

Exhibit Name: Premium Calculation
 Exhibit Number: P11-5, Plan 47
 Record Name: Acreage
 Record Code: P11

Reinsurance Year: 2013
 Version: Approved
 Release Date: 12/18/2017

Insurance Plan Code 47 Actual Revenue History

Commodity Code 0057 Cherries 0154 Strawberries 0215 Navel Oranges

Calculations	Field Name	Record Number	Field Number	Field Format	Field Rounding	Rules
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Section 1: Liability Calculation

$\text{Acre Guarantee Quantity} = \text{Approved Yield} * \text{Expected Revenue Factor} * \text{Coverage Level Percent} * \text{Price Election Percent} * \text{Insured Share Percent}$	Acre Guarantee Quantity	P11	100	99999999.99	Round to whole number.	
	Approved Yield	P11	46	99999999.99	None	
	Expected Revenue Factor	ADM		9.9999	None	Edit with ADM Price "A00810"
	Coverage Level Percent	P14	34	9.9999	None	
	Price Election Percent	ICE		9.9999	None	Payment Factor. Edit with ICE Price Election Percent, "D00007".
	Insured Share Percent	P11	47	9.999	None	
$\text{Total Guarantee Amount} = \text{Acre Guarantee Quantity} * \text{Reported Acreage}$	Total Guarantee Amount	P11	97	99999999.99	Round to whole number.	
	Reported Acreage	P11	52	999999.99	None	Reported Acreage must equal the sum of all Land, P27, Reported Acreage.
$\text{Liability Amount} = \text{Total Guarantee Amount}$	Liability Amount	P11	88	9999999999	Round to whole number.	
$\text{Unadjusted Approved Revenue Amount} = \text{Expected Revenue Factor} * \text{Rate Yield}$	Unadjusted Approved Revenue Amount	Internal		99999999	Round to whole number.	
	Expected Revenue Factor	ADM		9.9999	None	Edit with ADM Price "A00810"
	Rate Yield	P15	35	99999999.99	None	

Section 2: Base Premium Rate Calculation

$\text{Current Year Yield Ratio} = \text{Rate Yield} / \text{Reference Revenue}$	Current Year Yield Ratio	Internal		9999999.99	Round to 2 decimals.	Cup at 0.50 and Cap at 1.50.
	Rate Yield	P15	35	99999999.99	None	
	Reference Revenue	ADM		99999.99	None	Edit with ADM Base Rate, "A01010" Reference Amount.
$\text{Prior Year Yield Ratio} = \text{Rate Yield} / \text{Prior Year Reference Revenue}$	Prior Year Yield Ratio	Internal		9999999.99	Round to 2 decimals.	
	Rate Yield	P15	35	99999999.99	None	
	Prior Year Reference Revenue	ADM		99999.99	None	Edit with ADM Base Rate, "A01010" Prior Year Reference Amount.
$\text{Current Year Rate Multiplier} = \text{Current Year Yield Ratio} ^ \text{Exponent Value}$	Current Year Rate Multiplier	Internal		9999.99999999	Round to 8 decimals.	
	Exponent Value	ADM		999.999	None	Edit with ADM Base Rate, "A01010".
$\text{Prior Year Rate Multiplier} = \text{Prior Year Yield Ratio} ^ \text{Prior Year Exponent Value}$	Prior Year Rate Multiplier	Internal		999999.99999999	Round to 8 decimals.	
	Prior Year Exponent Value	ADM		999.999	None	Edit with ADM Base Rate, "A01010".

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Current Year Base Rate =	When Rate Method Code equals Fixed Rate "F": Sub County Rate	Current Year Base Rate	Internal	999999999.99999	Round to 8 decimals.	
	When Rate Method Code equals Additive "A": Sub County Rate + (Current Year Rate Multiplier * Reference Rate + Fixed Rate)	Sub County Rate	ADM	99.9999	None	Edit with ADM Sub County Rate, "A01050".
	When Rate Method Code equals Multiplicative "M": Sub County Rate * (Current Year Rate Multiplier * Reference Rate + Fixed Rate)	Reference Rate	ADM	9.9999	None	Edit with ADM Base Rate, "A01010".
	Otherwise: Current Year Rate Multiplier * Reference Rate + Fixed Rate	Fixed Rate	ADM	9.9999	None	Edit with ADM Base Rate, "A01010".
Prior Year Base Rate =	When Rate Method Code equals Fixed Rate, "F": Sub County Rate	Prior Year Base Rate	Internal	999999.99999999	Round to 8 decimals.	
	When Rate Method Code equals Additive, "A": Sub County Rate + (Prior Year Rate Multiplier * Prior Year Reference Rate + Prior Year Fixed Rate)	Sub County Rate	ADM	9.9999	None	Edit with ADM Sub County Rate, "A01050".
	When Rate Method Code equals Multiplicative, "M": Sub County Rate * (Prior Year Rate Multiplier * Prior Year Reference Rate + Prior Year Fixed Rate)	Prior Year Reference Rate	ADM	9.9999	None	Edit with ADM Base Rate, "A01010".
	Otherwise: Prior Year Rate Multiplier * Prior Year Reference Rate + Prior Year Fixed Rate	Prior Year Fixed Rate	ADM	9.9999	None	Edit with ADM Base Rate, "A01010".
Current Year Base Premium Rate = Current Year Base Rate * Rate Differential Factor * Unit Residual Factor	Current Year Base Premium Rate	Internal		9999999999.99999999	Round to 8 decimals.	
	Rate Differential Factor	ADM		9.99999999	None	Edit with ADM Coverage Level Differential, "A01040".
	Unit Residual Factor	ADM		9.999	None	Edit with ADM Coverage Level Differential, "A01040".

