



**DIVISION OF AGRICULTURE**  
**RESEARCH & EXTENSION**

*University of Arkansas System*

# **2012 Farm Bill**

## **Analysis of Alternative Programs for Arkansas Agriculture**

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# Key Questions

- What are the key changes ahead?
  - What stays from the 2008 farm bill?
  - What will likely be removed?
  - What will be new?
- What is the impact of these changes for Arkansas crop producers?

# Moving from certainty to uncertainty in government support

- Why?
  1. Elimination of direct payments
  2. Elimination of counter-cyclical payments
  3. Replacing these programs with “shallow loss” programs that pay out on a probability basis.
  4. The basic government support will be through subsidies for crop insurance, which today covers only part of the risks of irrigated crops.

# Cost of losing direct payments

**Report: Economic Impacts Resulting From the Elimination of \$240 Million in Agriculture Direct Payments to Arkansas Farmers**

## **Assumptions:**

- The mix of crops produced and production levels will not change; i.e. the inputs used to produce the crops will remain the same
- All direct payments are captured by in-state landowners/renters
- Assume that 100%/ 95%/90%/80% of the loss in direct payments reduces household consumption and 0%/ 5%/10%/20% reduces farm investment

# Cost of losing direct payments

**Table 1. Economic Impacts of a \$240 Million Decline in Direct Agriculture Payments on the State of Arkansas**

<b>Assumptions</b>					
<b>HH Spending</b>	<b>Farm Machinery</b>	<b>Employment</b>	<b>Labor Income</b>	<b>Value Added</b>	<b>Output</b>
\$(240,000,000)	\$ -	(2,023)	\$(71,592,941)	\$(131,753,932)	\$(229,161,325)
\$(228,000,000)	\$(12,000,000)	(1,971)	\$(70,322,194)	\$(129,658,603)	\$(232,046,744)
\$(216,000,000)	\$(24,000,000)	(1,920)	\$(69,051,446)	\$(127,563,275)	\$(234,932,164)
\$(192,000,000)	\$(48,000,000)	(1,818)	\$(66,509,952)	\$(123,372,617)	\$(240,703,002)

# Cost of losing direct payments

**Table 2. State & Local Tax Impacts from a Decline in Direct Payments of \$240 Million**

HH Spending	Farm Machinery	Description	Totals
\$(240,000,000)	\$ -	100% Consumer Spending (CS)	\$ (15,411,693)
\$(228,000,000)	\$(12,000,000)	95% CS & 5% Farm Machinery (FM)	\$ (14,641,108)
\$(216,000,000)	\$(24,000,000)	90% CS & 10% FM	\$ (14,514,157)
\$(192,000,000)	\$(48,000,000)	80% CS & 20% FM	\$ (13,616,620)

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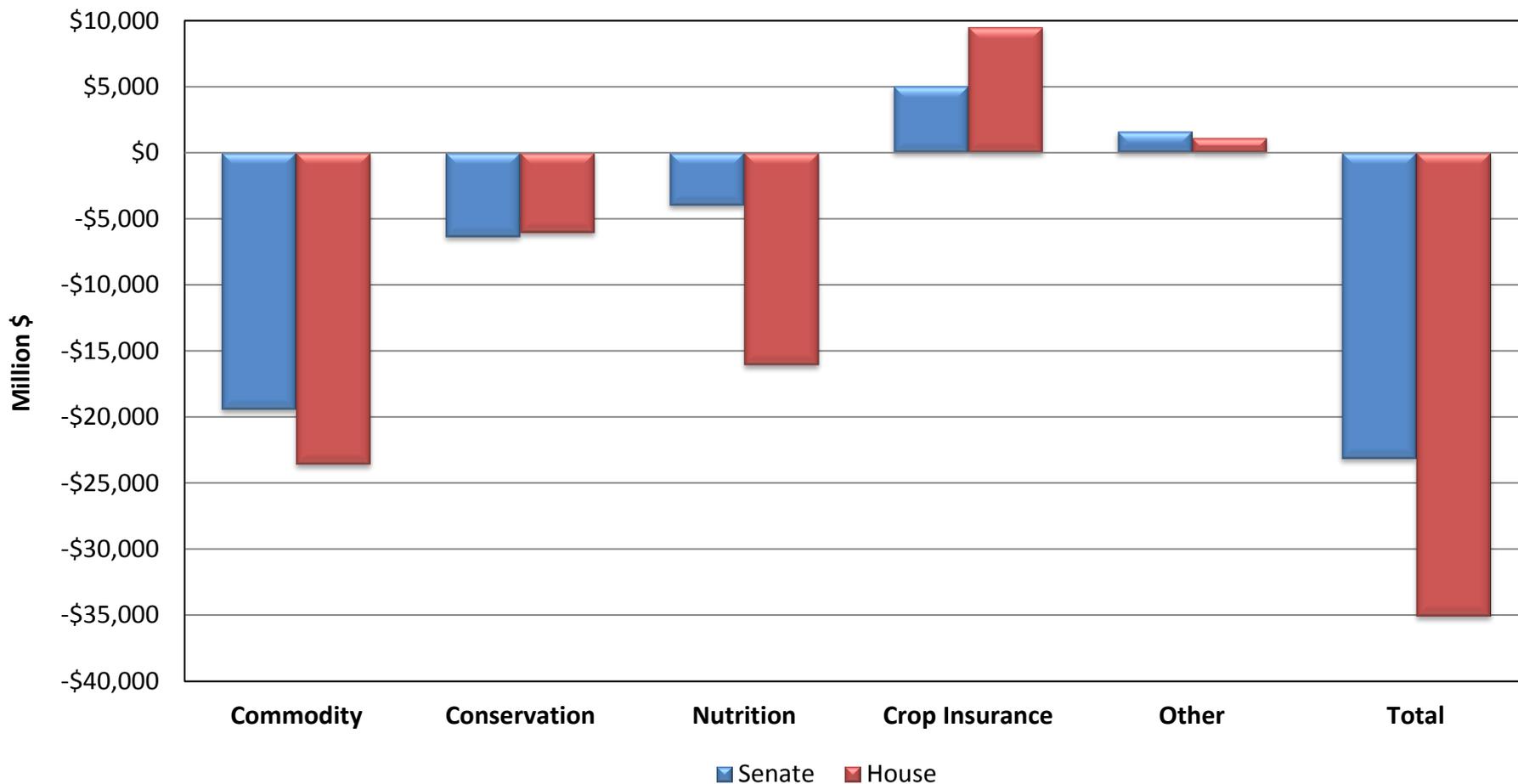
[\[1\]](#) These tax estimates represent averages for all industries and businesses in Arkansas and are not specific to agriculture or any one industry. Therefore, these estimates are not specific to the agriculture industry.

# 2012 Farm Bill

- 2008 Farm Bill expired (9/30/2012)
- Senate passed the Agriculture Reform, Food, and Jobs Act of 2012 (S. 3240)
  - Date: 6/21/2012
  - Vote: 64-35
- House Committee on Agriculture passed the Federal Agriculture Reform and Risk Management (FARRM) Act of 2012 (H.R. 6083)
  - Date: 7/12/2012
  - Vote: 35-11
  - Was not discussed on the House floor
- No 2012 Farm Bill before the election. Lame duck session?

# Funding Comparison

Projected Changes in Spending (by Title) Compared to the March 2012 Baseline for the Senate and House Committee on Agriculture 2012 Farm Bills (2013-2022)



# Funding Comparison Cont'd

Projected Spending (Million \$), by Crop under the March 2012 Baseline and the Senate and House Committee on Agriculture 2012 Farm Bills (2013-2022)

Crop	March 2012 Baseline	Senate Bill	Percent Change	House Bill	Percent Change
Corn	\$ 22,179	\$ 16,639	-25	\$ 11,148	-50
Soybeans	\$ 7,618	\$ 9,133	20	\$ 6,109	-20
Wheat	\$ 11,131	\$ 4,403	-60	\$ 5,683	-49
Cotton	\$ 6,843	\$ 3,990	-42	\$ 4,666	-32
Rice	\$ 4,336	\$ 1,282	-70	\$ 3,261	-25
Peanuts	\$ 1,013	\$ 590	-42	\$ 1,200	18
Sorghum	\$ 2,038	\$ 1,553	-24	\$ 1,017	-50
Barley	\$ 852	\$ 214	-75	\$ 714	-16

# Agriculture Reform, Food, and Jobs Act of 2012 (S. 3240) Safety Net Programs

## NEW & RETAINED PROGRAMS

- **Title I: Commodities**
  1. Agriculture Risk Coverage (ARC)
  2. Loan-Deficiency Payments (LDPs)
  
- **Title XI: Crop Insurance**
  1. Supplemental Coverage Option (SCO)
  2. Stacked Income Protection Plan for Producers of Upland Cotton (STAX)

## ELIMINATED PROGRAMS

1. Direct Payments (DPs)
2. Counter-Cyclical Payments (CCPs)
3. Average Crop Revenue Election (ACRE)

## OPPOSITION BY THE SOUTH

- Southern state Senators viewed the bill as unfair to southern commodities relative to mid-west commodities and voted against it

# Federal Agriculture Reform and Risk Management (FARRM) Act of 2012 (H.R. 6083) Safety Net Programs

## NEW & RETAINED PROGRAMS

- **Title I: Commodities**
  1. Price Loss Coverage (PLC)
  2. Revenue Loss Coverage (RLC)
  3. Loan-Deficiency Payments (LDPs)
- **Title XI: Crop Insurance**
  1. Supplemental Coverage Option (SCO)
  2. Stacked Income Protection Plan for Producers of Upland Cotton (STAX)

## ELIMINATED PROGRAMS

1. Direct Payments (DPs)
2. Counter-Cyclical Payments (CCPs)
3. Average Crop Revenue Election (ACRE)

## SUPPORT BY THE SOUTH

- Treated southern commodities more equitably as compared to the Senate version of the bill

# Safety Net Programs Comparison Under Both Bills

- **Similarities:**

- Eliminate same Title I programs (DPs, CCPs, ACRE)
- Retain LDPs in Title I
- Add same Title XI programs (STAX, SCO)
- “Shallow revenue loss” approach

- **Differences:**

- Senate Bill - ARC uses a flex price - support changes with market prices: interestingly, as price declines, safety net support declines
- House Bill - PLC or RLC uses a fixed price, support remains tied to a “reference price”

# Key Differences Summary

Provision	ARC (Individual)	ARC (County)	PLC	RLC
Revenue Guarantee	Starts at 89% of 5-year Olympic Average	Starts at 89% of 5-year Olympic Average	N/A	Starts at 85% of 5-year Olympic Average
Payment acres	65% of planted	80% of planted	85% of planted	85% of planted
Payment band	10% (89% -79%)	10% (89% -79%)	N/A	10% (85% -75%)
Reference Price	Only for rice and peanuts	Only for rice and peanuts	For all commodities	For all commodities
Yield update	N/A	N/A	Yes	N/A
Options	Can opt out for SCO with coverage up to 90%, otherwise max SCO 79%	Can opt out for SCO with coverage up to 90%, otherwise max SCO 79%	Can add SCO coverage up to 90%	Can opt out for SCO coverage
Pay Limit	\$50,000/person	\$50,000/person	\$125,000/person	\$125,000/person
AGI Limit	\$750,000	\$750,000	\$950,000	\$950,000

# 2013 Farm Bill Variables

<b>Crop</b>	<b>Unit</b>	<b>Loan Rate</b>	<b>Reference Price</b>
Long-Grain Rice	\$/cwt	6.50	14.00
Medium-Grain Rice	\$/cwt	6.50	14.00
Soybeans	\$/bu	5.00	8.40
Wheat	\$/bu	2.94	5.50
Corn	\$/bu	1.95	3.70
Upland Cotton	\$/lbs	1/	2/

1/ The cotton loan rate is based on a 2-year simple average of the adjusted world cotton price for the immediately preceding years, and must fall in the range of \$0.47-\$0.52/lbs.

