

Exhibit Name: Premium Calculation
 Exhibit Number: P11-8, Plan 55
 Record Name: Acreage
 Record Code: P11

Reinsurance Year: 2023
 Version: Draft
 Release Date: 7/21/2022

<u>Insurance Plan Code</u>	55 Yield Based Dollar Amount of Insurance		
<u>Commodity Code</u>	0050 Hybrid Sorghum Seed	0062 Hybrid Seed Corn 0066 Hybrid Vegetable Seed	0080 Hybrid Seed Rice 0093 Hybrid Sweet Corn Seed 0334 Hybrid Popcorn Seed

<u>Calculations</u>	<u>Field Name</u>	<u>Record Number</u>	<u>Field Number</u>	<u>Field Format</u>	<u>Field Rounding</u>	<u>Rules</u>
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Section 1: Liability Calculation

When Commodity is not "0093," Hybrid Sweet Corn Seed, "0334," Hybrid Popcorn Seed, or "0066", Hybrid Vegetable Seed:

$\text{Approved Yield} = (\text{County Yield} * \text{Yield Price Factor}) - \text{Minimum Payment Quantity}$	Approved Yield	P11	42	99999999.99	If Unit of Measure equals pounds, "LBS", then round to whole number. Otherwise, round to 1 decimal.	
	County Yield	ADM		9999.9	None	Edit with ADM Base Rate, "A01010".
	Yield Price Factor	ICE		9.9999	None	Coverage Level Factor from SPOI. Edit with Yield Price Factor ICE, "D00041".
	Minimum Payment Quantity			999999.9		Minimum Payment Quantity must be converted to applicable Unit of Measure (whole number for pounds, 1 decimal for bushels).
$\text{Premium Acre Guarantee Quantity} = \text{Approved Yield} * \text{Price Election Amount}$	Premium Acre Guarantee Quantity	Internal		99999999.99	Round to whole number.	
	Price Election Amount	P11	45	9999.9999	None	If the HS option is elected, where applicable via the ADM, price should reflect higher of MPCPI or HPSE price (A00810 Hybrid Seed Option Price).

When Commodity is "0066", Hybrid Vegetable Seed:

$\text{Approved Yield} = \text{County Yield} * \text{Coverage Level Percent}$	Approved Yield	P11	42	99999999.99	If Unit of Measure equals pounds, "LBS", then round to whole number. Otherwise, round to 1 decimal.	
	County Yield	ADM		999.9	None	Edit with ADM Base Rate, "A01010".
	Coverage Level Percent	P14	34		None	
$\text{Premium Acre Guarantee Quantity} = \text{ROUND}(\text{Approved Yield} * \text{Price Election Amount} - \text{Minimum Payment Quantity}, 0)$	Premium Acre Guarantee Quantity	Internal			Round to whole number.	This value will be capped at zero.
	Price Election Amount	P11	45	9999.9999	None	If "HS" elected, price should reflect the higher value of MPCPI or HPSE (A00810 Hybrid Seed Option Price).
	Minimum Payment Quantity	P11	79	9999999999	Round to whole number.	Minimum Payment Quantity must be in dollars (whole numbers).

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<u>Commodity Code</u>	0050 Hybrid Sorghum Seed	0062 Hybrid Seed Corn	0080 Hybrid Seed Rice	0093 Hybrid Sweet Corn Seed
		0066 Hybrid Vegetable Seed		0334 Hybrid Popcorn Seed

Calculations	Field Name	Record Number	Field Number	Field Format	Field Rounding	Rules
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When Commodity is "0093," Hybrid Sweet Corn Seed or "0334," Hybrid Popcorn Seed:

Approved Yield = County Yield * Coverage Level Percent	Approved Yield	P11	42	99999999.99	If Unit of Measure equals pounds, "LBS", then round to whole number. Otherwise, round to 1 decimal.	
	County Yield	ADM		999.9	None	Edit with ADM Base Rate, "A01010".
	Coverage Level Percent	P14	34		None	
Premium Acre Guarantee Quantity = MIN(ROUND(Contract Value * Coverage Level Percent - Minimum Payment Quantity ,0), ROUND(Approved Yield * Price Election Amount - Minimum Payment Quantity ,0))	Premium Guarantee Per Acre Amount	Internal			Round to whole number.	This value will be capped at zero.
	Price Election Amount	P11	45	9999.9999	None	If "HS" elected, price should reflect the higher value of MPC1 or HPSE (A00810 Hybrid Seed Option Price).
	Contract Value	P11	78	9999999999		Total Compensation specified in the hybrid sweet corn seed processor contract per acre or stated seed contract value per acre in whole dollar amount.
	Minimum Payment Quantity	P11	79			Minimum Payment Quantity must be in dollars (whole numbers).

