnities
- Margin protection is an option
  - An early "hedge"
  - Prices tend to be correlated, but yields and crop prices will drive payouts in most situations
- May be more demand for crop insurance agents to be familiar with hedging and marketing plans



# AgManger.info MP Resources

Recent

https://agmanager.info/crop-insurance/crop-insurance-papers-and-information/margin-protection-insurance-basics-and

https://agmanager.info/events/risk-and-profit-conference/previous-conference-proceedings/2022-risk-and-profit-conference/13

Older

https://agmanager.info/events/risk-and-profit-conference/previous-conference-proceedings/2017-risk-and-profit-conference/14

https://agmanager.info/news/margin-protection-insurance

https://agmanager.info/crop-insurance/crop-insurance-papers-and-information/margin-protection-crop-insurance-coverage-comes

https://agmanager.info/crop-insurance/crop-insurance-papers-and-information/margin-protection-crop-insurance-premiums-and

# AgManger.info ECO and SCO Resources

2023 Update

https://agmanager.info/crop-insurance/crop-insurance-papers-and-information/high-coverage-crop-insurance-policies-2023

Tools

https://agmanager.info/crop-insurance/crop-insurance-papers-and-information/kansas-yield-correlation-tool

https://agmanager.info/crop-insurance/kansas-crop-insurance-maps

https://agmanager.info/crop-insurance/crop-insurance-papers-and-information/2023-supplemental-coverage-option-sco-and

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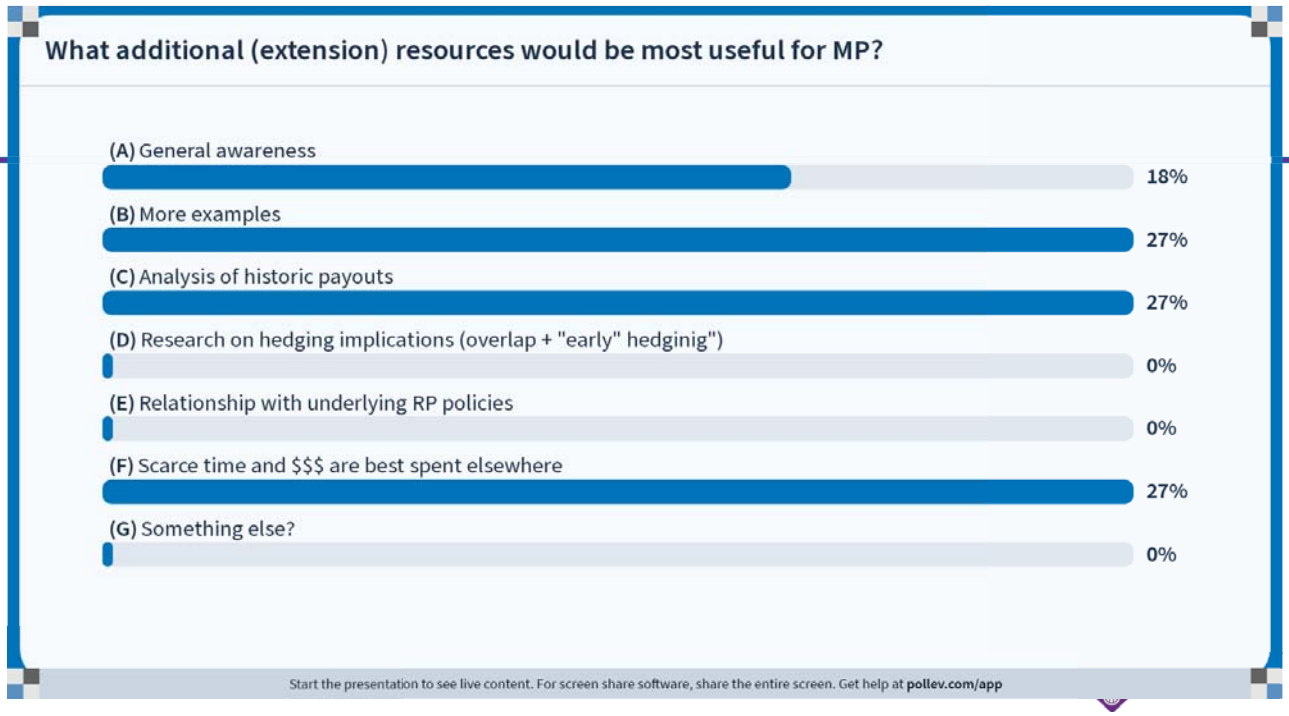

## Questions?
## Comments?
## Thank you!


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# MP components: 2022 Revenue

| | Projected | Actual |
|---|---|---|
| Price | $5.06 | $6.86 |
| Yield | 144.1 b/acre | 161 bu/acre |
| Revenue | $729 | $1104 |

Example is for 2022 non-irrigated corn in Nemaha County.


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# MP Components: 2022 Expenses (price)

| | Projected | Actual |
|---|---|---|
| DAP - price | $608 / ton | **$928 / ton** |
| Diesel - price | $2.03 / gallon | **$3.87 / gallon** |
| Interest – price | 6.21% | **9.78%** |
| Potash – price | $629.10 /ton | $629.10 / ton |
| Urea - Price | $452.12 /ton | **$745.08 /ton** |

Example is for 2023 non-irrigated corn in Nehama county. Price discovery for DAP, Diesel, and Urea was April 2023. Interest rates are currently in price discovery. Prices are based on futures markets for DAP, Diesel, Interest, and Urea.



# MP Components: 2022 Expenses (expenditure)

| | Projected | Actual | Difference |
|---|---|---|---|
| DAP - price | $33.31 | $50.84 | **$17.53** |
| Diesel - price | $16.77 | $31.97 | **$15.20** |
| Interest – price | $10.39 | $19.82 | **$9.43** |
| Potash – price | $18.87 | $18.87 | $0.00 |
| Urea - Price | $58.74 | $96.80 | **$38.06** |

Example is for 2022 non-irrigated corn in Nehama county. Price discovery for DAP, Diesel, and Urea was April 2022. Price discover for interest rates was October 2022. Prices are based on futures markets for DAP, Diesel, Interest, and Urea.

# 2022 Margin - example

| | Projected | Actual | Difference |
|---|---|---|---|
| Revenue | $729 | $1104 | $375 |
| Costs subject to price changes | $127.68 | $198.47 | $71 |
| Costs not subject to price changes | $206.90 | $206.90 | $0 |
| Interest | $10.39 | $19.82 | $9.43 |
| Total costs | $345/acre | $425/acre | $80 |
| Margin | $384 | $679 | $295 |

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# 2022 – Nemaha summary

- Margins **$295/acre** higher than expected, due to higher-than-normal yields and higher corn prices
  - Despite increased expense of **$80/acre**
- Average yields would have led to a margin of around **$562/acre**; still above the expected margin of $384/acre
  - Impact of corn price increase was larger than substantial input price increases
- Yields of around of around **118 bu/acre** would have led to actual margin being equal to expected margin
- 2018 yields of **72 bu/acre** would have led to payouts of around **$279/acre**

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