

# Intersection of Crop Insurance and Futures Markets

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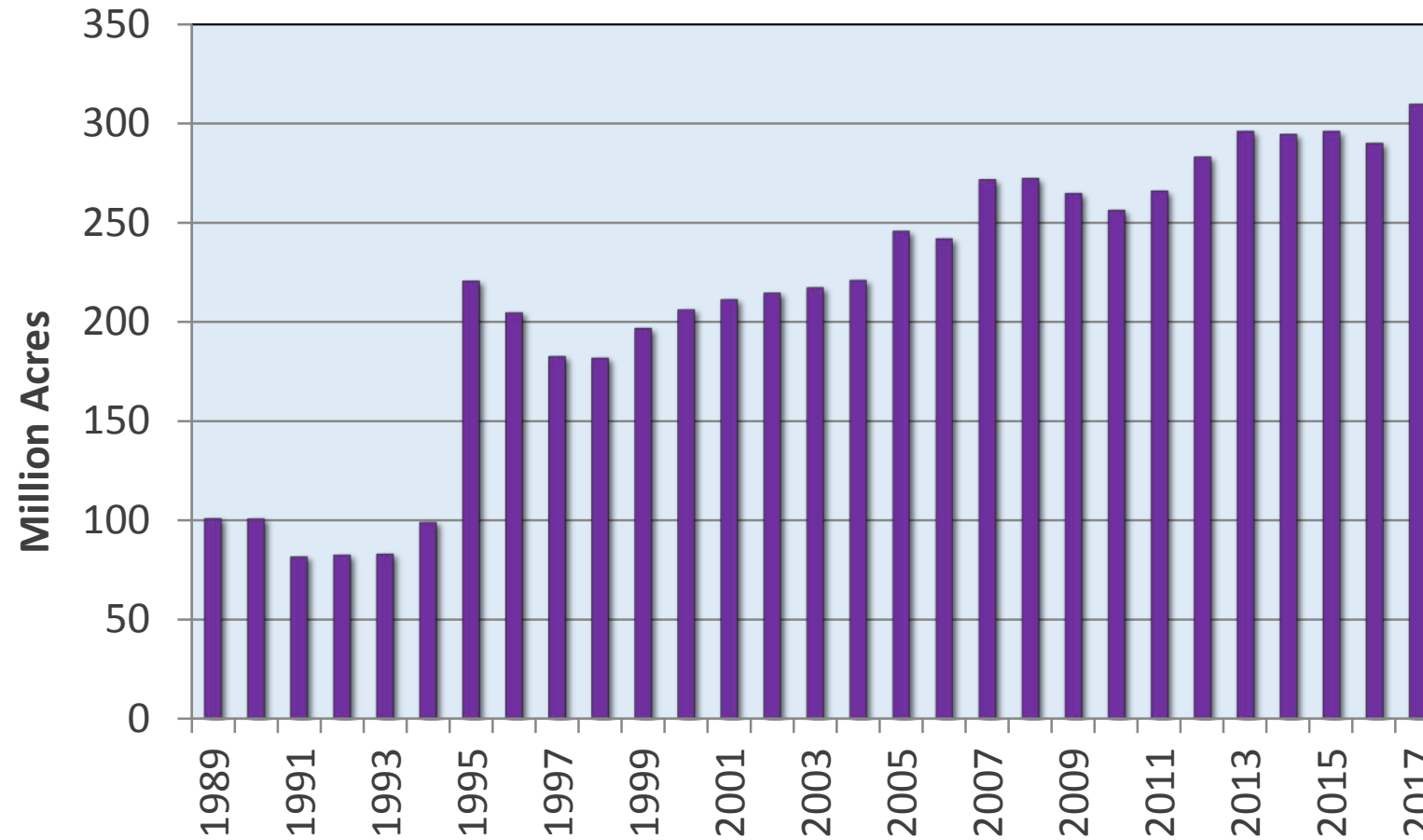
# Crop Insurance Today

- Program administered through public-private partnership
- RMA develops and approves policies and procedures, provides regulatory oversight and reinsurance
- The insurance companies have a contract with RMA to sell and service Federal crop insurance policies
- Insurance contract between company and farmer, reinsured by RMA