For all commodities:

Acre Guarantee Quantity = Premium Acre Guarantee Quantity * Guarantee Adjustment Factor	Acre Guarantee Quantity	P11	106	99999999.99	Round to whole number.	
	Guarantee Adjustment Factor	P11	69	0.999	None	Edit with the Guarantee Adjustment ICE, "D00068" or ADM Guarantee Adjustment, "A01220" for Prevented Planting.
Premium Total Guarantee Amount = Premium Acre Guarantee Quantity * Reported Acreage	Premium Total Guarantee Amount	Internal		99999999.99	Round to whole number.	
	Reported Acreage	P11	48	999999.99	None	Reported Acreage must equal the sum of all Land, P27, Reported Acreage.
Total Guarantee Amount = Acre Guarantee Quantity * Reported Acreage	Total Guarantee Amount	P11	103	99999999.99	Round to whole number.	
	Reported Acreage	P11	48	999999.99	None	Reported Acreage must equal the sum of all Land, P27, Reported Acreage.

When Commodity is "0093," Hybrid Sweet Corn Seed or "0334," Hybrid Popcorn Seed:

Premium Liability Amount = Percent - (Minimum Payment Quantity * Reported Acreage) * Insured Share Percent	Premium Liability Amount	Internal		9999999999	Round to whole number.	
	Insured Share Percent	P11	43	9.9999	None	
	Reported Acreage	P11	48	999999.99	None	
	Minimum Payment Quantity	P11	79			Minimum Payment Quantity must be in dollars (whole numbers). Enter per acre value.
Liability Amount = (Total Guarantee Amount * Insured Share Percent - (Minimum Payment Quantity * Reported Acreage)) * Insured Share Percent	Liability Amount	P11	94	9999999999	Round to whole number.	
	Reported Acreage	P11	48	999999.99	None	
	Insured Share Percent	P11	43	9.9999	None	
	Minimum Payment Quantity	P11	79			Minimum Payment Quantity must be in dollars (whole numbers). Enter per acre value.

When Commodity is NOT "0093," Hybrid Sweet Corn Seed or "0334," Hybrid Popcorn Seed:

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55 Yield Based Dollar Amount of Insurance

Commodity Code

0050 Hybrid Sorghum Seed

0062 Hybrid Seed Corn

0080 Hybrid Seed Rice

0093 Hybrid Sweet Corn Seed

0066 Hybrid Vegetable Seed

0334 Hybrid Popcorn Seed

<u>Calculations</u>	<u>Field Name</u>	<u>Record Number</u>	<u>Field Number</u>	<u>Field Format</u>	<u>Field Rounding</u>	<u>Rules</u>
Premium Liability Amount = Premium Total Guarantee Amount * Insured Share Percent	Premium Liability Amount	Internal		9999999999	Round to whole number.	
	Insured Share Percent	P11	43	9.9999	None	
Liability Amount = Total Guarantee Amount * Insured Share Percent	Liability Amount	P11	94	9999999999	Round to whole number.	
	Insured Share Percent	P11	43	9.9999	None	

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Section 2: Base Premium Rate Calculation

Base Premium Rate =	When Rate Method Code equals Fixed Rate, "F": Sub County Rate * Rate Differential Factor	Base Premium Rate	Internal		999999.99999999	Round to 8 decimals.	
	When Rate Method Code equals Additive, "A": (Sub County Rate + Base Rate) * Rate Differential Factor	Sub County Rate	ADM		9.9999	None	Edit with ADM Sub County Rate, "A01050".
	When Rate Method Code equals Multiplicative, "M": Sub County Rate * Base Rate * Rate Differential Factor	Base Rate	ADM		999.9999	None	Edit with ADM Base Rate, "A01010".
	Otherwise: Base Rate * Rate Differential Factor	Rate Differential Factor	ADM		9.99999999	None	Edit with ADM Coverage Level Differential, "A01040".

