

| Exhibit Name: Premium Calculation Exhibit Number: P18-1, Plan 83 Record Name: DRP Premium Record Code: P18 | | | | | | | Reinsurance Year: 2023 Version: Approved Release Date: 7/1/2022 | |
|--|-----------------------------------|---------------|--------------|--------------|----------------|--|--|--|
| Insurance Plan Code | | | | | | | 83 Dairy Revenue Protection | |
| Commodity Code | | | | | | | 0830 Milk | |
| Calculations | Field Name | Record Number | Field Number | Field Format | Field Rounding | Rules | | |
| Section 1: Simulated Yield Adjustment Factor Calculation | | | | | | | | |
| For sequence 1 to 5000: SimulatedMilkPerCow[sequence] = Round(ExpectedYield + NORMSINV(DRPYieldDrawQuantity[sequence]) * ExpectedYieldStandardDeviation,4) | Simulated Milk Per Cow | Internal | | 99999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds | | |
| | Expected Yield | A00832 | 6 | 99999 | None | | | |
| | DRP Yield Draw Quantity | A00831 | 22 | 999.9999 | None | | | |
| For sequence 1 to 5000: SimulatedYieldAdjustmentFactor[sequence] = Round(SimulatedMilkPerCow[sequence] / ExpectedYield, 4) | Expected Yield Standard Deviation | A00832 | 8 | 999.9999 | None | sequence = [1,...,5000] Prices are simulated for 5000 rounds | | |
| | Simulated Yield Adjustment Factor | Internal | | 999.9999 | 4 decimals | | | |
| | Simulated Milk Per Cow | Internal | | 99999.9999 | None | | | |
| | Expected Yield | A00832 | 6 | 99999 | None | | | |
| Class Price Calculation | | | | | | | | |
| Section 2: Simulated Class Price III Calculations | | | | | | | | |
| For sequence 1 to 5000: SimulatedMonth1ClassIIIPrice[sequence] = Round(EXP(Round(NORMSINV(Month1ClassIIIPriceDraw[sequence]) * Month1ClassIIISigma + LN(Month1ExpectedClassIIIPrice), 4) - Round(0.5 * (Round(Month1ClassIIISigma^2,4)), 4)), 4) | Simulated Month 1 Class III Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds | | |
| | Month 1 Class III Price Draw | A00831 | 7 | 999.9999 | None | | | |
| | Month 1 Class III Sigma | A00833 | 22 | 999.9999 | None | | | |
| | Month 1 Expected Class III Price | A00833 | 7 | 999.9999 | None | | | |
| For sequence 1 to 5000: SimulatedMonth2ClassIIIPrice[sequence] = Round(EXP(Round(NORMSINV(Month2ClassIIIPriceDraw[sequence]) * Month2ClassIIISigma + LN(Month2ExpectedClassIIIPrice), 4) - Round(0.5 * (Round(Month2ClassIIISigma^2,4)), 4)), 4) | Simulated Month 2 Class III Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds | | |
| | Month 2 Class III Price Draw | A00831 | 8 | 999.9999 | None | | | |
| | Month 2 Class III Sigma | A00833 | 23 | 999.9999 | None | | | |
| | Month 2 Expected Class III Price | A00833 | 8 | 999.9999 | None | | | |
| For sequence 1 to 5000: SimulatedMonth3ClassIIIPrice[sequence] = Round(EXP(Round(NORMSINV(Month3ClassIIIPriceDraw[sequence]) * Month3ClassIIISigma + LN(Month3ExpectedClassIIIPrice), 4) - Round(0.5 * (Round(Month3ClassIIISigma^2,4)), 4)), 4) | Simulated Month 3 Class III Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds | | |
| | Month 3 Class III Price Draw | A00831 | 9 | 999.9999 | None | | | |
| | Month 3 Class III Sigma | A00833 | 24 | 999.9999 | None | | | |
| | Month 3 Expected Class III Price | A00833 | 9 | 999.9999 | None | | | |
| For sequence 1 to 5000: SimulatedClassIIIPrice[sequence] = Round((Simulated Month1ClassIIIPrice[sequence] + SimulatedMonth2ClassIIIPrice[sequence] + SimulatedMonth3ClassIIIPrice[sequence]) / 3.00, 2) | Simulated Class III Price | Internal | | 999.99 | 2 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds | | |
| | Simulated Month 1 Class III Price | Internal | | 999.9999 | None | | | |
| | Simulated Month 2 Class III Price | Internal | | 999.9999 | None | | | |
| | Simulated Month 3 Class III Price | Internal | | 999.9999 | None | | | |