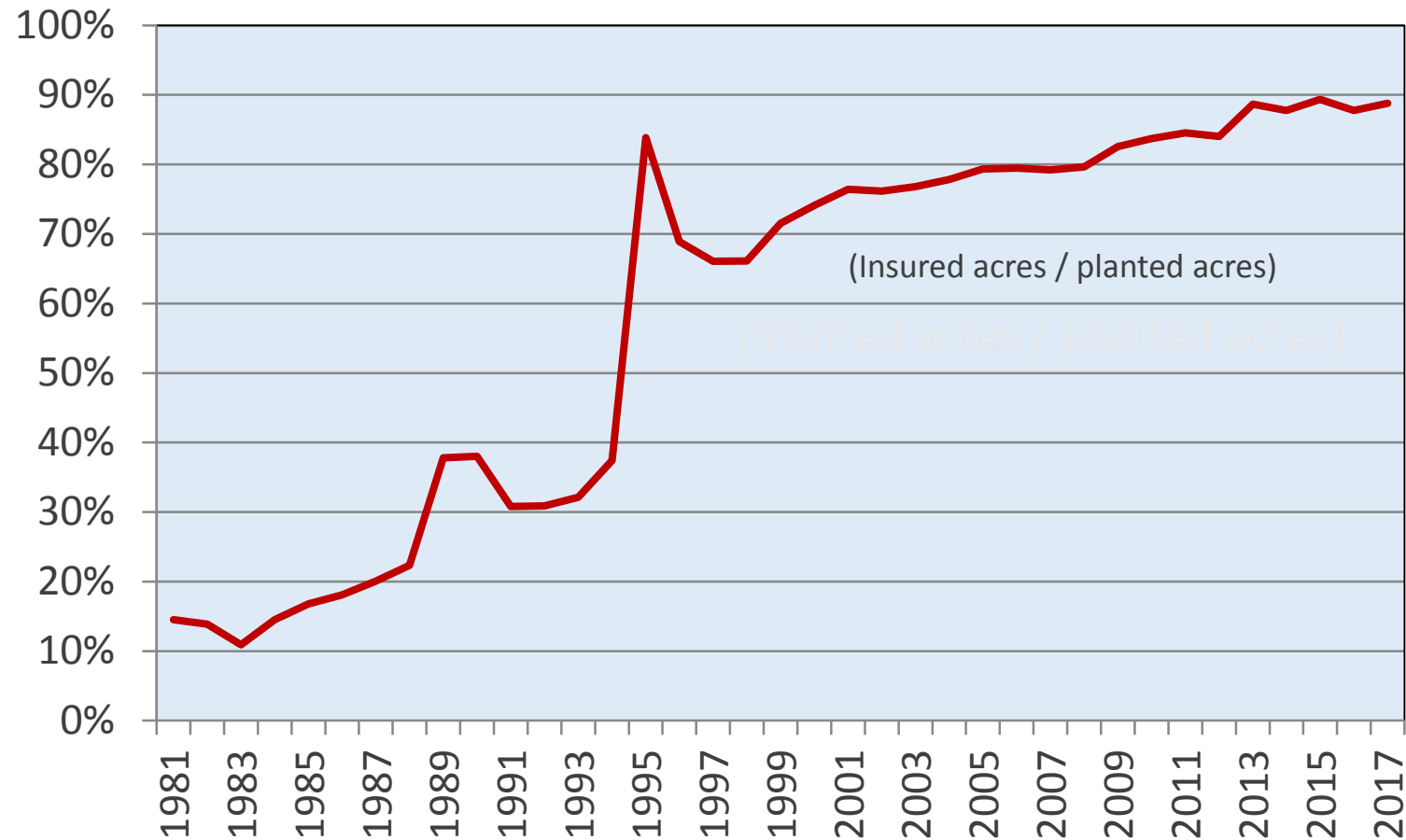


Federal crop insurance is offered through private sector crop insurance companies.