2/ For the STAX program, the House bill establishes a \$0.6861/lbs reference price for upland cotton.

# Framework of analysis

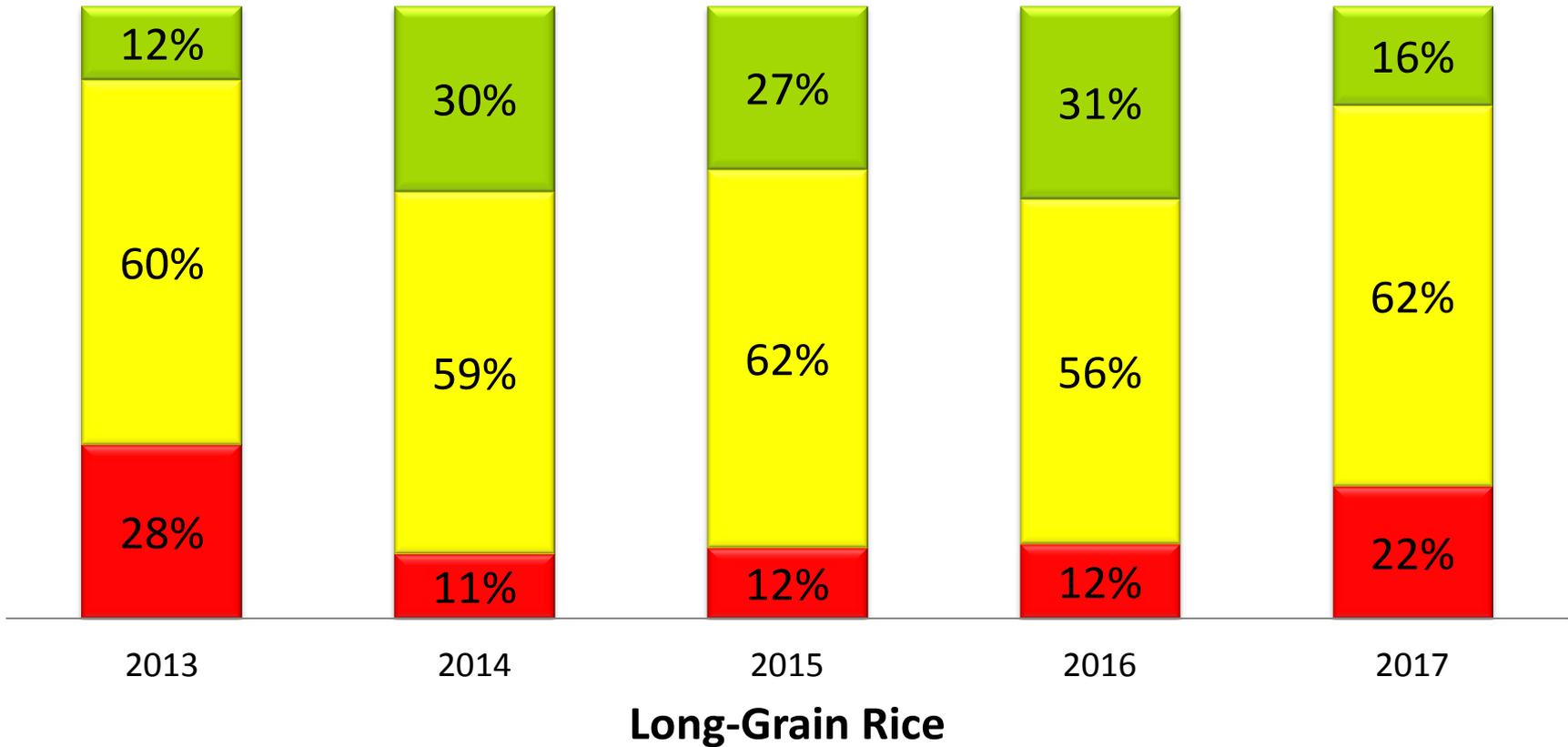
- Arkansas Representative Panel Farms Framework
- Stochastic simulation of farm-related variables:
  - national average and world crop prices
  - futures market projected and harvest crop prices
  - farm and county-specific crop yields
- 500 iterations (random draws) per variable per year
- Period: 2013-2017
- Data sources: FAPRI-MU; USDA/ERS; USDA/NASS; USDA/RMA; Arkansas representative panel farm interviews
- Arkansas Global Rice Model (AGRM)

# Arkansas Representative Panel Farms

Name	ARWR1400	ARHR3000	ARHR3240	ARNC5000	ARC7500
Location	Wynne	Hoxie	Stuttgart	Leachville	McGehee
County	Cross	Lawrence	Arkansas	Mississippi	Desha
Acres - Owned	420	1,000	648	1,000	1,200
Acres - Crop Share Lease	490	1,500	1,552	3,200	5,985
Acres - Cash Lease	490	500	1,040	800	315
<b>Total Acres</b>	<b>1,400</b>	<b>3,000</b>	<b>3,240</b>	<b>5,000</b>	<b>7,500</b>
Rice	700	1,450	1,620	0	1,875
Long-Grain	700	1,300	1,620	0	1,875
Medium-Grain	0	150	0	0	0
Soybeans	700	1,250	1,296	0	1,625
Cotton	0	0	0	5,000	1,500
Corn	0	300	0	0	1,500
Wheat	0	0	324	0	1,000

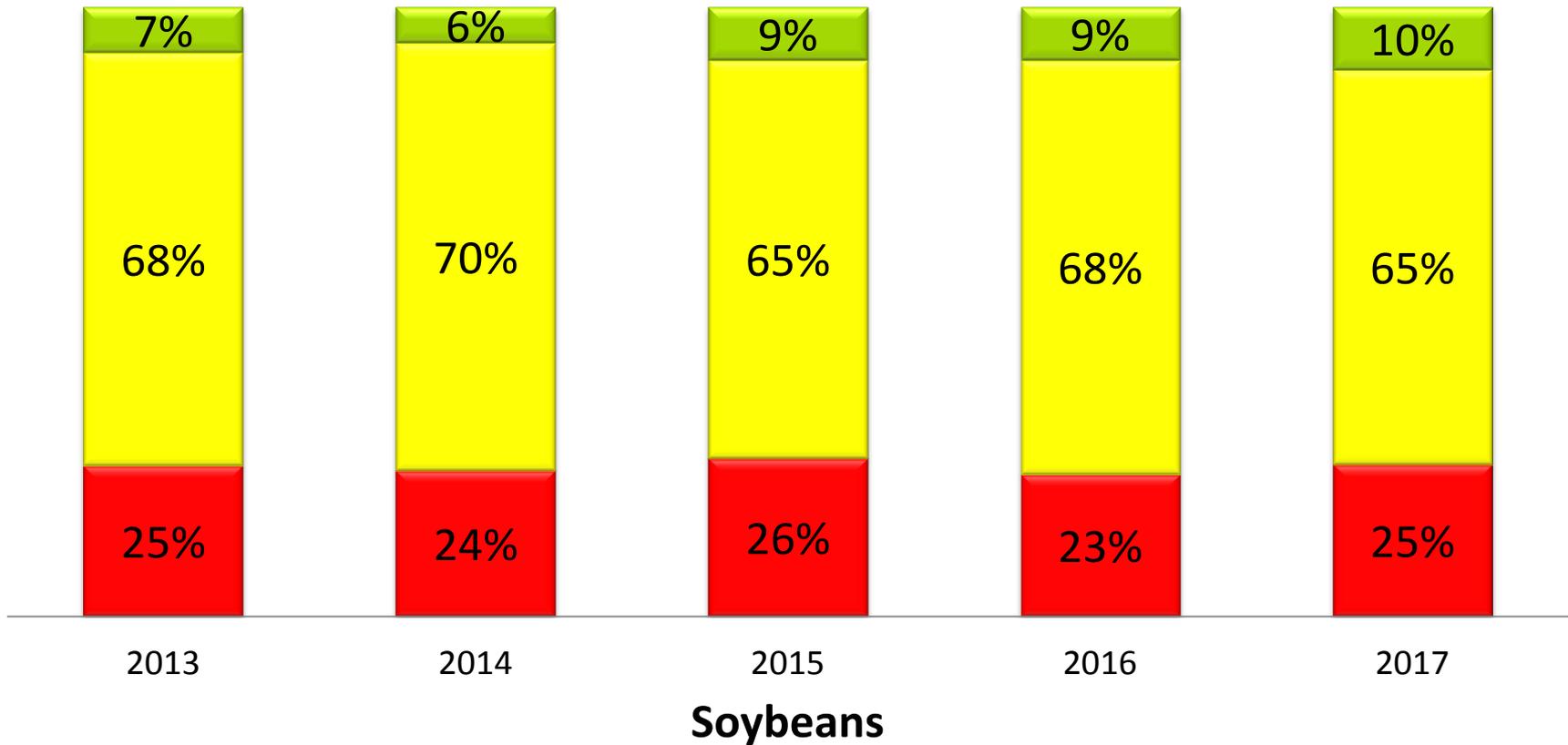
# Stochastic Results: National Average Crop Prices

■ <\$10/cwt    ■ \$10-\$14/cwt    ■ >\$14/cwt



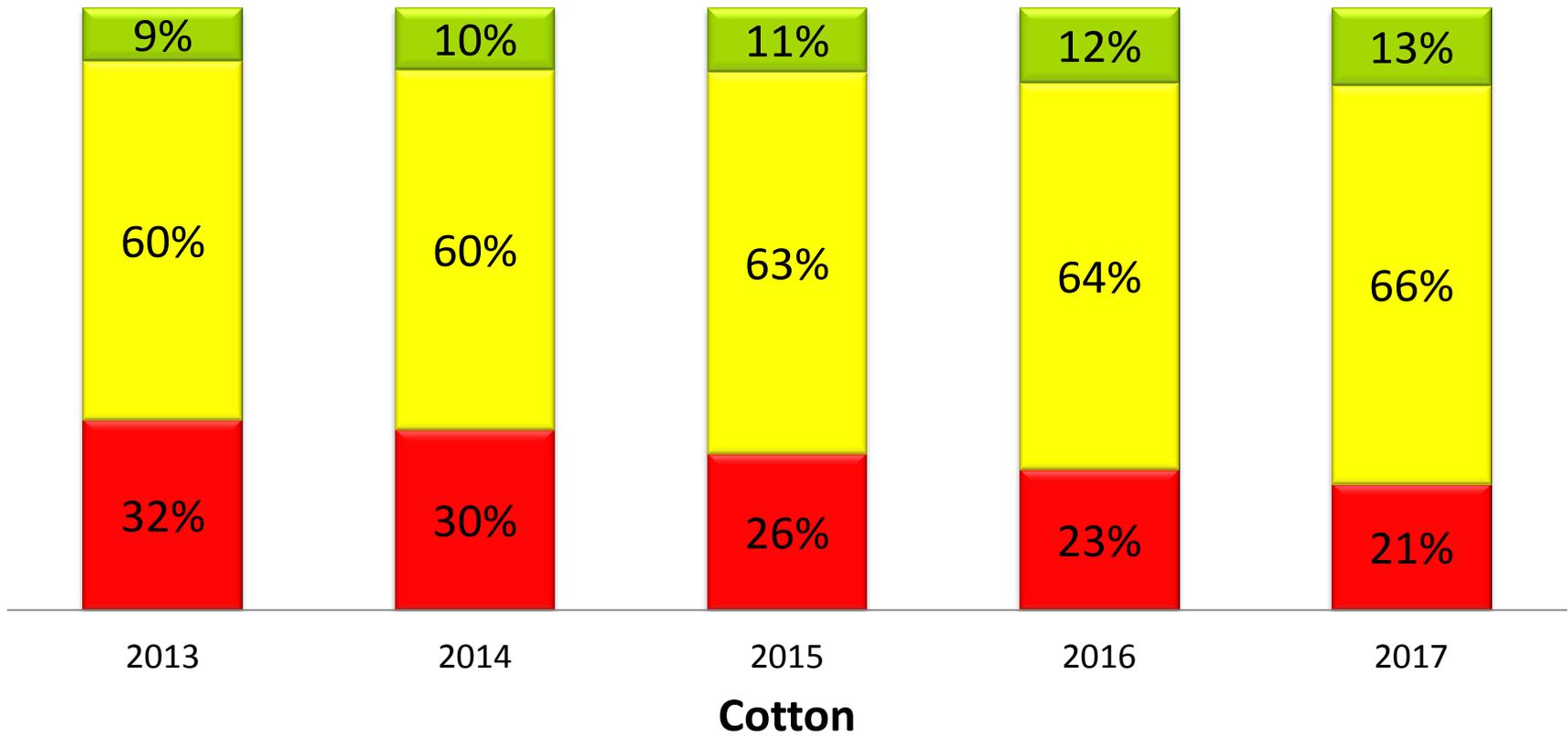
# Stochastic Results: National Average Crop Prices Cont'd