Section 3: Simulated Class Price IV Calculations

| | | | | | | |
|---|----------------------------------|----------|----|----------|------------|--|
| For sequence 1 to 5000: SimulatedMonth1ClassIVPrice[sequence] = $\text{Round}(\text{EXP}(\text{Round}(\text{NORMSINV}(\text{Month1ClassIVPriceDraw}[\text{sequence}])) * \text{Month1ClassIVSigma} + \text{LN}(\text{Month1ExpectedClassIVPrice}), 4) - \text{Round}(0.5 * (\text{Round}(\text{Month1ClassIVSigma}^2, 4)), 4))$ | Simulated Month 1 Class IV Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Month 1 Class IV Price Draw | A00831 | 10 | 999.9999 | None | |
| | Month 1 Class IV Sigma | A00833 | 25 | 999.9999 | None | |
| | Month 1 Expected Class IV Price | A00833 | 10 | 999.9999 | None | |
| For sequence 1 to 5000: SimulatedMonth2ClassIVPrice[sequence] = $\text{Round}(\text{EXP}(\text{Round}(\text{NORMSINV}(\text{Month2ClassIVPriceDraw}[\text{sequence}])) * \text{Month2ClassIVSigma} + \text{LN}(\text{Month2ExpectedClassIVPrice}), 4) - \text{Round}(0.5 * (\text{Round}(\text{Month2ClassIVSigma}^2, 4)), 4))$ | Simulated Month 2 Class IV Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Month 2 Class IV Price Draw | A00831 | 11 | 999.9999 | None | |
| | Month 2 Class IV Sigma | A00833 | 26 | 999.9999 | None | |
| | Month 2 Expected Class IV Price | A00833 | 11 | 999.9999 | None | |
| For sequence 1 to 5000: SimulatedMonth3ClassIVPrice[sequence] = $\text{Round}(\text{EXP}(\text{Round}(\text{NORMSINV}(\text{Month3ClassIVPriceDraw}[\text{sequence}])) * \text{Month3ClassIVSigma} + \text{LN}(\text{Month3ExpectedClassIVPrice}), 4) - \text{Round}(0.5 * (\text{Round}(\text{Month3ClassIVSigma}^2, 4)), 4))$ | Simulated Month 3 Class IV Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Month 3 Class IV Price Draw | A00831 | 12 | 999.9999 | None | |
| | Month 3 Class IV Sigma | A00833 | 27 | 999.9999 | None | |
| | Month 3 Expected Class VI Price | A00833 | 12 | 999.9999 | None | |
| For sequence 1 to 5000: SimulatedClassIVPrice[sequence] = $\text{Round}((\text{SimulatedMonth1ClassIVPrice}[\text{sequence}] + \text{SimulatedMonth2ClassIVPrice}[\text{sequence}] + \text{SimulatedMonth3ClassIVPrice}[\text{sequence}]) / 3.00, 2)$ | Simulated Class IV Price | Internal | | 999.99 | 2 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Simulated Month 1 Class IV Price | Internal | | 999.9999 | None | |
| | Simulated Month 2 Class IV Price | Internal | | 999.9999 | None | |
| | Simulated Month 3 Class IV Price | Internal | | 999.9999 | None | |

Section 4: Class Price Expected Revenue Guarantee Calculations

| | | | | | | |
|---|---|----------|----|------------|------------|---|
| For sequence 1 to 5000: SimulatedRevenueAmount[sequence] = $\text{Round}(\text{Round}(\text{Round}(\text{Round}(\text{Round}(\text{SimulatedClassIIIPrice}[\text{sequence}] * \text{DeclaredClassPriceWeightingFactor}), 4) + \text{Round}(\text{SimulatedClassIVPrice}[\text{sequence}] * (1 - \text{DeclaredClassPriceWeightingFactor})), 4) * \text{Round}(\text{DeclaredCoveredMilkProduction} * \text{SimulatedYieldAdjustmentFactor}[\text{sequence}], 4) / 100.00, 0)$ | Simulated Revenue Amount | Internal | | 9999999999 | 0 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Simulated Class III Price | Internal | | 999.99 | None | |
| | Declared Class Price Weighting Factor | P18 | 30 | 9.99 | None | |
| | Simulated Class IV Price | Internal | | 999.99 | None | |
| | Declared Covered Milk Production | P18 | 28 | 9999999999 | None | |
| | Simulated Yield Adjustment Factor | Internal | | 999.9999 | None | |
| ExpectedRevenueAmount = When Class Price Weighting Factor Restricted Value is not published: $\text{ROUND}(\text{ROUND}(\text{ROUND}(\text{ROUND}(\text{ROUND}(\text{ROUND}(\text{ExpectedClassIIIPrice} * \text{DeclaredClassPriceWeightingFactor}), 4) + \text{ROUND}(\text{ExpectedClassIVPrice} * (1 - \text{DeclaredClassPriceWeightingFactor})), 4) * \text{DeclaredCoveredMilkProduction}) / 100.00, 0)$ When Class Price Weighting Factor Restricted Value is equal to 1: $\text{ROUND}(\text{ExpectedClassIIIPrice} * \text{DeclaredCoveredMilkProduction}) / 100.00, 0)$ | Expected Revenue Amount | P18 | 50 | 9999999999 | 0 decimals | The total value of the milk Declared; determined by multiplying the class prices by their respective weights and the volume of Declared milk production, divided by 100. If Class Price Weighting Factor Restricted Value is not NULL, the Class Price Weighting Factor must be equal to Class Price Weighting Factor Restricted Value. |
| | Expected Class III Price | A00833 | 37 | 999.9999 | None | |
| | Declared Class Price Weighting Factor | P18 | 30 | 9.99 | None | |
| | Expected Class IV Price | A00833 | 50 | 9999.9999 | None | |
| | Declared Covered Milk Production | P18 | 28 | 9999999999 | None | |
| | Class Price Weighting Factor Restricted Value | A00833 | 54 | 9.99 | None | |