# 310 Million Acres Insured

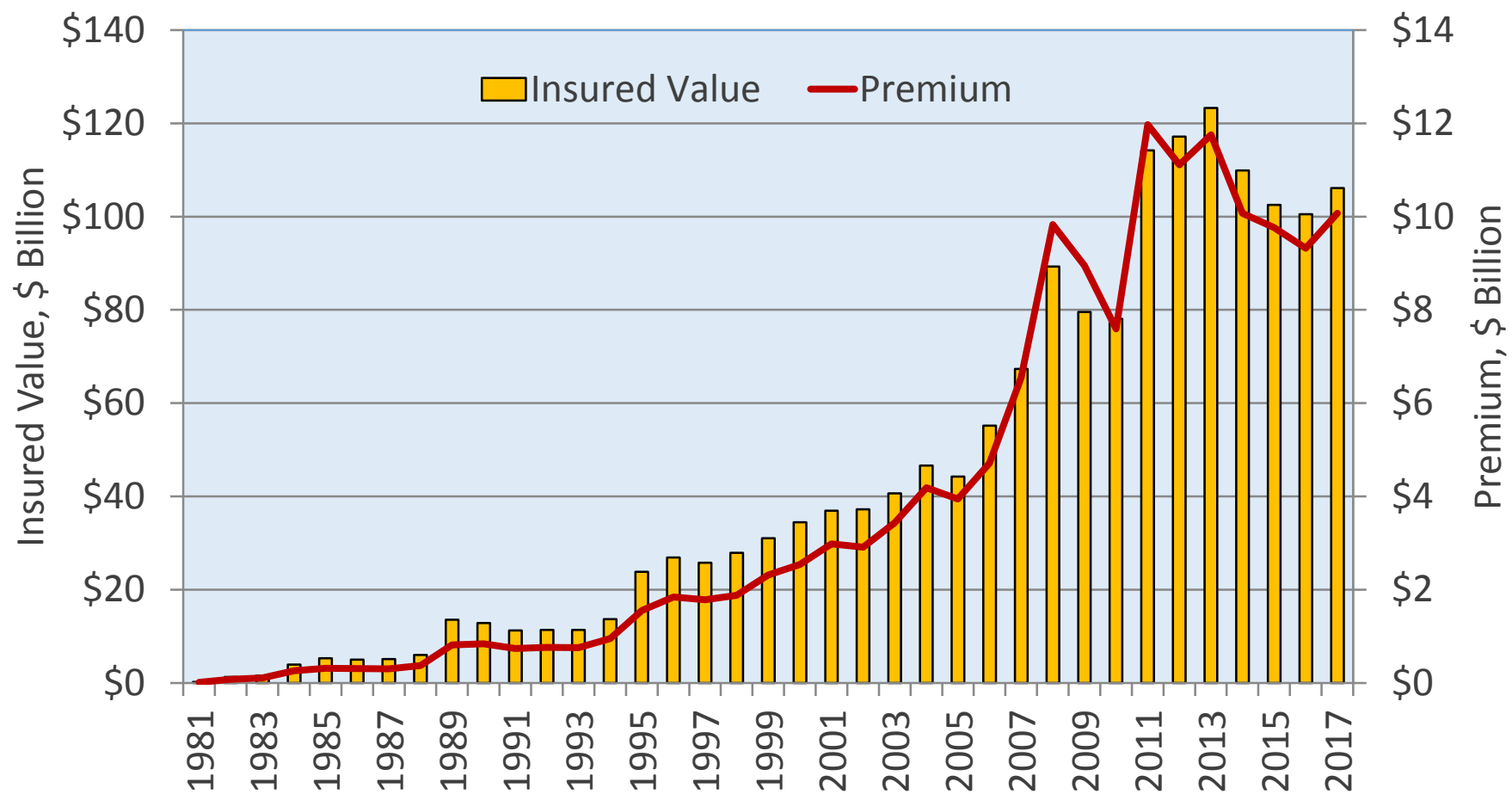


# Overall Participation Rate – Major Crops\*



\*Barley, corn, cotton, grain sorghum, peanuts, potatoes, rice, soybeans, tobacco, and wheat