■ <\$10/bu   ■ \$10-14/bu   ■ >\$14/bu



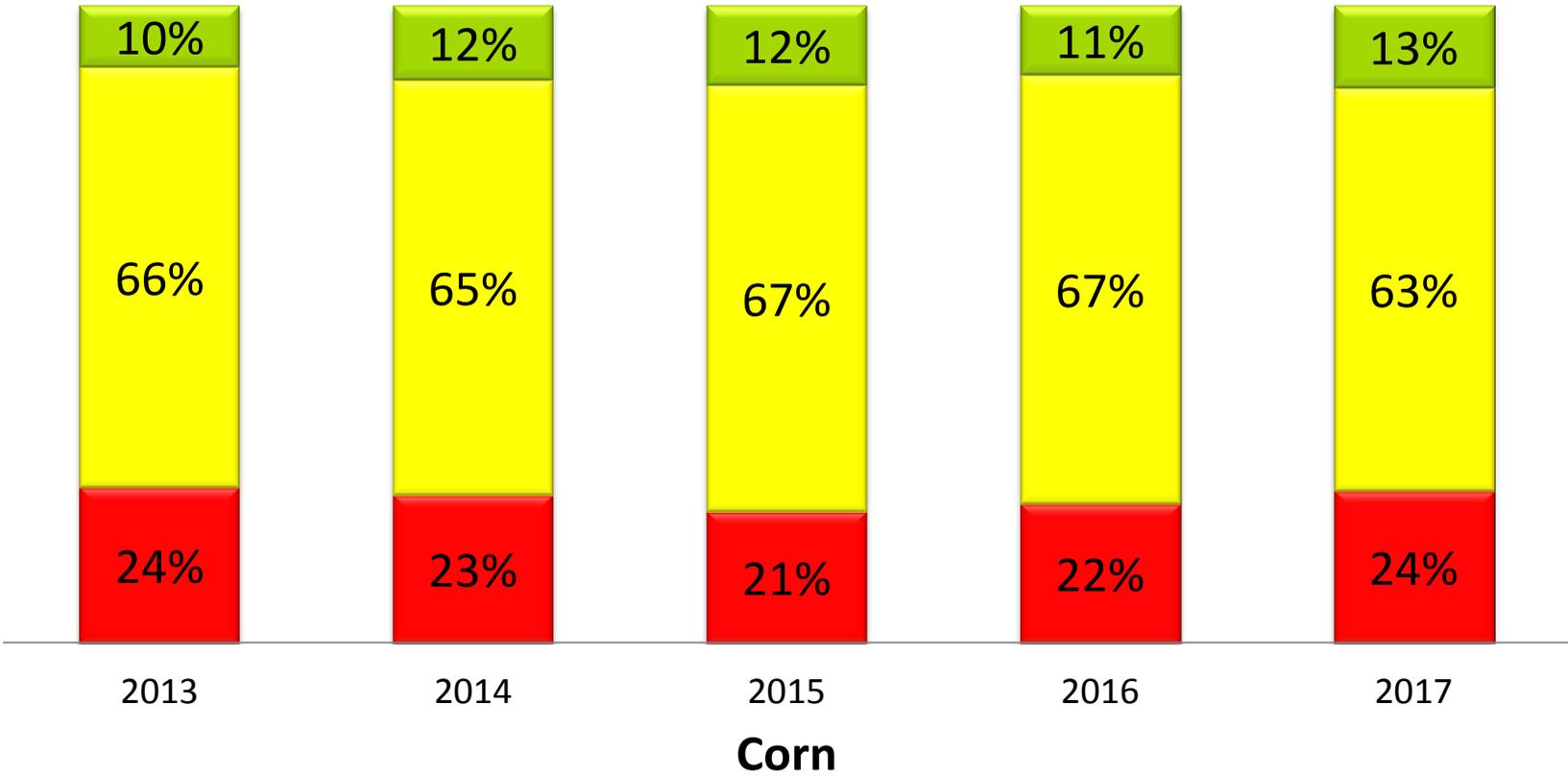
# Stochastic Results: National Average Crop Prices Cont'd

■ <\$0.7/lbs    ■ \$0.7-\$1/lbs    ■ >\$1/lbs



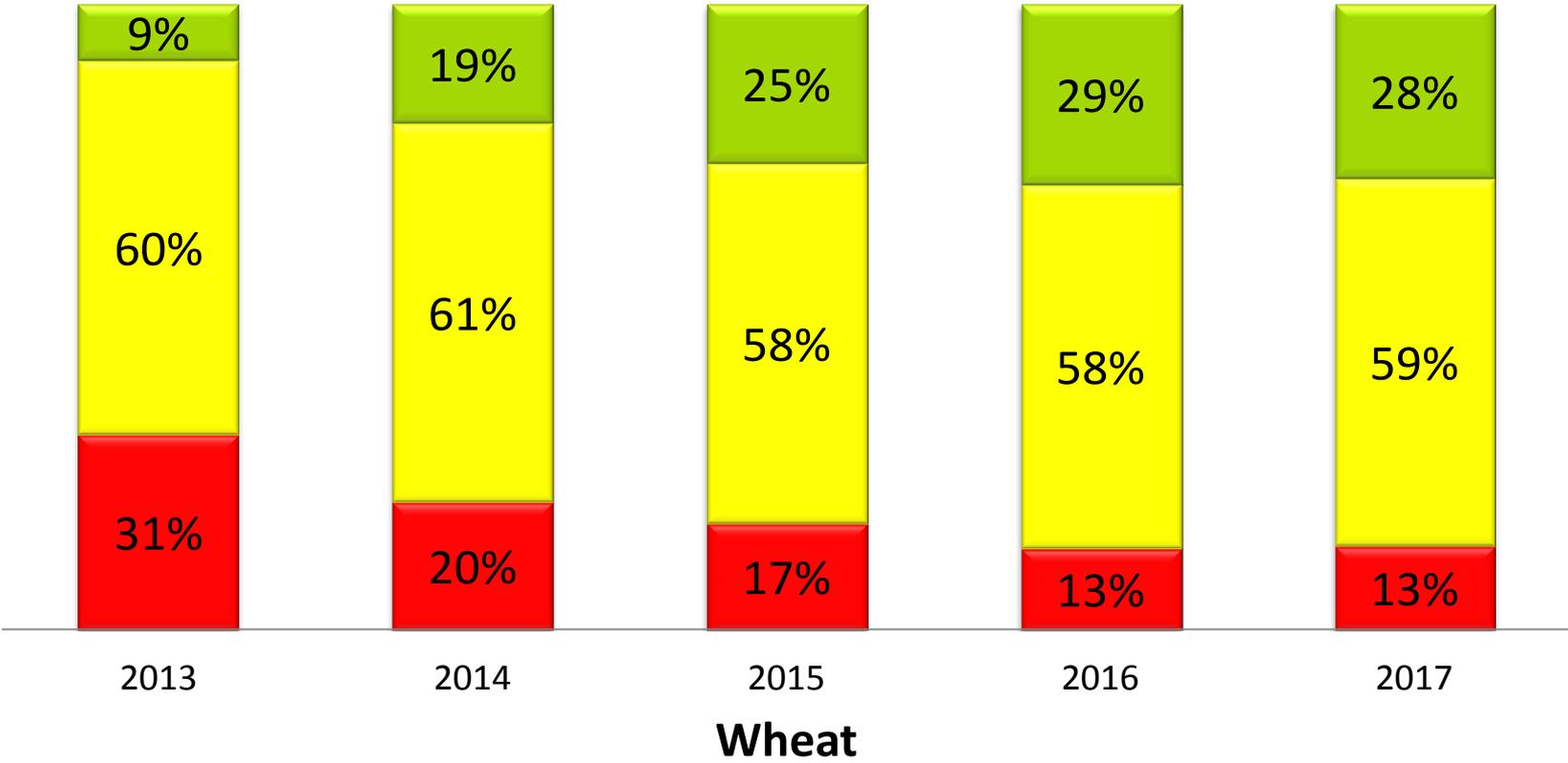
# Stochastic Results: National Average Crop Prices Cont'd