| | | | | | | |
|--|----------------------------|-----|----|---------------|------------|--|
| When Class Price Weighting Factor Restricted Value is equal to 0: ROUND(((ExpectedClassIVPrice * DeclaredCoveredMilkProduction) / 100.00), 0) | | | | | | |
| Expected Revenue Guarantee = | Expected Revenue Guarantee | P18 | 51 | 9999999999' | 0 decimals | |
| Round(ExpectedRevenueAmount * CoverageLevelPercent, 0) | Expected Revenue Amount | P18 | 50 | 9999999999.99 | None | |
| | Coverage Level Percent | P18 | 27 | 9.9999 | None | |

| Component Price Calculation | | | | | | |
|---|--------------------------------|----------|----|----------|------------|--|
| Section 5: Simulated Component Price Calculations | | | | | | |
| For sequence 1 to 5000: SimulatedMonth1ButterPrice[sequence] = Round(EXP(Round(NORMSINV(Month1ButterPriceDraw[sequence]) * Month1ButterSigma + LN(Month1ExpectedButterPrice),4) - Round(0.5 * (Round(Month1ButterSigma^2,4)),4)),4) | Simulated Month 1 Butter Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Month 1 Butter Price Draw | A00831 | 13 | 999.9999 | None | |
| | Month 1 Butter Sigma | A00833 | 28 | 999.9999 | None | |
| | Month 1 Expected Butter Price | A00833 | 13 | 999.9999 | None | |
| For sequence 1 to 5000: SimulatedMonth2ButterPrice[sequence] = Round(EXP(Round(NORMSINV(Month2ButterPriceDraw[sequence]) * Month2ButterSigma + LN(Month2ExpectedButterPrice),4) - Round(0.5 * (Round(Month2ButterSigma^2,4)),4)),4) | Simulated Month 2 Butter Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Month 2 Butter Price Draw | A00831 | 14 | 999.9999 | None | |
| | Month 2 Butter Sigma | A00833 | 29 | 999.9999 | None | |
| | Month 2 Expected Butter Price | A00833 | 14 | 999.9999 | None | |
| For sequence 1 to 5000: SimulatedMonth3ButterPrice[sequence] = Round(EXP(Round(NORMSINV(Month3ButterPriceDraw[sequence]) * Month3ButterSigma + LN(Month3ExpectedButterPrice),4) - Round(0.5 * (Round(Month3ButterSigma^2,4)),4)),4) | Simulated Month 3 Butter Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Month 3 Butter Price Draw | A00831 | 15 | 999.9999 | None | |
| | Month 3 Butter Sigma | A00833 | 30 | 999.9999 | None | |
| | Month 3 Expected Butter Price | A00833 | 15 | 999.9999 | None | |
| For sequence 1 to 5000: SimulatedMonth1CheesePrice[sequence] = Round(EXP(Round(NORMSINV(Month1CheesePriceDraw[sequence]) * Month1CheeseSigma + LN(Month1ExpectedCheesePrice),4) - Round(0.5 * (Round(Month1CheeseSigma^2,4)),4)),4) | Simulated Month 1 Cheese Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Month 1 Cheese Price Draw | A00831 | 16 | 999.9999 | None | |
| | Month 1 Cheese Sigma | A00833 | 31 | 999.9999 | None | |
| | Month 1 Expected Cheese Price | A00833 | 16 | 999.9999 | None | |
| For sequence 1 to 5000: SimulatedMonth2CheesePrice[sequence] = Round(EXP(Round(NORMSINV(Month2CheesePriceDraw[sequence]) * Month2CheeseSigma + LN(Month2ExpectedCheesePrice),4) - Round(0.5 * (Round(Month2CheeseSigma^2,4)),4)),4) | Simulated Month 2 Cheese Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Month 2 Cheese Price Draw | A00831 | 17 | 999.9999 | None | |
| | Month 2 Cheese Sigma | A00833 | 32 | 999.9999 | None | |
| | Month 2 Expected Cheese Price | A00833 | 17 | 999.9999 | None | |
| For sequence 1 to 5000: SimulatedMonth3CheesePrice[sequence] = Round(EXP(Round(NORMSINV(Month3CheesePriceDraw[sequence]) * Month3CheeseSigma + LN(Month3ExpectedCheesePrice),4) - Round(0.5 * (Round(Month3CheeseSigma^2,4)),4)),4) | Simulated Month 3 Cheese Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Month 3 Cheese Price Draw | A00831 | 18 | 999.9999 | None | |
| | Month 3 Cheese Sigma | A00833 | 33 | 999.9999 | None | |
| | Month 3 Expected Cheese Price | A00833 | 18 | 999.9999 | None | |