# Amount of Insurance & Premium



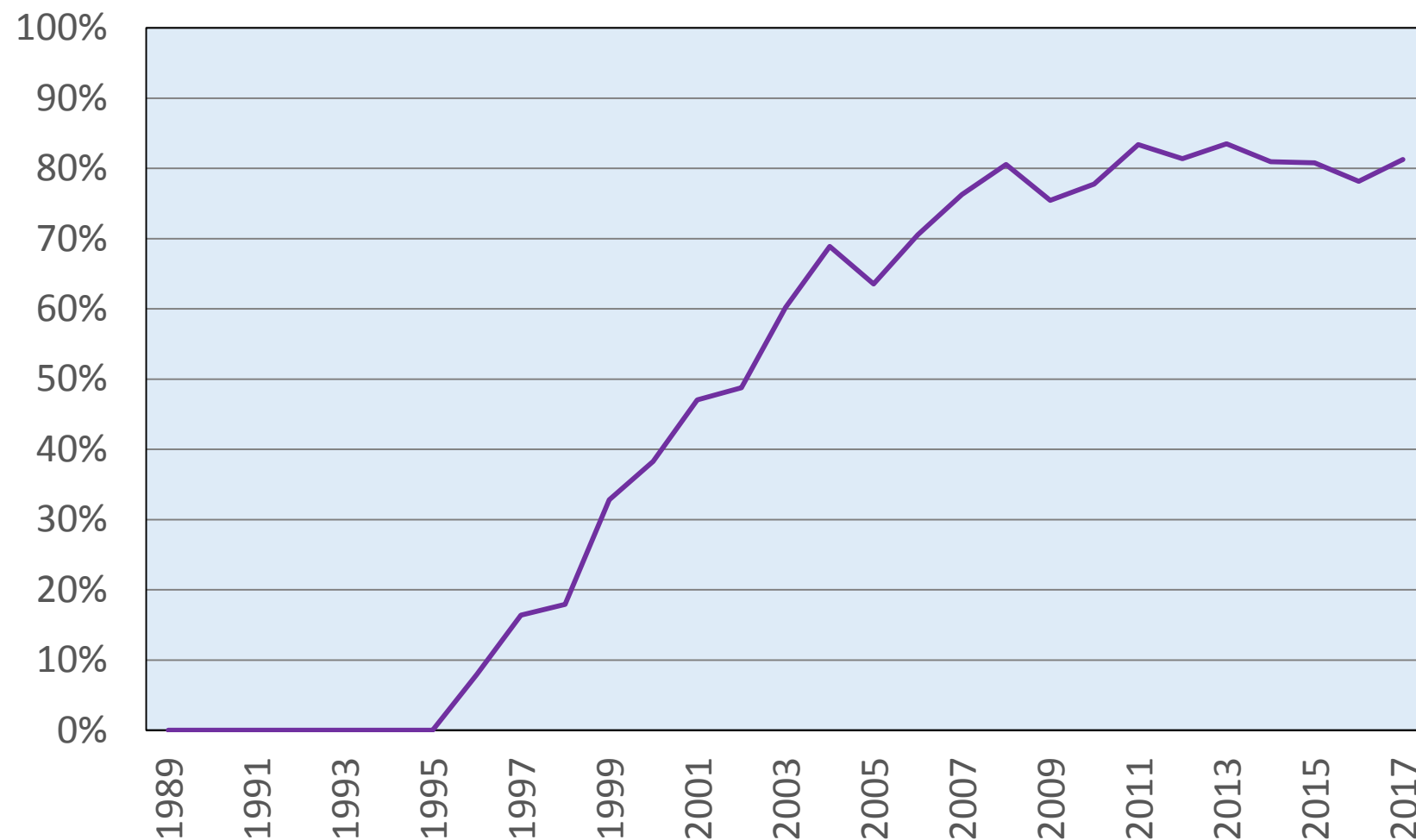
# Commodity Valuation – Yield Insurance

- If revenue coverage not available, single price election is set to reflect estimate of season average price
  - Set using analysis of market information
  - Intended plantings, trend yields, import and export projections, carry-over stocks, etc.
  - NASS, AMS, trade associations

# Revenue Coverage w/o Exchange

- Difficult to develop revenue insurance without futures exchange
  - Exchange is an aggregator of information
  - Objective, unbiased 3<sup>rd</sup> party source of prices
  - Exchange values forward looking, not backward looking
  - Less vulnerable to adverse selection