■ <\$4/bu   ■ \$4-\$6/bu   ■ >\$6/bu



# Stochastic Results: National Average Crop Prices Cont'd

■ <\$5/bu   ■ \$5-\$7/bu   ■ >\$7/bu



# Stochastic Results Comparison (Title I)

## Stuttgart Farm

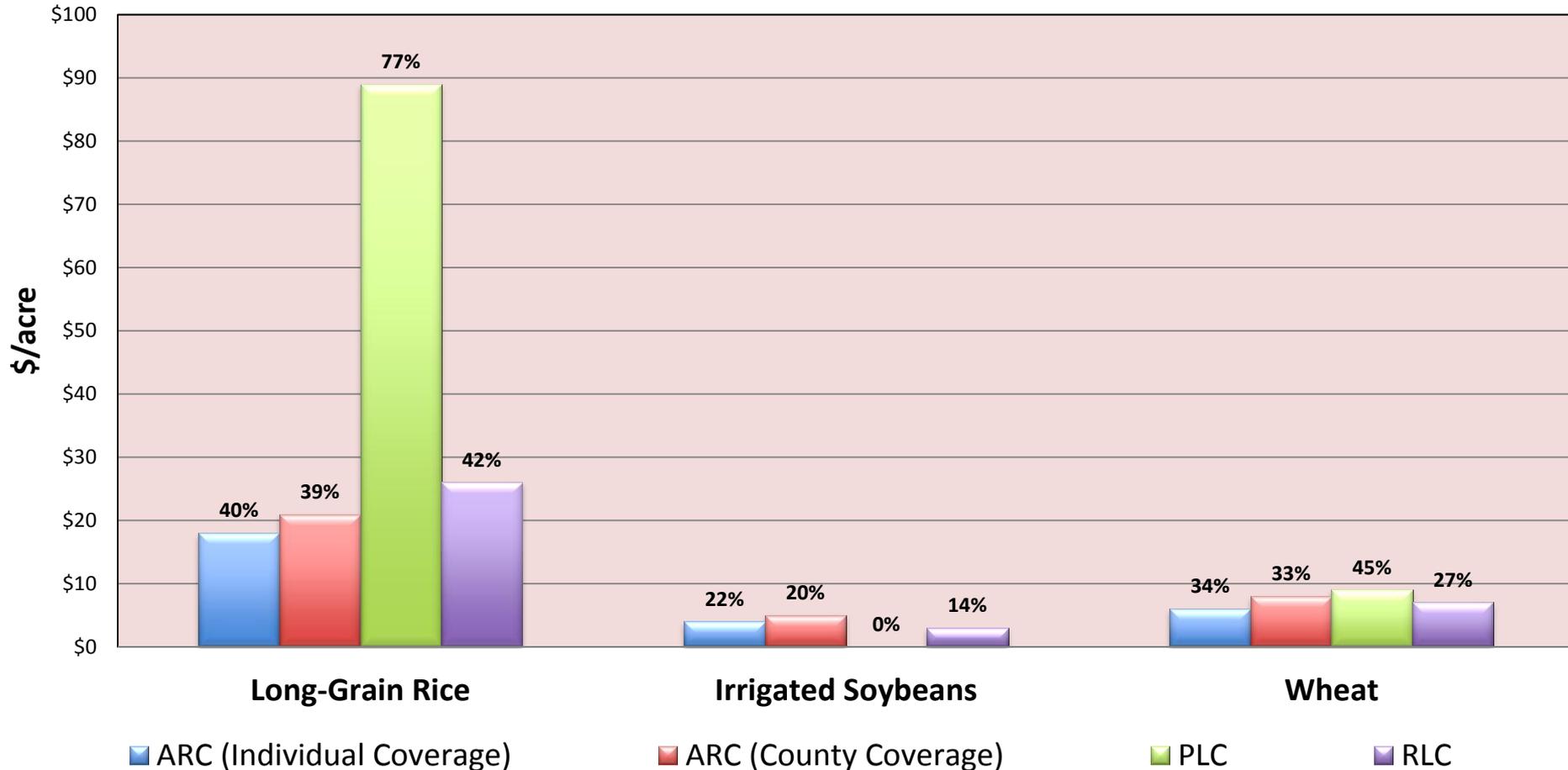
*Average Annual (2013-2017) Estimated Payments per Planted Acre (in U.S. \$) and Probabilities of Receiving a Payment (in %)*

Senate Bill (ARC)				House Bill			
	LG Rice	Irr Soyb	Wheat		LG Rice	Irr Soyb	Wheat
<b>Individual</b>				<b>PLC</b>			
Pay/acre	\$18	\$4	\$6	Pay/acre	\$89	\$0	\$9
Prob.	40%	22%	34%	Prob.	77%	0%	45%
<b>County</b>				<b>RLC</b>			
Pay/acre	\$21	\$5	\$8	Pay/acre	\$26	\$3	\$7
Prob.	39%	20%	33%	Prob.	42%	14%	27%

# Stochastic Results Comparison (Title I) Cont'd

## Stuttgart Farm

Average Annual (2013-2017) Estimated Payments per Planted Acre (in U.S. \$) and Probabilities of Receiving a Payment (in %)



# Stochastic Results Comparison (Title I) Cont'd

## Wynne Farm

*Average Annual (2013-2017) Estimated Payments per Planted Acre (in U.S. \$) and Probabilities of Receiving a Payment (in %)*

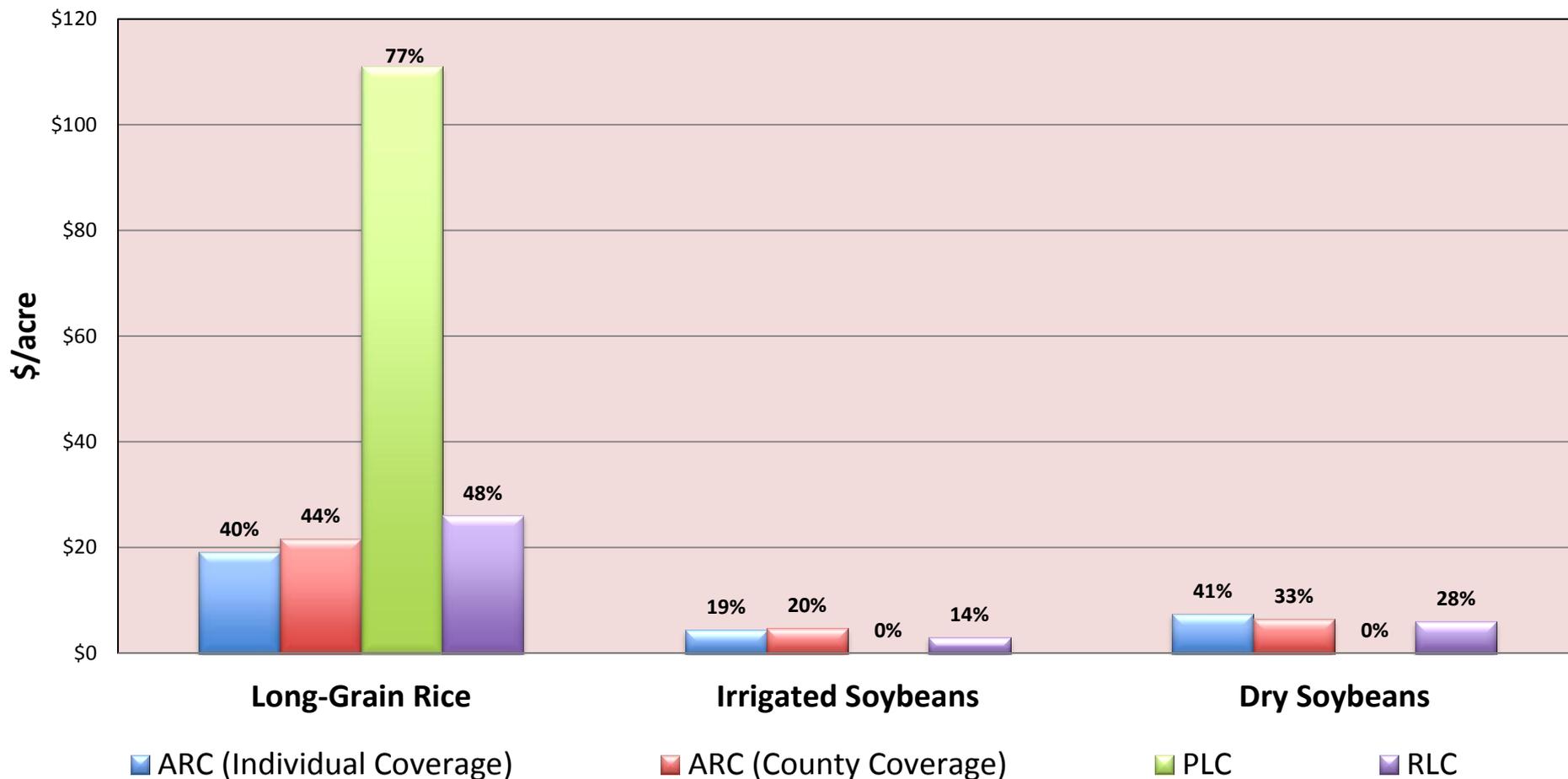
	Senate Bill (ARC)		
	LG Rice	Irr Soyb	Dry Soyb
<b>Individual</b>			
Pay/acre	\$19	\$4	\$7
Prob.	40%	19%	41%
<b>County</b>			
Pay/acre	\$22	\$5	\$7
Prob.	44%	20%	33%

	House Bill		
	LG Rice	Irr Soyb	Dry Soyb
<b>PLC</b>			
Pay/acre	\$111	\$0	\$0
Prob.	77%	0%	0%
<b>RLC</b>			
Pay/acre	\$26	\$3	\$6
Prob.	48%	14%	28%

# Stochastic Results Comparison (Title I) Cont'd

## Wynne Farm

Average Annual (2013-2017) Estimated Payments per Planted Acre (in U.S. \$) and Probabilities of Receiving a Payment (in %)



# Stochastic Results Comparison (Title I) Cont'd

## Hoxie Farm

*Average Annual (2013-2017) Estimated Payments per Planted Acre (in U.S. \$) and Probabilities of Receiving a Payment (in %)*

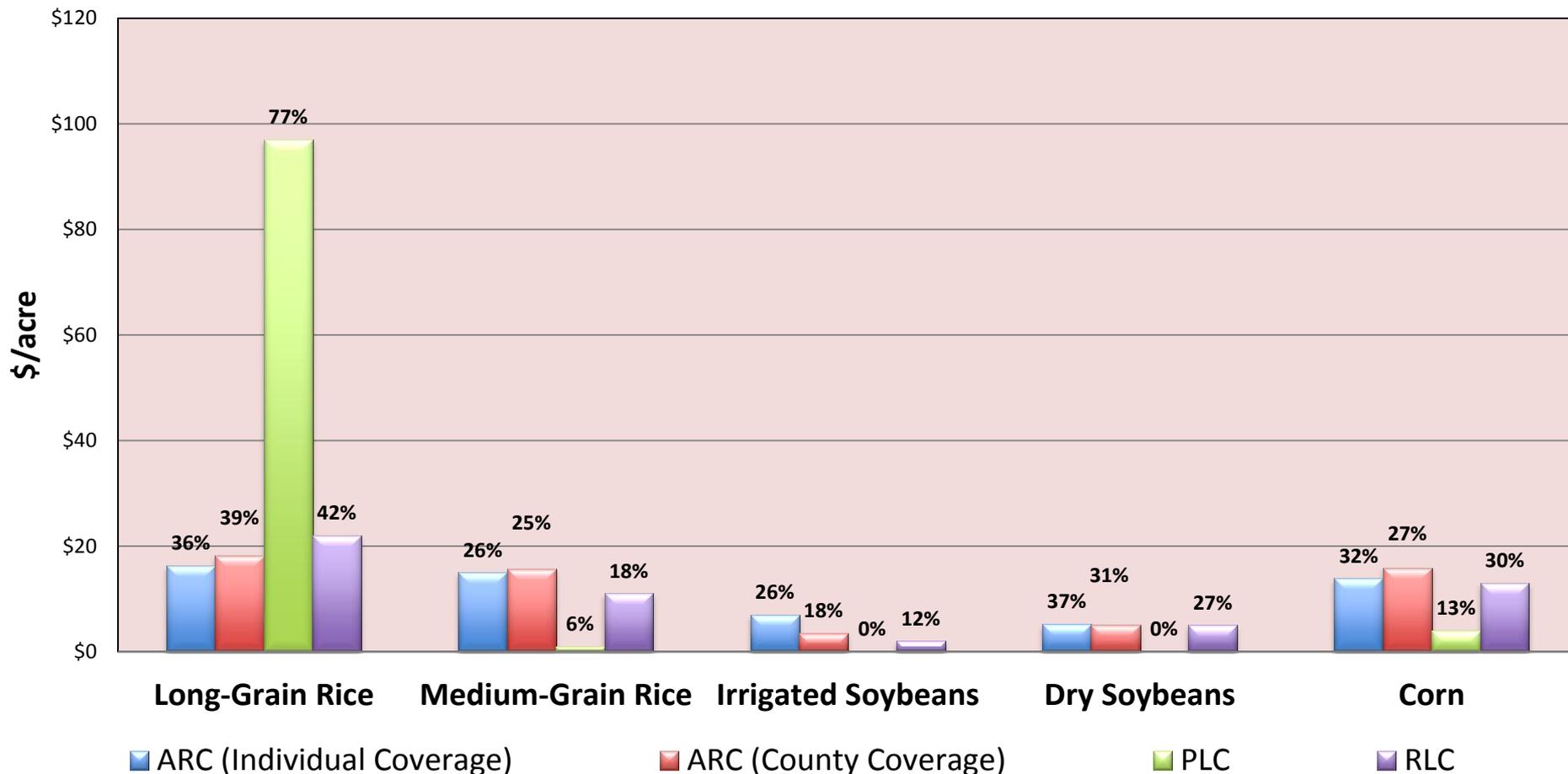
	Senate Bill (ARC)				
	LG Rice	MG Rice	Irr Soy	Dry Soy	Corn
<b>Individ</b>					
Pay/acre	\$16	\$15	\$7	\$5	\$14
Prob.	36%	26%	26%	37%	32%
<b>County</b>					
Pay/acre	\$18	\$16	\$3	\$5	\$16
Prob.	39%	25%	18%	31%	27%