| | | | | | | |
|--|---|----------|----|----------|------------|--|
| For sequence 1 to 5000: SimulatedMonth1DryWheyPrice[sequence] = Round(EXP(Round(NORMSINV(Month1DryWheyPriceDraw[sequence]) * Month1DryWheySigma + LN(Month1ExpectedDryWheyPrice),4) - Round(0.5 * (Round(Month1DryWheySigma^2,4)),4)),4) | Simulated Month 1 Dry Whey Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Month 1 Dry Whey Price Draw | A00831 | 19 | 999.9999 | None | |
| | Month 1 Dry Whey Sigma | A00833 | 34 | 999.9999 | None | |
| | Month 1 Expected Dry Whey Price | A00833 | 19 | 999.9999 | None | |
| For sequence 1 to 5000: SimulatedMonth2DryWheyPrice[sequence] = Round(EXP(Round(NORMSINV(Month2DryWheyPriceDraw[sequence]) * Month2DryWheySigma + LN(Month2ExpectedDryWheyPrice),4) - Round(0.5 * (Round(Month2DryWheySigma^2,4)),4)),4) | Simulated Month 2 Dry Whey Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Month 2 Dry Whey Price Draw | A00831 | 20 | 999.9999 | None | |
| | Month 2 Dry Whey Sigma | A00833 | 35 | 999.9999 | None | |
| | Month 2 Expected Dry Whey Price | A00833 | 20 | 999.9999 | None | |
| For sequence 1 to 5000: SimulatedMonth3DryWheyPrice[sequence] = Round(EXP(Round(NORMSINV(Month3DryWheyPriceDraw[sequence]) * Month3DryWheySigma + LN(Month3ExpectedDryWheyPrice),4) - Round(0.5 * (Round(Month3DryWheySigma^2,4)),4)),4) | Simulated Month 3 Dry Whey Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Month 3 Dry Whey Price Draw | A00831 | 21 | 999.9999 | None | |
| | Month 3 Dry Whey Sigma | A00833 | 36 | 999.9999 | None | |
| | Month 3 Expected Dry Whey Price | A00833 | 21 | 999.9999 | None | |
| For sequence 1 to 5000: SimulatedMonth1NonfatDryMilkPrice[sequence] = Round(EXP(Round(Round(NORMSINV(Month1NonfatDryMilkPriceDraw[sequence]), 4) * Month1NonfatDryMilkSigma, 4) + Round(LN(Month1ExpectedNonfatDryMilkPrice), 4) - 0.5 * Round(Month1NonfatDryMilkSigma^2, 4)), 4) | Simulated Month 1 Nonfat Dry Milk Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Month 1 Nonfat Dry Milk Price Draw | A00831 | 19 | 999.9999 | None | |
| | Month 1 Nonfat Dry Milk Sigma | A00833 | 34 | 999.9999 | None | |
| | Month 1 Expected Nonfat Dry Milk Price | A00833 | 19 | 999.9999 | None | |
| For sequence 1 to 5000: SimulatedMonth2NonfatDryMilkPrice[sequence] = Round(EXP(Round(Round(NORMSINV(Month2NonfatDryMilkPriceDraw[sequence]), 4) * Month2NonfatDryMilkSigma, 4) + Round(LN(Month2ExpectedNonfatDryMilkPrice), 4) - 0.5 * Round(Month2NonfatDryMilkSigma^2, 4)), 4) | Simulated Month 2 Nonfat Dry Milk Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Month 2 Nonfat Dry Milk Price Draw | A00831 | 20 | 999.9999 | None | |
| | Month 2 Nonfat Dry Milk Sigma | A00833 | 35 | 999.9999 | None | |
| | Month 2 Expected Nonfat Dry Milk Price | A00833 | 20 | 999.9999 | None | |
| For sequence 1 to 5000: SimulatedMonth3NonfatDryMilkPrice[sequence] = Round(EXP(Round(Round(NORMSINV(Month3NonfatDryMilkPriceDraw[sequence]), 4) * Month3NonfatDryMilkSigma, 4) + Round(LN(Month3ExpectedNonfatDryMilkPrice), 4) - 0.5 * Round(Month3NonfatDryMilkSigma^2, 4)), 4) | Simulated Month 3 Nonfat Dry Milk Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Month 3 Nonfat Dry Milk Price Draw | A00831 | 21 | 999.9999 | None | |
| | Month 3 Nonfat Dry Milk Sigma | A00833 | 36 | 999.9999 | None | |
| | Month 3 Expected Nonfat Dry Milk Price | A00833 | 21 | 999.9999 | None | |
| For sequence 1 to 5000: SimulatedMonth1ButterfatPrice[sequence] = Round((SimulatedMonth1ButterPrice[sequence] - ButterMakeAllowance) * ButterManufacturingYield, 4) | Simulated Month 1 Butterfat Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Simulated Month 1 Butter Price | Internal | | 999.9999 | None | |
| | Butter Make Allowance | A00835 | 12 | 999.9999 | None | |
| | Butter Manufacturing Yield | A00835 | 5 | 999.9999 | None | |
| For sequence 1 to 5000: SimulatedMonth2ButterfatPrice[sequence] = Round((SimulatedMonth2ButterPrice[sequence] - ButterMakeAllowance) * ButterManufacturingYield,4) | Simulated Month 2 Butterfat Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Simulated Month 2 Butter Price | Internal | | 999.9999 | None | |
| | Butter Make Allowance | A00835 | 12 | 999.9999 | None | |
| | Butter Manufacturing Yield | A00835 | 5 | 999.9999 | None | |
| For sequence 1 to 5000: SimulatedMonth3ButterfatPrice[sequence] = | Simulated Month 3 Butterfat Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |

| | | | | | | |
|--|-----------------------------------|----------|----|----------|------------|--|
| Round((SimulatedMonth3ButterPrice[sequence] - ButterMakeAllowance) * ButterManufacturingYield,4) | Simulated Month 3 Butter Price | Internal | | 999.9999 | None | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Butter Make Allowance | A00835 | 12 | 999.9999 | None | |
| | Butter Manufacturing Yield | A00835 | 5 | 999.9999 | None | |
| For sequence 1 to 5000: SimulatedButterfatPrice[sequence] = | Simulated Butterfat Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| Round((SimulatedMonth1ButterfatPrice[sequence] + | Simulated Month 1 Butterfat Price | Internal | | 999.9999 | None | |
| SimulatedMonth2ButterfatPrice[sequence] + | Simulated Month 2 Butterfat Price | Internal | | 999.9999 | None | |
| SimulatedMonth3ButterfatPrice[sequence]) / 3.00,4) | Simulated Month 3 Butterfat Price | Internal | | 999.9999 | None | |

| | | | | | | |
|---|--------------------------------------|----------|----|----------|------------|--|
| For sequence 1 to 5000: SimulatedMonth1OtherSolidsPrice[sequence] = Round((SimulatedMonth1DryWheyPrice[sequence] - DryWheyMakeAllowance) * DryWheyManufacturingYield,4) | Simulated Month 1 Other Solids Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Simulated Month 1 Dry Whey Price | Internal | | 999.9999 | None | |
| | Dry Whey Make Allowance | A00835 | 14 | 999.9999 | None | |
| | Dry Whey Manufacturing Yield | A00835 | 7 | 999.9999 | None | |
| For sequence 1 to 5000: SimulatedMonth2OtherSolidsPrice[sequence] = Round((SimulatedMonth2DryWheyPrice[sequence] - DryWheyMakeAllowance) * DryWheyManufacturingYield,4) | Simulated Month 2 Other Solids Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Simulated Month 2 Dry Whey Price | Internal | | 999.9999 | None | |
| | Dry Whey Make Allowance | A00835 | 14 | 999.9999 | None | |
| | Dry Whey Manufacturing Yield | A00835 | 7 | 999.9999 | None | |
| For sequence 1 to 5000: SimulatedMonth3OtherSolidsPrice[sequence] = Round((SimulatedMonth3DryWheyPrice[sequence] - DryWheyMakeAllowance) * DryWheyManufacturingYield,4) | Simulated Month 3 Other Solids Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Simulated Month 3 Dry Whey Price | Internal | | 999.9999 | None | |
| | Dry Whey Make Allowance | A00835 | 14 | 999.9999 | None | |
| | Dry Whey Manufacturing Yield | A00835 | 7 | 999.9999 | None | |
| For sequence 1 to 5000: SimulatedOtherSolidsPrice[sequence] = Round((SimulatedMonth1OtherSolidsPrice[sequence] + SimulatedMonth2OtherSolidsPrice[sequence] + SimulatedMonth3OtherSolidsPrice[sequence]) / 3.00,4) | Simulated Other Solids Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Simulated Month 1 Other Solids Price | Internal | | 999.9999 | None | |
| | Simulated Month 2 Other Solids Price | Internal | | 999.9999 | None | |
| | Simulated Month 3 Other Solids Price | Internal | | 999.9999 | None | |