# Revenue Policies' Share of Premium

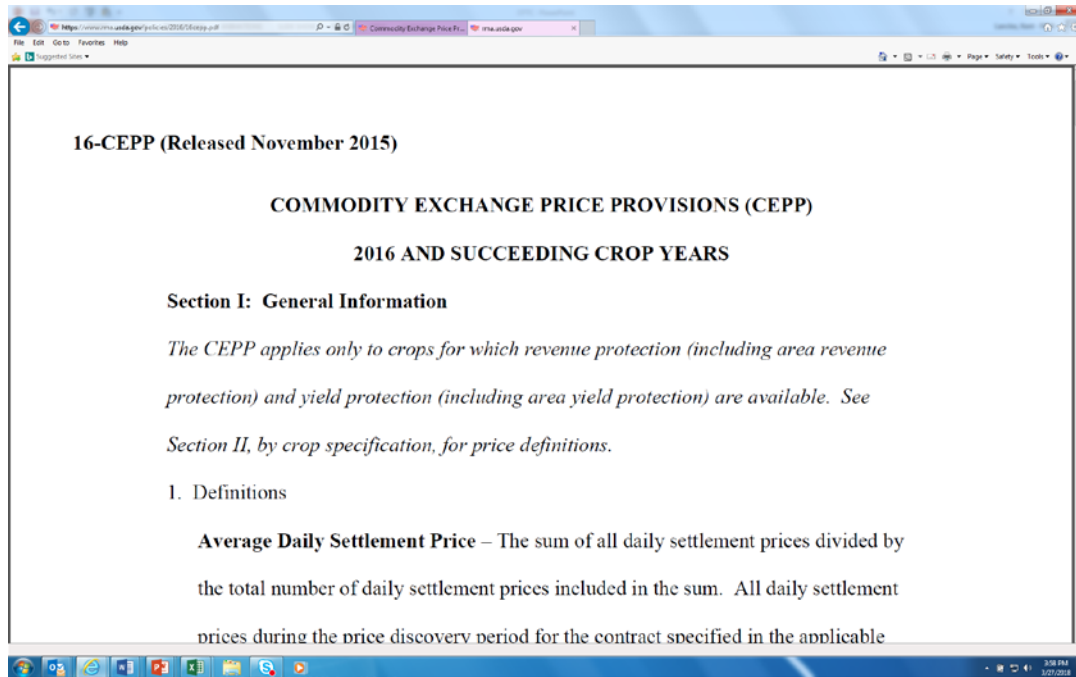




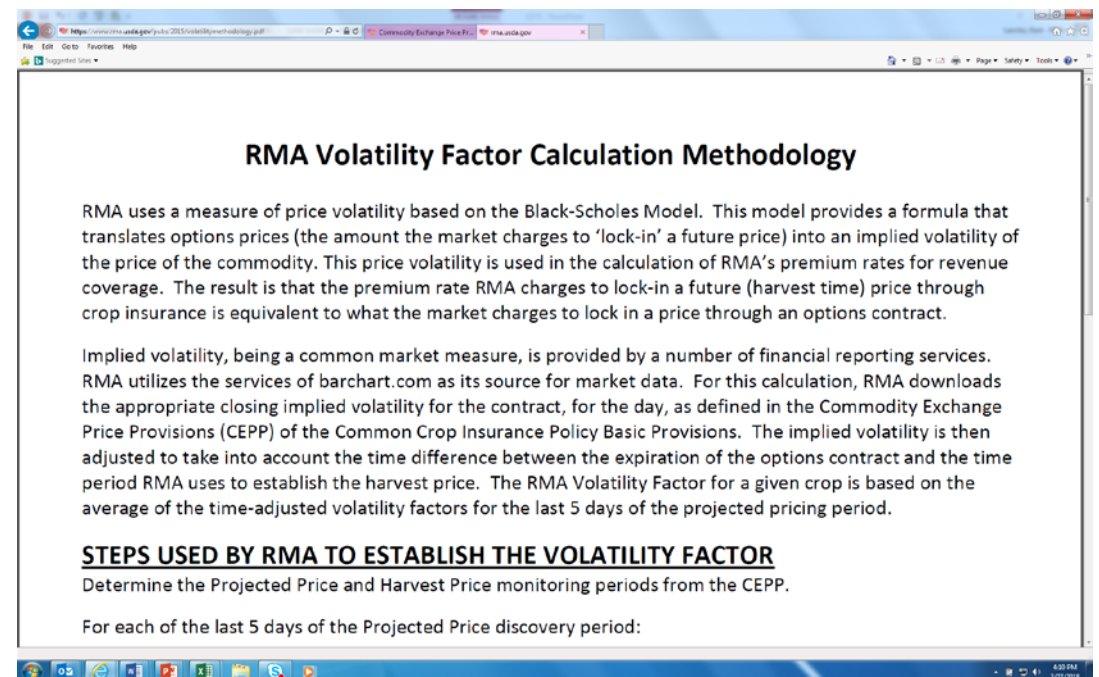
# Prices for Yield & Revenue Products

- Crops with Yield/Revenue Protection
  - Use Projected Price to determine insurance coverage based on futures exchange values
  - Commodity Exchange Price Provisions (CEPP) – provides method for calculating projected and harvest prices
- For corn, exchange is Chicago Mercantile Exchange (CME)
  - December CME contract for most states
  - Projected price discovery period: Feb 1 to Feb 28
  - Sales closing: March 15
  - Harvest price discovery period: Oct 1 to Oct 30