Section 3: Optional Coverage Calculation

Additive Optional Rate Adjustment Factor = \sum Option Rate * Rate Differential Factor	When Rate Method Code is Additive, "A": Additive Optional Rate Adjustment Factor	Internal			999999.9999	Round to 4 decimals.	
	Option Rate	ADM			99999.9999	None	Option Rate will be the Sum of all Option Rate with Rate Method Code equal to Additive, "A". Edit with ADM Option Rate, "A01060".
	Rate Differential Factor	ADM			9.99999999	None	Edit with ADM Coverage Level Differential, "A01040".
Multiplicative Optional Rate Adjustment Factor = \sum Option Rate1 * Option Rate2 * Option Rate3...	When Rate Method Code is Multiplicative, "M": Multiplicative Optional Rate Adjustment Factor	Internal			999999.9999	Round to 4 decimals.	
	Option Rate	ADM			9.9999	None	Edit with ADM Option Rate, "A01060".

Section 4: Premium Rate Calculation

Premium Rate = Base Premium Rate * Unit Structure Discount Factor * Multiplicative Optional Rate Adjustment Factor + Additive Optional Rate Adjustment Factor	Premium Rate	Internal			999999999.99999999	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.

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

$\text{Preliminary Total Premium Amount} = \frac{\text{Premium Liability Amount} * \text{Premium Rate} * \text{Experience}}{\text{Factor}}$	Preliminary Total Premium Amount	Internal		9999999999	Round to whole number.	
	Experience Factor	P11	47	9.999	None	Must be a value between minimum and maximum on ICE, "D10023".
$\text{Total Premium Amount} = \frac{\text{Preliminary Total Premium Amount} * \text{Multiple Commodity Adjustment Factor}}{\text{Factor}}$	Total Premium Amount	P11	95	9999999999	Round to whole number.	
	Multiple Commodity Adjustment Factor	ICE		9999.999	None	Edit with ICE Multiple Cropping, "D00063". Not applicable for Hybrid Seed Rice.
$\text{Subsidy Amount} = \text{Total Premium Amount} * \text{Subsidy Percent}$	Subsidy Amount	P11	93	9999999999	Round to whole number.	If this record qualifies for Beginning Farmer and Rancher or Native Sod, see Section 6 for subsidy calculations.
	Subsidy Percent	ADM		9.999	None	Edit with ADM Subsidy Percent, "A00070".
$\text{Producer Premium Amount} = \text{Total Premium Amount} - \text{Subsidy Amount}$	Producer Premium Amount	P11	96	9999999999	Round to whole number.	

Section 6: Beginning Farmer and Rancher (BFR), Veteran Farmer Rancher (VFR), Native Sod (NS) and Conservation Compliance (CC) Subsidy Calculations

$\text{Base Subsidy Amount} = \text{Total Premium Amount} * \text{Subsidy Percent}$	Base Subsidy Amount	Internal		9999999999	Round to whole number	Capped by the standard rule of \$1 if applicable.
	Subsidy Percent	ADM		9.999	None	Edit with ADM Subsidy Percent, "A00070".
$\text{BFR/VFR Subsidy Amount} = \frac{\text{Total Premium Amount} * 0.10 * (1 - \text{CC Subsidy Reduction Percent})}{\text{Factor}}$	BFR/VFR Subsidy Amount	Internal		9999999999	Round to whole number	Beginning Farmer Rancher/veteran Farmer Rancher Subsidy Amount. If Applicable; else 0. 0.10 (10%)
$\text{Native Sod Subsidy Amount} = \text{Total Premium Amount} * 0.50$	Native Sod Subsidy Amount	Internal		9999999999	Round to whole number	If Applicable; else 0. 0.50 (50%). For CAT coverage, Native Sod Subsidy Amount is always 0.
$\text{CC Subsidy Reduction Amount} = \text{Base Subsidy Amount} * \text{CC Subsidy Reduction Percent}$	CC Subsidy Reduction Percent	P11	76	9.9999	None	If Applicable; else 0.
	CC Subsidy Reduction Amount	P11	111	9999999999	Round to whole number	CC Subsidy Reduction Amount. If Applicable; else 0.
$\text{Subsidy Amount} = \text{Base Subsidy Amount} + \text{BFR/VFR Subsidy Amount} - \text{Native Sod Subsidy Amount} - \text{CC Subsidy Reduction Amount}$	Subsidy Amount	P11	93	9999999999	Round to whole number	Subsidy Amount cannot exceed Total Premium Amount. Subsidy Amount will be capped at \$0.
$\text{Producer Premium Amount} = \text{Total Premium Amount} - \text{Subsidy Amount}$	Producer Premium Amount	P11	96	9999999999	Round to whole number	