| | | | | | | |
|--|--------------------------------------|----------|----|----------|------------|--|
| For sequence 1 to 5000: SimulatedMonth1ProteinPrice[sequence] = Round(Round(((SimulatedMonth1CheesePrice[sequence] - CheeseMakeAllowance) * CheeseManufacturingYieldCasein),4) + Round(((Round(((SimulatedMonth1CheesePrice[sequence] - CheeseMakeAllowance) * CheeseManufacturingYieldButterfat),4) - SimulatedMonth1ButterfatPrice[sequence] * ButterfatRetentionRate) * ButterfatToProteinRatio),4),4) | Simulated Month 1 Protein Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Simulated Month 1 Cheese Price | Internal | | 999.9999 | None | |
| | Cheese Make Allowance | A00835 | 15 | 999.9999 | None | |
| | Cheese Manufacturing Yield Casein | A00835 | 8 | 999.9999 | None | |
| | Cheese Manufacturing Yield Butterfat | A00835 | 9 | 999.9999 | None | |
| | Simulated Month 1 Butterfat Price | Internal | | 999.9999 | None | |
| | Butterfat Retention Rate | A00835 | 10 | 999.9999 | None | |
| | Butterfat To Protein Ratio | A00835 | 11 | 999.9999 | None | |
| For sequence 1 to 5000: SimulatedMonth2ProteinPrice[sequence] = Round(Round(((SimulatedMonth2CheesePrice[sequence] - CheeseMakeAllowance) * CheeseManufacturingYieldCasein),4) + Round(((Round(((SimulatedMonth2CheesePrice[sequence] - CheeseMakeAllowance) * CheeseManufacturingYieldButterfat),4) - SimulatedMonth2ButterfatPrice[sequence] * ButterfatRetentionRate) * ButterfatToProteinRatio),4),4) | Simulated Month 2 Protein Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Simulated Month 2 Cheese Price | Internal | | 999.9999 | None | |
| | Cheese Make Allowance | A00835 | 15 | 999.9999 | None | |
| | Cheese Manufacturing Yield Casein | A00835 | 8 | 999.9999 | None | |
| | Cheese Manufacturing Yield Butterfat | A00835 | 9 | 999.9999 | None | |
| | Simulated Month 2 Butterfat Price | Internal | | 999.9999 | None | |
| | Butterfat Retention Rate | A00835 | 10 | 999.9999 | None | |
| | Butterfat To Protein Ratio | A00835 | 11 | 999.9999 | None | |

| | | | | | | |
|---|---|----------|----|-----------|------------|--|
| For sequence 1 to 5000: SimulatedMonth3ProteinPrice[sequence] = Round(Round(((SimulatedMonth3CheesePrice[sequence] - CheeseMakeAllowance) * CheeseManufacturingYieldCasein),4) + Round(((Round(((SimulatedMonth3CheesePrice[sequence] - CheeseMakeAllowance) * CheeseManufacturingYieldButterfat),4) - SimulatedMonth3ButterfatPrice[sequence] * ButterfatRetentionRate) * ButterfatToProteinRatio), 4),4) | Simulated Month 3 Protein Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Simulated Month 3 Cheese Price | Internal | | 999.9999 | None | |
| | Cheese Make Allowance | A00835 | 15 | 999.9999 | None | |
| | Cheese Manufacturing Yield Casein | A00835 | 8 | 999.9999 | None | |
| | Cheese Manufacturing Yield Butterfat | A00835 | 9 | 999.9999 | None | |
| | Simulated Month 3 Butterfat Price | Internal | | 999.9999 | None | |
| | Butterfat Retention Rate | A00835 | 10 | 999.9999 | None | |
| For sequence 1 to 5000: SimulatedProteinPrice[sequence] = Round((SimulatedMonth1ProteinPrice[sequence] + SimulatedMonth2ProteinPrice[sequence] + SimulatedMonth3ProteinPrice[sequence]) / 3.00,4) | Simulated Protein Price | Internal | | 999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Simulated Month 1 Protein Price | Internal | | 999.9999 | None | |
| | Simulated Month 2 Protein Price | Internal | | 999.9999 | None | |
| | Simulated Month 3 Protein Price | Internal | | 999.9999 | None | |
| For sequence 1 to 5000: SimulatedMonth1NonfatSolidsPrice[sequence] = Round((SimulatedMonth1NonfatDryMilkPrice[sequence] - NonfatDryMilkMakeAllowance) * NonfatDryMilkManufacturingYield, 4) | Simulated Month 1 Nonfat Solids Price | Internal | | 9999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Simulated Month 1 Nonfat Dry Milk Price | Internal | | 9999.9999 | None | |
| | Nonfat Dry Milk Make Allowance | A00835 | 13 | 999.9999 | None | |
| | Nonfat Dry Milk Manufacturing Yield | A00835 | 6 | 999.9999 | None | |
| For sequence 1 to 5000: SimulatedMonth2NonfatSolidsPrice[sequence] = Round((SimulatedMonth2NonfatDryMilkPrice[sequence] - NonfatDryMilkMakeAllowance) * NonfatDryMilkManufacturingYield, 4) | Simulated Month 2 Nonfat Solids Price | Internal | | 9999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Simulated Month 2 Nonfat Dry Milk Price | Internal | | 9999.9999 | None | |
| | Nonfat Dry Milk Make Allowance | A00835 | 13 | 999.9999 | None | |
| | Nonfat Dry Milk Manufacturing Yield | A00835 | 6 | 999.9999 | None | |
| For sequence 1 to 5000: SimulatedMonth3NonfatSolidsPrice[sequence] = Round((SimulatedMonth3NonfatDryMilkPrice[sequence] - NonfatDryMilkMakeAllowance) * NonfatDryMilkManufacturingYield, 4) | Simulated Month 3 Nonfat Solids Price | Internal | | 9999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Simulated Month 3 Nonfat Dry Milk Price | Internal | | 9999.9999 | None | |
| | Nonfat Dry Milk Make Allowance | A00835 | 13 | 999.9999 | None | |
| | Nonfat Dry Milk Manufacturing Yield | A00835 | 6 | 999.9999 | None | |
| For sequence 1 to 5000: SimulatedNonfatSolidsPrice[sequence] = Round((SimulatedMonth1NonfatSolidsPrice[sequence] + SimulatedMonth2NonfatSolidsPrice[sequence] + SimulatedMonth3NonfatSolidsPrice[sequence]) / 3.00, 4) | Simulated Nonfat Solids Price | Internal | | 9999.9999 | 4 decimals | sequence = [1,...,5000] Prices are simulated for 5000 rounds |
| | Simulated Month 1 Nonfat Solids Price | Internal | | 9999.9999 | None | |
| | Simulated Month 2 Nonfat Solids Price | Internal | | 9999.9999 | None | |
| | Simulated Month 3 Nonfat Solids Price | Internal | | 9999.9999 | None | |