# Commodity Exchange Price Provisions



<https://www.rma.usda.gov/policies/2016/16cepp.pdf>



<https://www.rma.usda.gov/pubs/2015/volatilitymethodology.pdf>

# Commodity Exchange Price Provisions

CORN – January 31 Sales Closing Date				Projected Price Discovery Period		Harvest Price Discovery Period	
State	Commodity Exchange	Contract Commodity	Contract Month	Beginning Date	Ending Date	Beginning Date	Ending Date
Texas	CBOT	Corn	September	Dec 15	Jan 14	Aug 1	Aug 31

CORN – February 15 Sales Closing Date				Projected Price Discovery Period		Harvest Price Discovery Period	
State	Commodity Exchange	Contract Commodity	Contract Month	Beginning Date	Ending Date	Beginning Date	Ending Date
Texas	CBOT	Corn	December	Jan 1	Jan 31	Sep 1	Sep 30

CORN – February 28 Sales Closing Date				Projected Price Discovery Period		Harvest Price Discovery Period	
State	Commodity Exchange	Contract Commodity	Contract Month	Beginning Date	Ending Date	Beginning Date	Ending Date
Alabama	CBOT	Corn	September	Jan 15	Feb 14	Aug 1	Aug 31
Arizona	CBOT	Corn	December	Jan 15	Feb 14	Oct 1	Oct 31
Arkansas	CBOT	Corn	December	Jan 15	Feb 14	Aug 15	Sep 14
California	CBOT	Corn	December	Jan 15	Feb 14	Oct 1	Oct 31
Florida	CBOT	Corn	September	Jan 15	Feb 14	Aug 1	Aug 31
Georgia	CBOT	Corn	September	Jan 15	Feb 14	Aug 1	Aug 31
Louisiana	CBOT	Corn	September	Jan 15	Feb 14	Aug 1	Aug 31
Mississippi	CBOT	Corn	December	Jan 15	Feb 14	Aug 15	Sep 14
Nevada	CBOT	Corn	December	Jan 15	Feb 14	Oct 1	Oct 31

<https://www.rma.usda.gov/policies/2014/14ceppcorn.pdf>

# Commodity Exchange Price Provisions

- Reference contract: New crop futures for end of typical harvest period
- Threshold requirement
  - One full active trading day (open interest at least one)
  - At least one trade (volume at least one)
- If threshold requirement not met
  - Substitute immediately prior contract
  - Threshold requirement still not met for ...
    - Projected price: no revenue coverage, price determined by RMA
    - Harvest price: price determined by RMA

# Commodity Exchange Price Provisions

- Volatility calculation
  - Component of premium rate
  - Implied volatility from Barchart.com
  - Adjust for time difference between expiration of options contract and time period used to establish harvest price

# Comparison of Coverages – Price Decline

	Revenue Insurance	Revenue Insurance HPE	Yield Insurance
Average Yield	100	100	100
Projected Price	\$4.00	\$4.00	\$4.00
Coverage Level	75%	75%	75%
Guarantee	\$300	\$300	75
Actual Yield	65	65	65
Harvest Price	\$3.00	\$3.00	n/a
Adjusted Guarantee	\$300	\$300	n/a
Rev/Prod to Count	\$195	\$195	65
Indemnity	\$105	\$105	\$40

# Comparison of Coverages – Price Increase

	Revenue Insurance	Revenue Insurance HPE	Yield Insurance
Average Yield	100	100	100
Projected Price	\$4.00	\$4.00	\$4.00
Coverage Level	75%	75%	75%
Guarantee	\$300	\$300	75
Actual Yield	65	65	65
Harvest Price	\$5.00	n/a	n/a
Adjusted Guarantee	\$375	\$300	n/a
Rev/Prod to Count	\$325	\$260	65
Indemnity	\$50	\$40	\$40

# Extending Revenue Insurance

- Exchange based revenue insurance available for selected non-exchange commodities and/or types, e.g.,
  - Barley, grain sorghum, sunflowers, organic types
  - Prices factored from reference exchange contract
    - Barley & grain sorghum = corn; Sunflowers = soybean oil
    - Organics = corresponding conventional crop
    - Factor typically a multi-period average of relationship between reference crop and crop of interest
    - Organic corn & soybeans = AMS “National Organic Grain & Feedstuffs” to CME contract
    - Organic cotton = Proprietary organic to NASS conventional



# Extending Revenue Insurance



<https://www.rma.usda.gov/pubs/>

# Thank you

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