	House Bill				
	LG Rice	MG Rice	Irr Soy	Dry Soy	Corn
<b>PLC</b>					
Pay/acre	\$97	\$1	\$0	\$0	\$4
Prob.	77%	6%	0%	0%	13%
<b>RLC</b>					
Pay/acre	\$22	\$11	\$2	\$5	\$13
Prob.	42%	18%	12%	27%	30%

# Stochastic Results Comparison (Title I) Cont'd

## Hoxie Farm

*Average Annual (2013-2017) Estimated Payments per Planted Acre (in U.S. \$) and Probabilities of Receiving a Payment (in %)*



# Stochastic Results Comparison (Title I) Cont'd

## McGehee Farm

*Average Annual (2013-2017) Estimated Payments per Planted Acre (in U.S. \$) and Probabilities of Receiving a Payment (in %)*

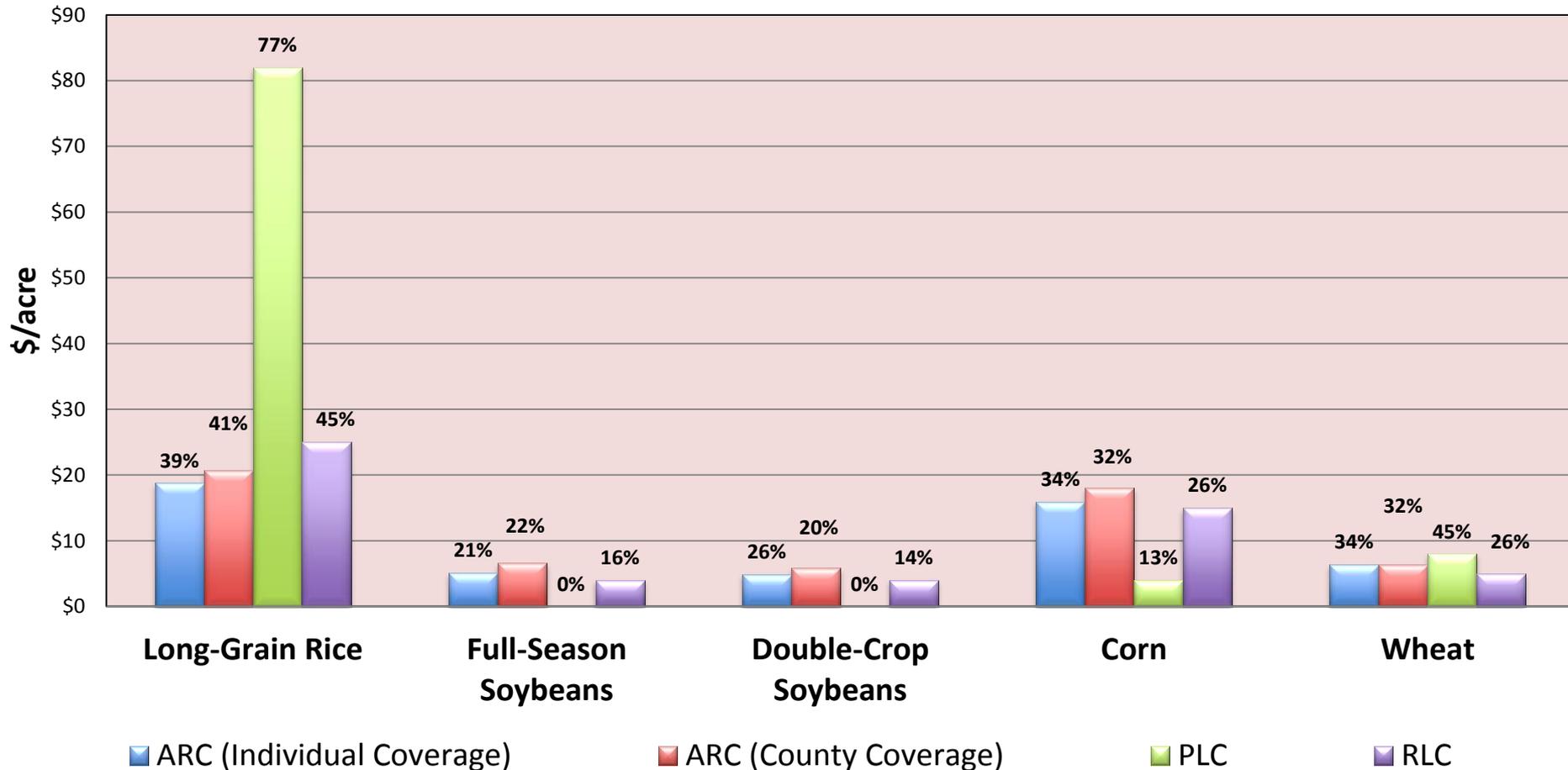
	Senate Bill (ARC)				
	LG Rice	FS Soy	DC Soy	Corn	Wheat
<b>Individ</b>					
Pay/acre	\$19	\$5	\$5	\$16	\$6
Prob.	39%	21%	26%	34%	34%
<b>County</b>					
Pay/acre	\$21	\$7	\$6	\$18	\$6
Prob.	41%	22%	20%	32%	32%

	House Bill				
	LG Rice	FS Soy	DC Soy	Corn	Wheat
<b>PLC</b>					
Pay/acre	\$82	\$0	\$0	\$4	\$8
Prob.	77%	0%	0%	13%	45%
<b>RLC</b>					
Pay/acre	\$25	\$4	\$4	\$15	\$5
Prob.	45%	16%	14%	26%	26%

# Stochastic Results Comparison (Title I) Cont'd

## McGehee Farm

Average Annual (2013-2017) Estimated Payments per Planted Acre (in U.S. \$) and Probabilities of Receiving a Payment (in %)



# Stochastic Results Comparison (Title XI)

## Senate and House Bills (STAX)

*Average Annual (2013-2017) Estimated Gross Indemnity Payments per Planted Acre (in U.S. \$) and Probabilities of Receiving an Indemnity Payment (in %)*

	Leachville Farm		McGehee Farm
Revenue Guarantee	Irrigated Cotton	Dryland Cotton	Irrigated Cotton
	<i>-----Average Annual (2013-2017) Indemnity Payments Per Planted Acre (in U.S. \$)-----</i>		
70%	40	32	41
80%	68	53	68
90%	99	76	98
	<i>----- Average Annual (2013-2017) Probabilities of Receiving an Indemnity Payment (in %)-----</i>		
70%	32	32	35
80%	46	47	52
90%	67	66	68

*note: We assume a protection factor of 120% in the analysis.*

# Stochastic Results Comparison (Title XI) Cont'd

## Senate Bill (SCO)

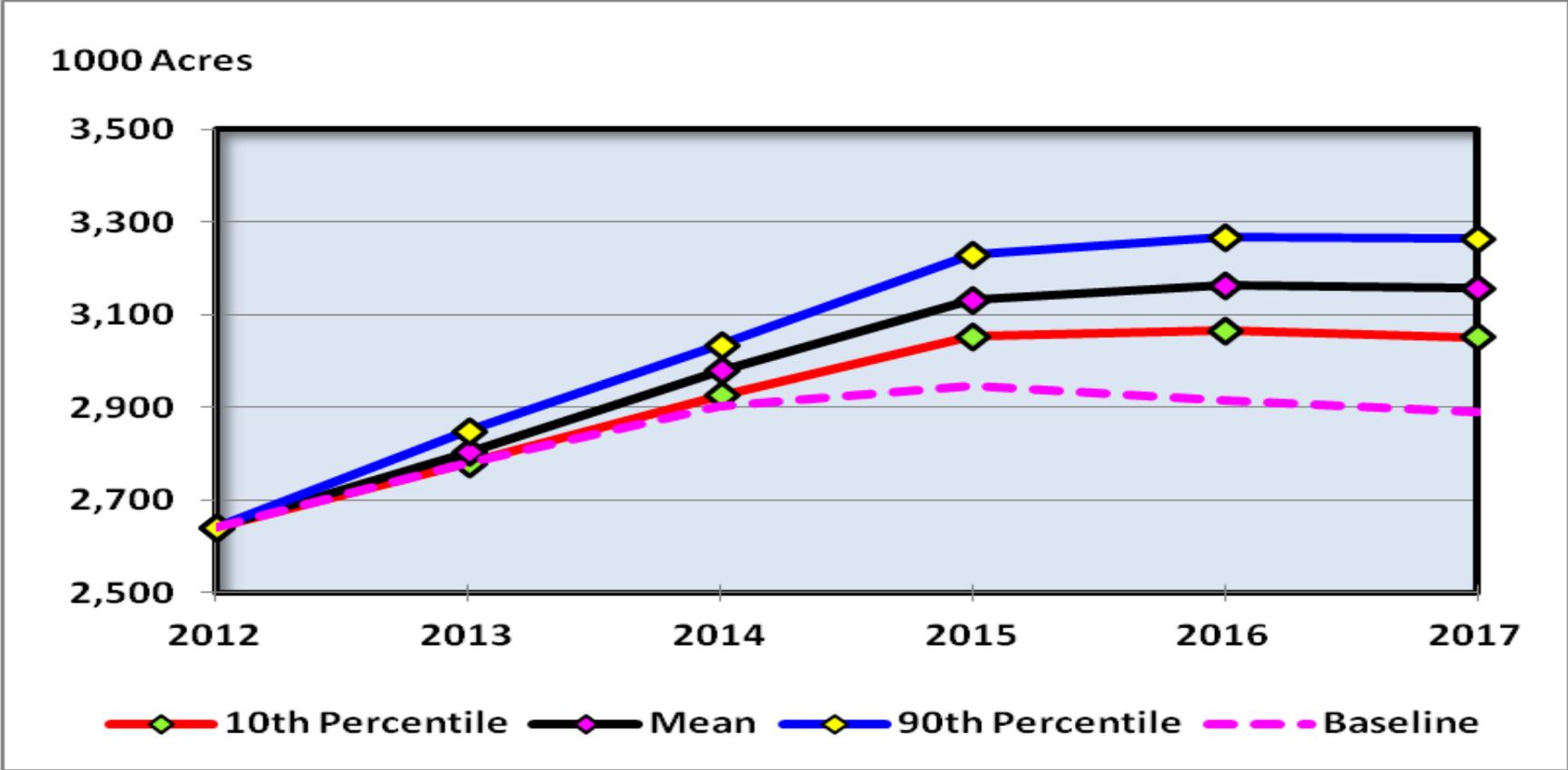
*Average Annual (2013-2017) Estimated Gross Indemnity Payments per Planted Acre (in U.S. \$) and Probabilities of Receiving an Indemnity Payment (in %)*