|

|

Section 6: Component Expected Revenue Guarantee Calculations

| | | | | | | |
|---|---|----------|----|-------------|------------|---|
| <p>For sequence 1 to 5000: SimulatedRevenueAmount[sequence] =</p> $\text{Round}(\text{Round}(\text{DeclaredComponentPriceWeightingFactor} * (\text{Round}(\text{SimulatedButterfatPrice}[\text{sequence}] * \text{DeclaredButterfatTest}, 4) + \text{Round}(\text{SimulatedProteinPrice}[\text{sequence}] * \text{DeclaredProteinTest}, 4) + \text{Round}(\text{SimulatedOtherSolidsPrice}[\text{sequence}] * 5.7, 4)), 4) + \text{Round}((1 - \text{DeclaredComponentPriceWeightingFactor}) * (\text{Round}(\text{SimulatedButterfatPrice}[\text{sequence}] * \text{DeclaredButterfatTest}, 4) + \text{Round}(\text{SimulatedNonfatSolidsPrice}[\text{sequence}] * (\text{DeclaredProteinTest} + 5.7), 4)), 4)) * (\text{DeclaredCoveredMilkProduction} * \text{SimulatedYieldAdjustmentFactor}[\text{sequence}] / 100.00), 0)$ | Simulated Revenue Amount | Internal | | 9999999999 | 0 decimals | <p>sequence = [1,...,5000] Prices are simulated for 5000 rounds. If Component Price Weighting Factor Restricted Value is not NULL, the Component Price Weighting Factor must be equal to Component Price Weighting Factor Restricted Value.</p> |
| | Simulated Butterfat Price | Internal | | 999.9999 | None | |
| | Declared Butterfat Test | P18 | 31 | 9.99 | None | |
| | Simulated Protein Price | Internal | | 999.9999 | None | |
| | Declared Protein Test | P18 | 32 | 9.99 | None | |
| | Simulated Other Solids Price | Internal | | 999.9999 | None | |
| | Declared Covered Milk Production | P18 | 28 | 9999999999 | None | |
| | Simulated Yield Adjustment Factor | Internal | | 999.9999 | None | |
| | Simulated Nonfat Solids Price | Internal | | 9999.9999 | None | |
| | Declared Component Price Weighting Factor | P18 | 35 | 9.99 | None | |
| <p>Expected Revenue Amount =</p> <p>When Component Price Weighting Factor Restricted Value is not published:</p> $\text{ROUND}(\text{ROUND}(\text{Component Price Weighting Factor} * (\text{ROUND}(\text{Expected Butterfat Price} * \text{Declared Butterfat Test}, 4) + \text{ROUND}(\text{Expected Protein Price} * \text{Declared Protein Test}, 4) + \text{ROUND}(\text{Expected Other Solids Price} * 5.7, 4)), 4) + \text{ROUND}((1 - \text{Component Price Weighting Factor}) * (\text{ROUND}(\text{Expected Butterfat Price} * \text{Declared Butterfat Test}, 4) + \text{ROUND}(\text{Expected Nonfat Solids Price} * (\text{Declared Protein Test} + 5.7), 4)), 4)) * (\text{Declared Covered Milk Production} / 100.00), 0)$ <p>When Component Price Weighting Factor Restricted Value is 1:</p> $\text{ROUND}(\text{ROUND}(\text{ROUND}(\text{Expected Butterfat Price} * \text{Declared Butterfat Test}, 4) + \text{ROUND}(\text{Expected Protein Price} * \text{Declared Protein Test}, 4) + \text{ROUND}(\text{Expected Other Solids Price} * 5.7, 4)), 4) * (\text{Declared Covered Milk Production} / 100.00), 0)$ <p>When Component Price Weighting Factor Restricted Value is 0:</p> $\text{ROUND}(\text{ROUND}(\text{ROUND}(\text{Expected Butterfat Price} * \text{Declared Butterfat Test}, 4) + \text{ROUND}(\text{Expected Nonfat Solids Price} * (\text{Declared Protein Test} + 5.7), 4)), 4) * (\text{Declared Covered Milk Production} / 100.00), 0)$ | Expected Revenue Amount | P18 | 50 | 9999999999' | 0 decimals | <p>The value determined by multiplying the declared component tests by the expected component value and then multiplying by the volume of milk Declared, divided by 100.</p> |
| | Expected Butterfat Price | A00833 | 39 | 999.9999 | None | |
| | Declared Butterfat Test | P18 | 31 | 9.99 | None | |
| | Expected Protein Price | A00833 | 40 | 9999.9999 | None | |
| | Declared Protein Test | P18 | 32 | 9.99 | None | |
| | Expected Other Solids Price | A00833 | 41 | 999.9999 | None | |
| | Declared Covered Milk Production | P18 | 28 | 9999999999 | None | |
| | Simulated Yield Adjustment Factor | Internal | | 9.9999 | None | |
| | Expected Nonfat Solids Price | A00833 | 52 | 999.9999 | None | |
| | Component Price Weighting Factor Restricted Value | A00833 | 53 | 9.99 | None | |
| <p>Expected Revenue Guarantee =</p> $\text{Round}(\text{ExpectedRevenueAmount} * \text{CoverageLevelPercent}, 0)$ | Expected Revenue Guarantee | P18 | 51 | 9999999999' | 0 decimals | |
| | Expected Revenue Amount | P18 | 50 | 9999999999' | None | |
| | Coverage Level Percent | P18 | 27 | 9.9999 | None | |