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$\text{Prior Year Base Premium Rate} = \frac{\text{Prior Year Base Rate} * \text{Prior Year Rate Differential Factor}}{\text{Prior Year Residual Factor} * 1.2}$	Prior Year Base Premium Rate	Internal		999999.99999999	Round to 8 decimals.	
	Prior Year Rate Differential Factor	ADM		9.99999999	None	Edit with ADM Coverage Level Differential, "A01040".
	Prior Year Unit Residual Factor	ADM		9.999	None	Edit with ADM Coverage Level Differential, "A01040". When Unit Structure Code equals "OU" or "BU", then Prior Year Unit Residual Factor. When Unit Structure Code equals "EU", then Prior Year Enterprise Unit Residual Factor.
$\text{Base Premium Rate} = \text{MIN}(\text{Current Year Base Premium Rate}, \text{Prior Year Base Premium Rate}, \text{or } .999)$	Base Premium Rate	P11	91	9.99999999	Round to 8 decimals.	Edit with ADM Base Rate, "A01010".
Section 3: Optional Coverage Calculation						
$\text{Additive Optional Rate Adjustment Factor} = \frac{\text{SUM}(\text{Option Rate(s)}) * \text{Rate Differential Factor}}{\text{When Rate Method Code} = \text{A}}$	Additive Optional Rate Adjustment Factor	Internal		999999.9999	Round to 4 decimals.	
	Option Rate	ADM		9.9999	None	Edit with ADM Option Rate, "A01060".
	Rate Differential Factor	ADM		9.99999999	None	Edit with ADM Coverage Level Differential, "A01040".
$\text{Multiplicative Optional Rate Adjustment Factor} = \text{Product}(\text{Option Rate(s)})$	Multiplicative Optional Rate Adjustment Factor	Internal		999999.9999	Round to 4 decimals.	
	Option Rate	ADM		9.9999	None	Edit with ADM Option Rate, "A01060".

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Section 4: Premium Rate The Premium Rate for ALL Unit Structures should be capped at .999 in the event various adjustments to the Base Premium Rate would cause it to exceed 1.0.

Premium Rate Base Premium Rate * Unit Structure Discount Factor * = Multiplicative Optional Rate Adjustment Factor + Additive Optional Rate Adjustment Factor	Premium Rate	Internal		9999999999.99999999	Round to 8 decimals.	Premium Rate is capped at 0.99900000.
	Unit Structure Discount Factor	ADM		9.999	None	Edit with ADM Unit Discount, "A01090". When Unit Structure Code equals "OU", "UA", or "UD", then Unit Structure Discount Factor equals Optional Unit Discount Factor. When Unit Structure Code equals "BU", then Unit Structure Discount Factor equals Basic Unit Discount Factor.

Section 5: Total Premium, Subsidy, and Producer Premium Calculation

Preliminary Total Premium Amount = Liability Amount * Premium Rate * Experience Factor * Premium Surcharge Percent	Preliminary Total Premium Amount	Internal		9999999999	Round to whole number	
	Experience Factor	P11	51	9.999	None	Must be a value between minimum and maximum on ICE, "D10023".
	Premium Surcharge Percent	Internal		9.99	None	When Surcharge Applied Flag equals "Y", then Premium Rate Surcharge must equal 1.05, otherwise must equal 1.00.
Total Premium Amount = Preliminary Total Premium Amount * Multiple Commodity Adjustment Factor.	Total Premium Amount	P11	89	9999999999	Round to whole number.	
	Multiple Commodity Adjustment Factor	ICE		9999.999	None	Edit with ICE Multiple Cropping, "D00063".
Subsidy Amount = Total Premium Amount * Subsidy Percent	Subsidy Amount	P11	87	9999999999	Round to whole number.	
	Subsidy Percent	ADM		9.999	None	Edit with ADM Subsidy Percent, "A00070".
Producer Premium Amount = Total Premium Amount - Subsidy Amount	Producer Premium Amount	P11	90	9999999999	Round to whole number.	