	Stuttgart Farm			Wynne Farm			Hoxie Farm					McGehee Farm				
Coverage Level	LRICE	ISOY	WHEAT	LRICE	ISOY	DSOY	LRICE	MRICE	ISOY	DSOY	CORN	LRICE	FSSOY	DCSOY	CORN	WHEAT
	<i>-----Average Annual (2013-2017) Indemnity Payments Per Acre (in U.S. \$)-----</i>															
ARC Participant	0	11	8	1	14	12	1	1	15	9	5	1	16	11	4	8
Non-ARC Participant	8	36	23	10	44	33	9	9	45	23	21	10	49	34	20	23
	<i>-----Average Annual (2013-2017) Probabilities of Receiving an Indemnity Payment (in %)-----</i>															
ARC Participant	2	27	27	2	29	39	2	2	29	37	9	2	29	29	8	26
Non-ARC Participant	11	50	42	12	52	54	12	13	51	51	23	12	51	51	22	41

*note: We assume participation in a revenue protection crop insurance policy with a 70% coverage level.*

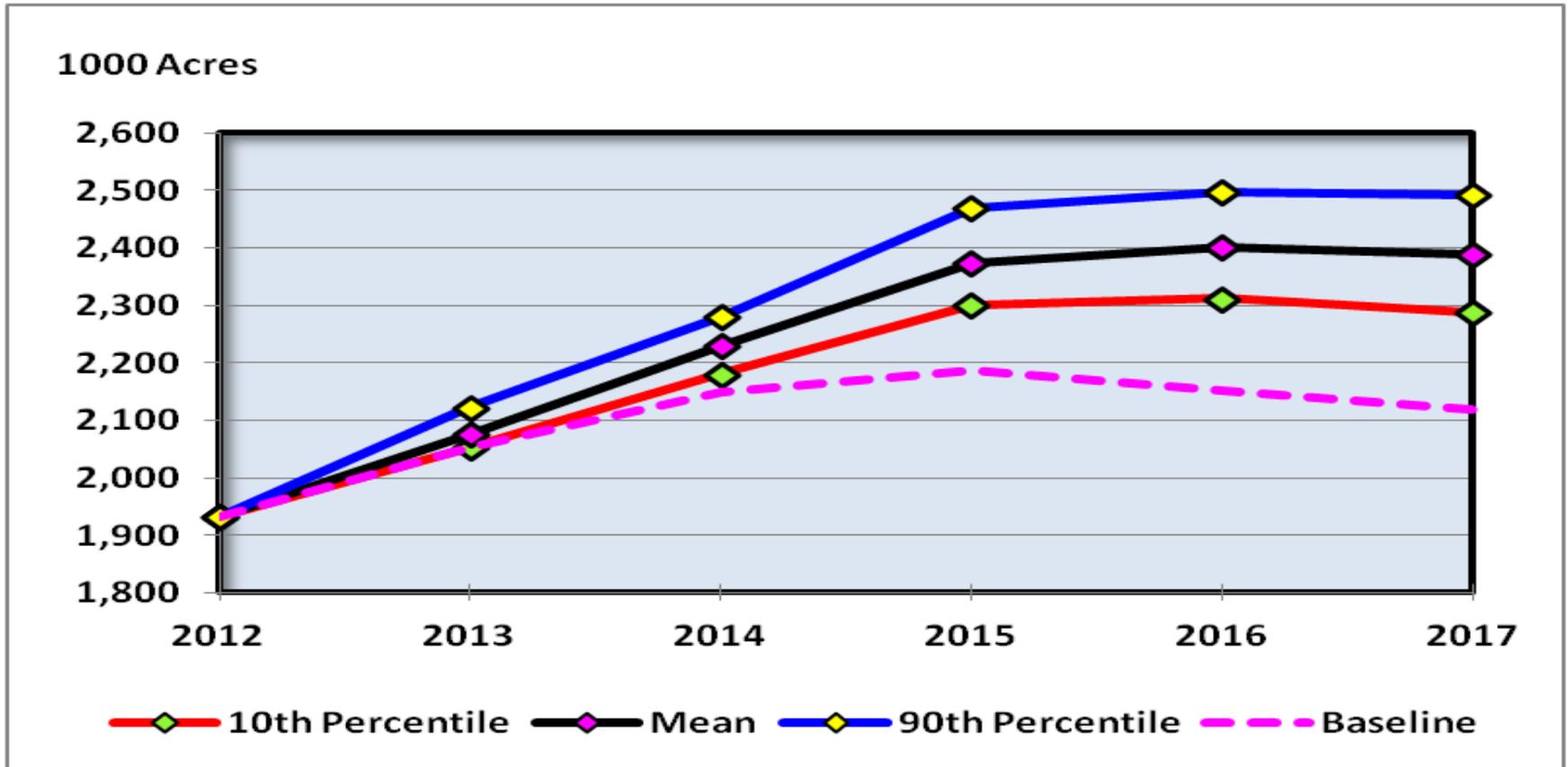
# AGRM Model Results

*U.S. Rice Total Harvested Area, in 1000 Acres, 2013-17*



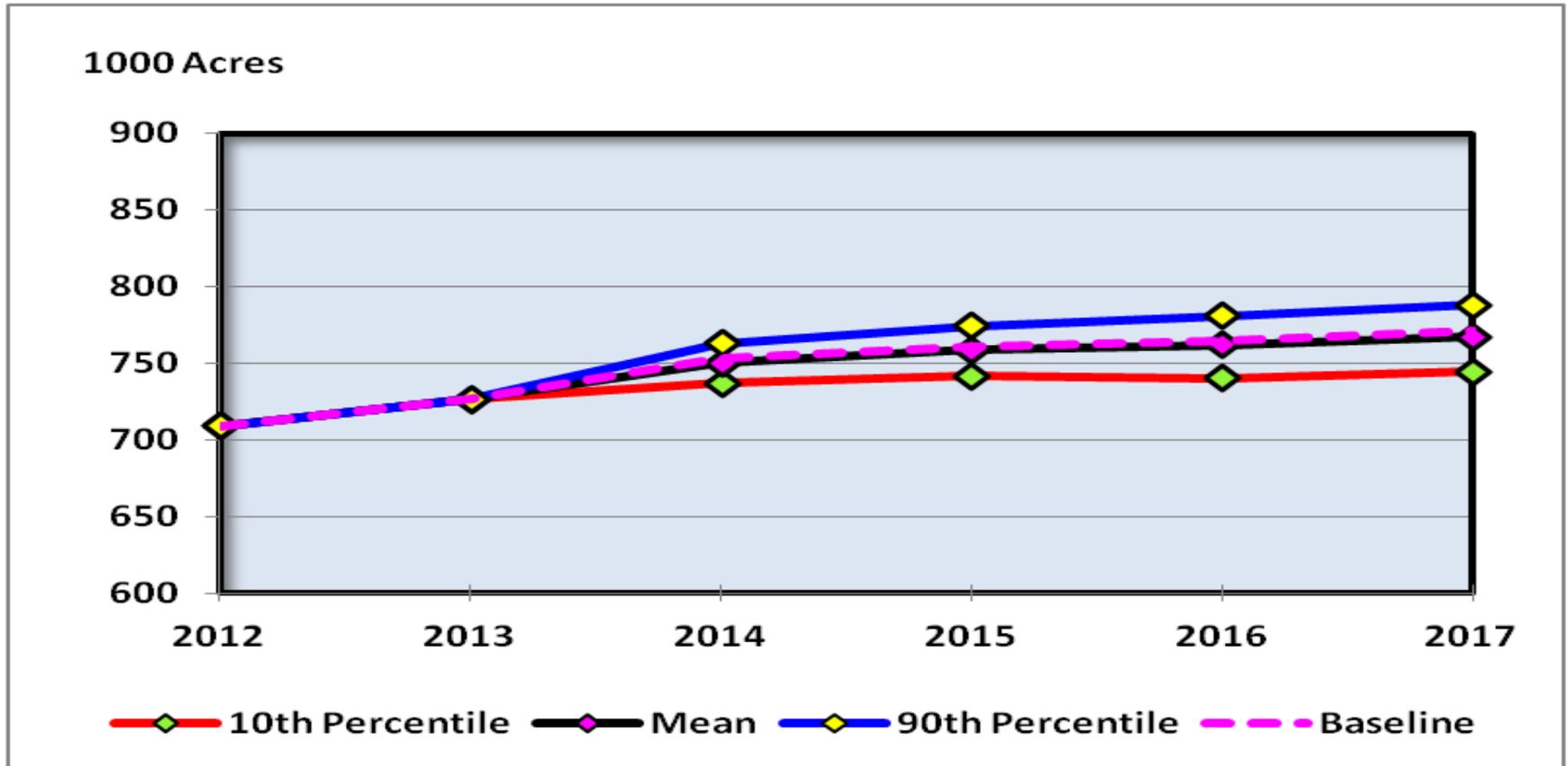
# AGRM Model Results Cont'd

*U.S. Rice Long Grain Harvested Area, in 1000 Acres, 2013-17*



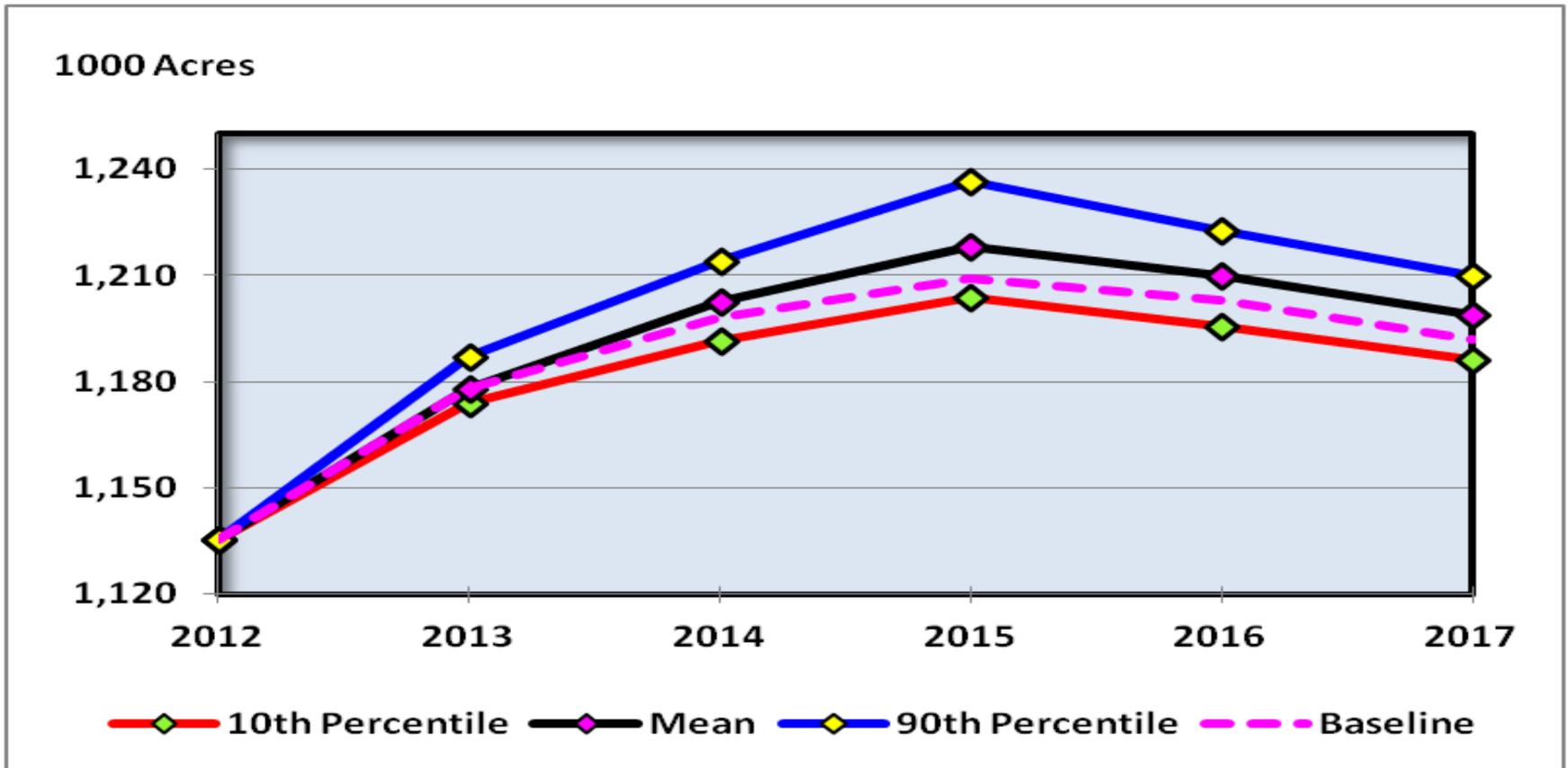
# AGRM Model Results Cont'd

*U.S. Rice Medium and Short Grain Harvested Area, in 1000 Acres, 2013-17*



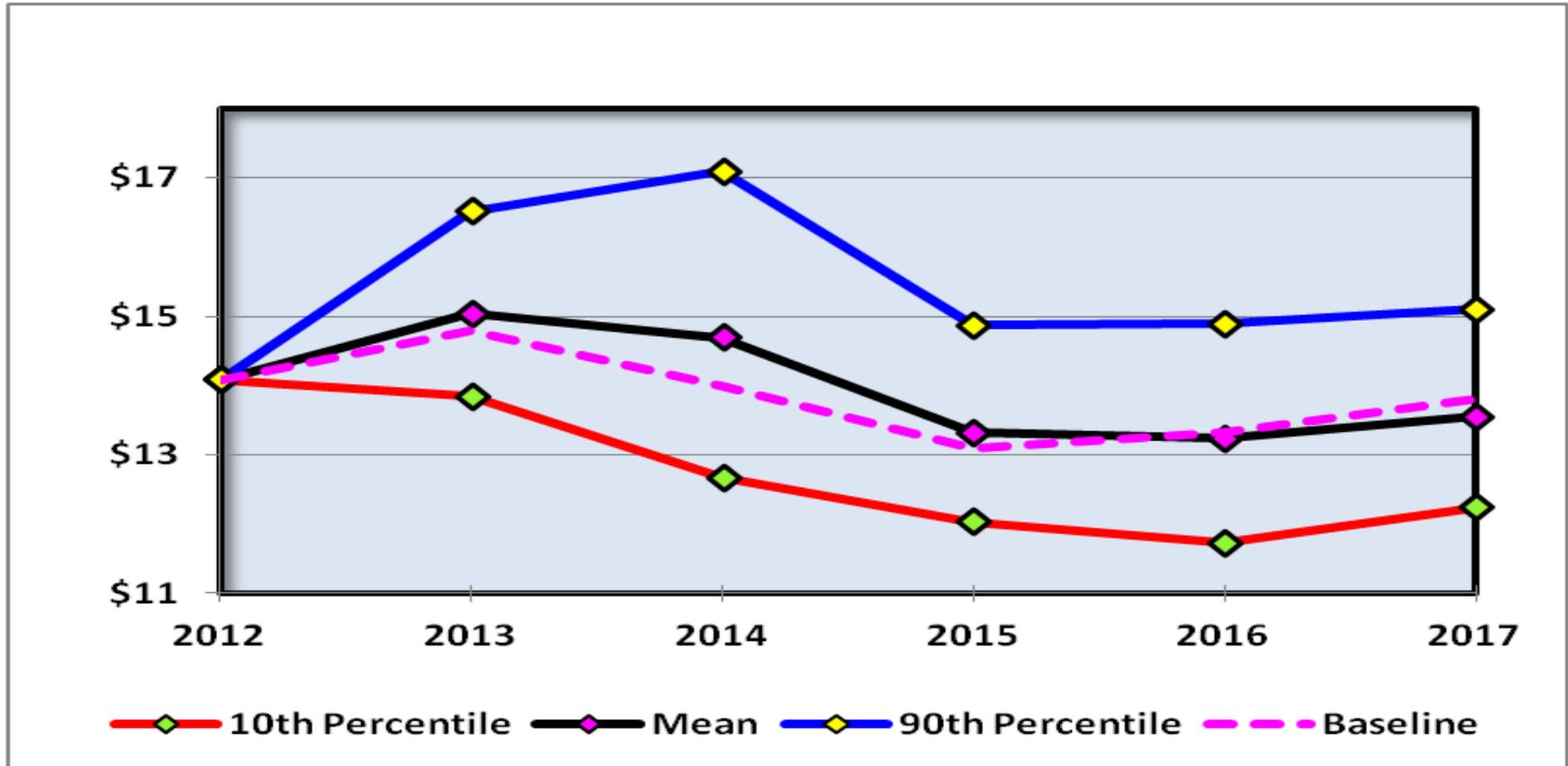
# AGRM Model Results Cont'd

*Arkansas Rice Long Grain Harvested Area, in 1000 Acres, 2013-17*



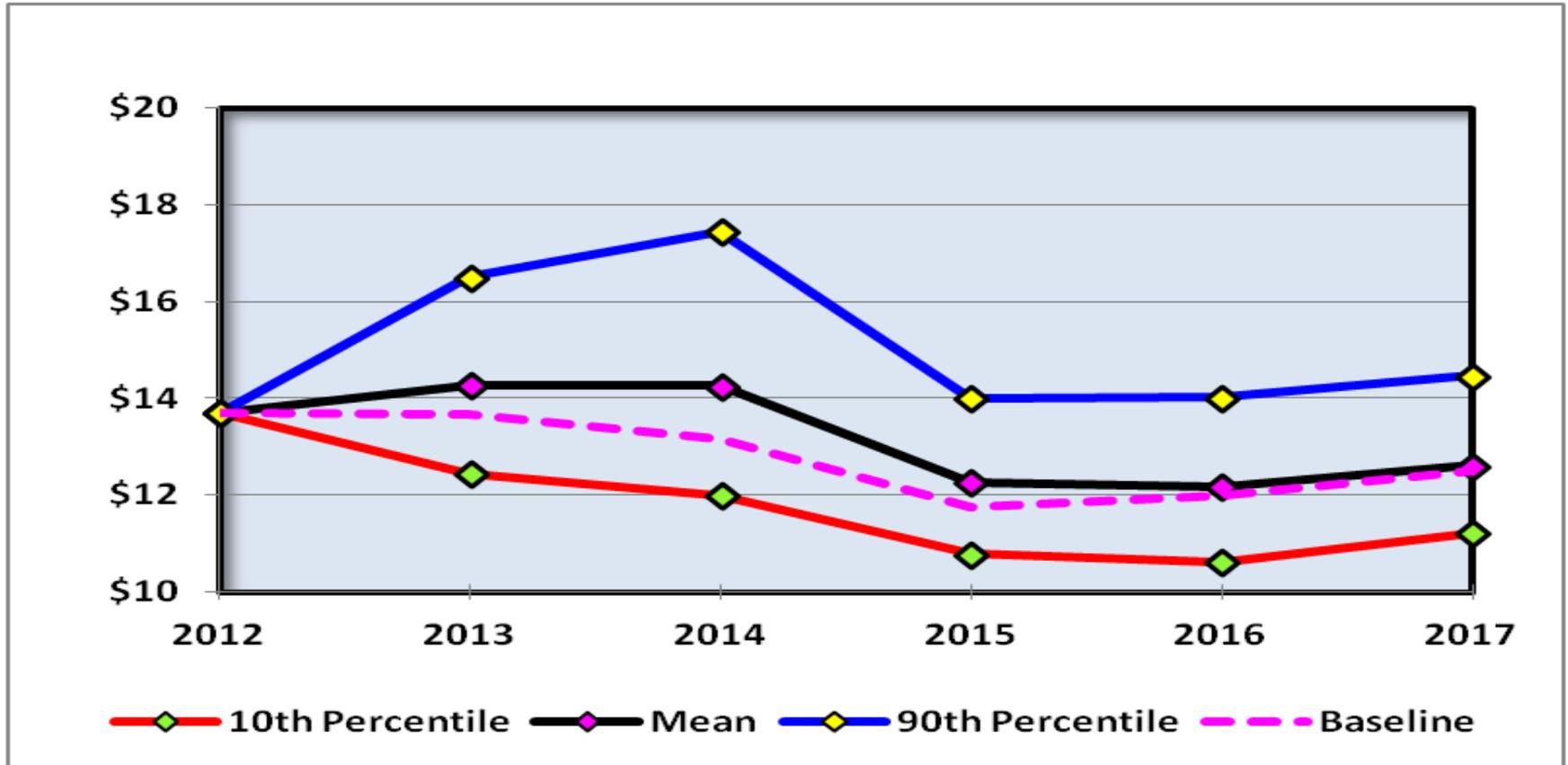
# AGRM Model Results Cont'd

*U.S. Rice Season Average Farm Price, \$/Cwt, 2013-17*



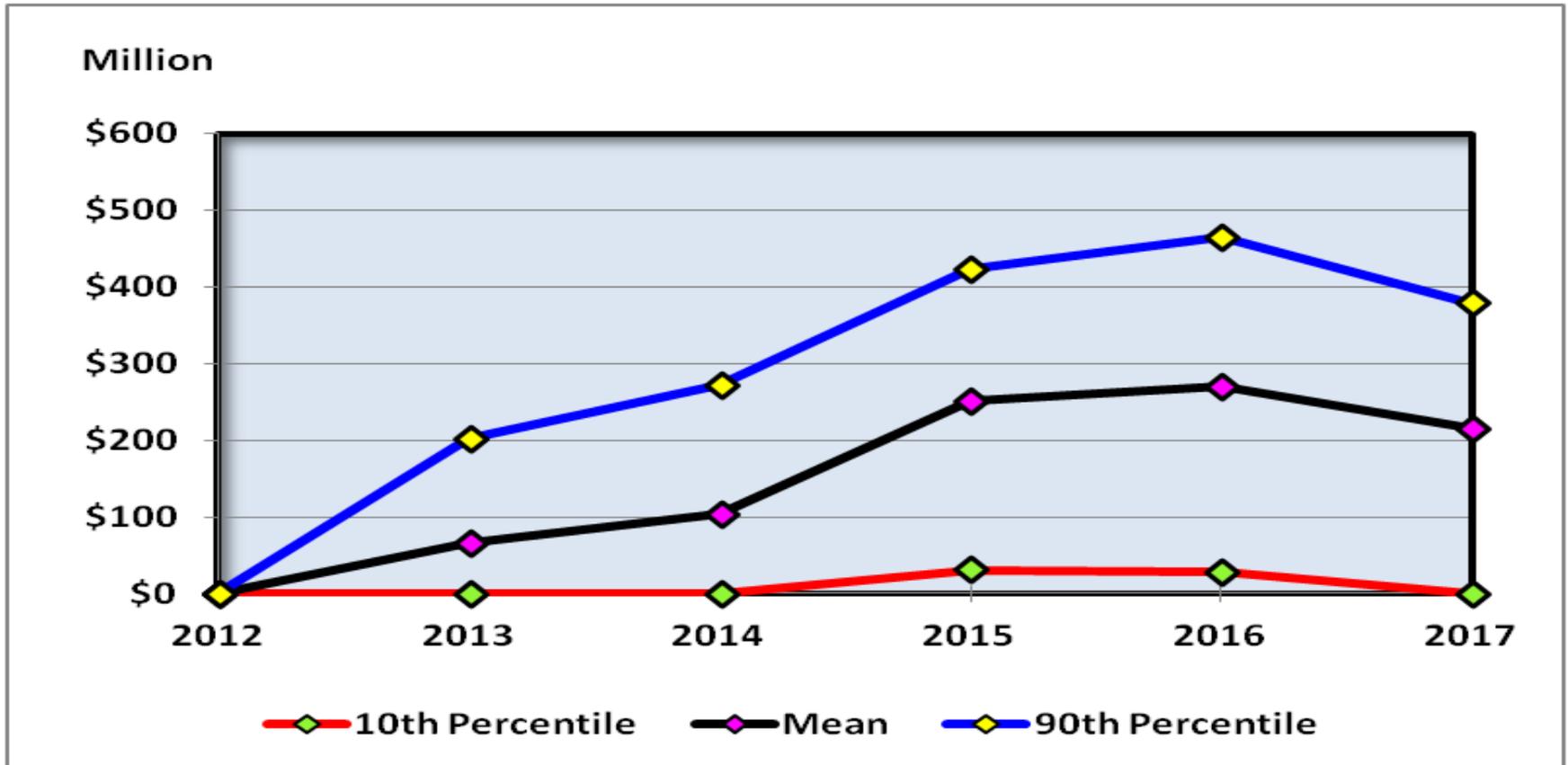
# AGRM Model Results Cont'd

*U.S. Rice Long Grain Season Average Farm Price, \$/Cwt, 2013-17*



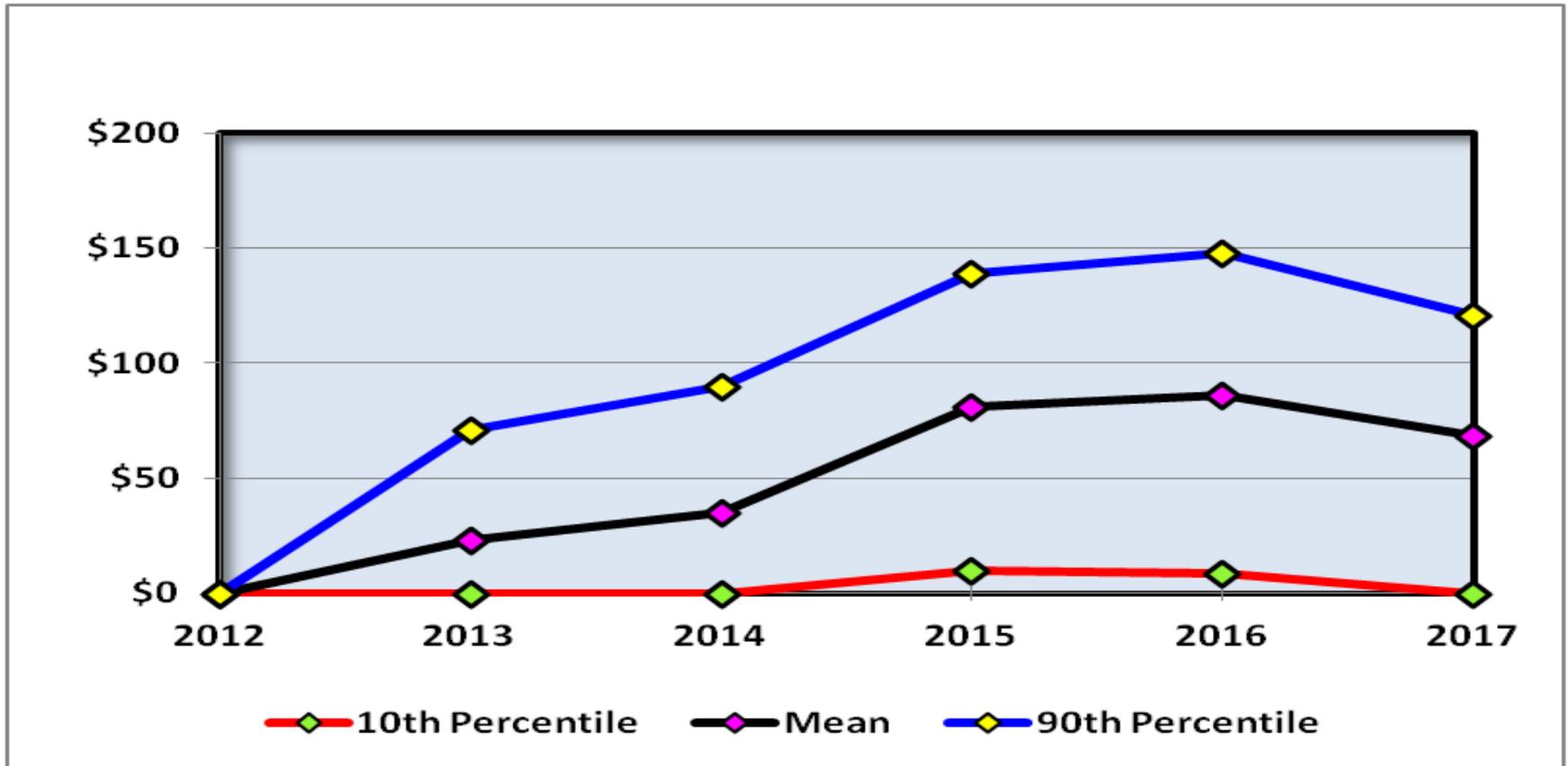
# AGRM Model Results Cont'd

*U.S. Rice Total PLC Payments, in Million Dollars, 2013-17*



# AGRM Model Results Cont'd

*U.S. Rice Average PLC Payments, in Dollars per Acre, 2013-17*



# Summary

- The commodity title is moving from a more certain support system to a more uncertain system.
- “Shallow loss” will address revenue concerns above and beyond what crop insurance is expected to cover.
- Crop insurance needs a product that more directly addresses systemic risks of irrigated cropping including a margin to address energy/weather related risks of high costs.
- The House bill is clearly more equitable to Southern crops, particularly the PLC program.

# Questions and Comments?

# PLC Program Overview

- Similar to the CCPs program
- Payment is received if the EFFECTIVE PRICE is lower than the REFERENCE PRICE (\$14/cwt for rice)
- The EFFECTIVE PRICE is the higher of the NATIONAL LOAN RATE (\$6.50/cwt for rice) and the 5-MONTH AVERAGE MID-SEASON PRICE (August-December for rice)
- The PAYMENT RATE is the difference between the REFERENCE PRICE and the EFFECTIVE PRICE

# PLC Program Overview Cont'd

- The PAYMENT AMOUNT is the product of the PAYMENT RATE, the PAYMENT YIELD, and the PAYMENT ACRES
- PAYMENT YIELD is established under the CCP Program of the 2002 and 2008 Farm Bills
- PAYMENT ACRES=85% of the total planted acres (total farm PAYMENT ACRES cannot exceed total farm BASE ACRES including cotton BASE ACRES) and 30% of the approved total acres prevented from being planted

# PLC Program Overview Cont'd

- Producers can update the PAYMENT YIELD for a crop to 90% of the five year (2008-2012) planted acres average excluding years in which the planted acreage was zero
- For any of the five years 2008-2012, a plug of 75% of the average county yield can replace the yield on the farm if it is lower than this value
- Payment limit=\$125,000/person (\$250,000/household) and AGI limit=\$950,000

# RLC Program Overview

- Similar to the Senate's ARC program
- Payment limit=\$125,000/person (\$250,000/household) and AGI limit=\$950,000
- Payment is received if the ACTUAL COUNTY REVENUE is lower than the COUNTY REVENUE LOSS COVERAGE TRIGGER
- ACTUAL COUNTY REVENUE is equal to the product of the ACTUAL COUNTY YIELD and the higher of the MID-SEASON PRICE and the NATIONAL AVERAGE LOAN RATE
- COUNTY REVENUE LOSS COVERAGE TRIGGER is equal to 85% of the BENCHMARK COUNTY REVENUE

# RLC Program Overview Cont'd

- The BENCHMARK COUNTY REVENUE is equal to the product of the 5-year Olympic average of the AVERAGE HISTORICAL COUNTY YIELDS and the 5-year Olympic average of the AVERAGE NATIONAL MARKETING YEAR AVERAGE PRICE, where:
  - the AVERAGE NATIONAL MARKETING YEAR AVERAGE PRICE for any of the 5 years cannot be lower than the REFERENCE PRICE
  - the AVERAGE HISTORICAL COUNTY YIELD for any of the 5 years cannot be lower than 70% of the TRANSITIONAL YIELD

# RLC Program Overview Cont'd

- The PAYMENT RATE is the lower of:
  - a) the difference between the COUNTY REVENUE LOSS COVERAGE TRIGGER and the ACTUAL COUNTY REVENUE
  - b) 10% of the BENCHMARK COUNTY REVENUE
- The PAYMENT AMOUNT is equal to the product of the PAYMENT RATE and the PAYMENT ACRES
- PAYMENT ACRES=85% of the total planted acres (total farm PAYMENT ACRES cannot exceed total farm BASE ACRES including cotton BASE ACRES) and 30% of the approved total acres prevented from being planted (same rule as in the PLC program)

# ARC Program Overview

- In 2013 producers make a one-time irrevocable decision to receive:
  - a) an individual coverage
  - b) a county coverage
- ARC payments are received if: the actual crop revenue for the crop year for the covered commodity is less than the agriculture risk coverage guarantee for the crop year for the covered commodity.
- The AGRICULTURE RISK COVERAGE GUARANTEE for a crop year for a covered commodity shall equal 89 percent of the benchmark revenue.

# ARC Program Overview Cont'd

- The ACTUAL CROP REVENUE for a crop year of a covered commodity is equal to the product of:
  - (A)(i) in the case of individual coverage, the actual average individual yield for the covered commodity, as determined by the Secretary; or (ii) in the case of county coverage, the actual average yield for the county for the covered commodity, as determined by the Secretary; and
  - (B) the higher of: (i) the midseason price; or (ii) if applicable, the national marketing assistance loan rate for the covered commodity.

# ARC Program Overview Cont'd

- The BENCHMARK REVENUE is the product of:
  - (I)(aa) in the case of individual coverage, the average individual yield, for the most recent 5 crop years, excluding each of the crop years with the highest and lowest yields; or (bb) in the case of county coverage, the average county yield for the most recent 5 crop years, excluding each of the crop years with the highest and lowest yields; and
  - (II) the average national marketing year average price for the most recent 5 crop years, excluding each of the crop years with the highest and lowest prices.
    - Includes a minimum price benchmark for long and medium-grain rice of \$13.00/cwt for any of these five years (as well as \$530/ton for peanuts)

# ARC Program Overview Cont'd

- Separate actual crop revenue and agriculture risk coverage guarantee for irrigated and non-irrigated covered commodities are calculated in the program
- The PAYMENT RATE is equal to the lesser of:
  - (A) the amount that (i) the agriculture risk coverage guarantee for the covered commodity; exceeds (ii) the actual crop revenue for the crop year of the covered commodity; or
  - (B) 10 percent of the benchmark revenue for the crop year of the covered commodity.
- The PAYMENT AMOUNT is the product of:
  - (A) the payment rate; and

# ARC Program Overview Cont'd

- (B)(i) in the case of individual coverage the sum of: (I) 65 percent of the planted eligible acres of the covered commodity; and (II) 45 percent of the eligible acres that were prevented from being planted to the covered commodity; or  
(ii) in the case of county coverage: (I) 80 percent of the planted eligible acres of the covered commodity; and (II) 45 percent of the eligible acres that were prevented from being planted to the covered commodity.
- When calculating the benchmark revenue under an individual coverage, the average individual yield for any of the 5 most recent years (starting in 2013) cannot be lower than 70% of the TRANSITIONAL YIELD
- Payment limit=\$50,000/person (\$100,000/household)