| Section 7: Total Premium and Liability Amount Calculations | | | | | | |
|--|---------------------------------|----------|----|--------------|------------------------|--|
| SimulatedLoss[sequence] = | Simulated Loss | Internal | | 999999999.99 | 2 decimals | |
| Round(MAX(ExpectedRevenueGuarantee - SimulatedRevenueAmount[sequence], 0.00),2) | Expected Revenue Guarantee | P18 | 51 | 999999999' | None | |
| | Simulated Revenue Amount | Internal | | 9.9999 | None | |
| SimulatedLossAverage = | Simulated Loss Average | Internal | | 999999999.99 | 2 decimals | |
| ROUND(MAX(SUM(SimulatedLoss[sequence]) / 5000.00, 0.02 * DeclaredCoveredMilkProduction / 100.00), 2) | Simulated Loss | Internal | | 999999999.99 | 2 decimals | Minimum premium of \$0.02/cwt. |
| PreliminaryTotalPremium = | Preliminary Total Premium | P18 | 53 | 999999999 | None | |
| Round(SimulatedLossAverage * DeclaredShare * ProtectionFactor,0) | Simulated Loss Average | Internal | | 999999999.99 | 2 decimals | |
| | Declared Share | P18 | 26 | 9.9999 | None | |
| | Protection Factor | P18 | 29 | 9.99 | None | |
| TotalPremiumAmount = | Total Premium Amount | P18 | 45 | 999999999 | 0 decimals | |
| ROUND(PreliminaryTotalPremium * LoadingFactor, 0) | Loading Factor | A00833 | 6 | 999.9999 | None | |
| | Preliminary Total Premium | P18 | 53 | 999999999.99 | 2 decimals | |
| Liability = | Liability | P18 | 52 | 999999999 | 0 decimals | Cup at \$1. |
| ExpectedRevenueGuarantee * DeclaredShare * ProtectionFactor | Expected Revenue Guarantee | P18 | 51 | 999999999' | None | |
| | Declared Share | P18 | 26 | 9.9999 | None | |
| | Protection Factor | P18 | 29 | 9.99 | None | |
| Section 8: Subsidy and Producer Premium Amount Calculations | | | | | | |
| SubsidyAmount = Round(TotalPremiumAmount * SubsidyPercent,0) | Subsidy Amount | P18 | 23 | 999999999 | Round to whole number. | If this record qualifies for Beginning Farmer and Rancher, see Section 9 for subsidy calculation. |
| | Subsidy Percent | A00070 | 15 | 9.999 | None | Edit with ADM Subsidy Percent, "A00070". |
| ProducerPremiumAmount = MAX(Round(TotalPremiumAmount - SubsidyAmount,0),1) | Producer Premium Amount | P18 | 46 | 999999999 | Round to whole number. | Minimum \$1 Premium |
| Section 9: Beginning Farmer and Rancher (BFR), Veteran Farmer Rancher (VFR), and Conservation Compliance (CC) Subsidy Calculations | | | | | | |
| BaseSubsidyAmount = Round(TotalPremiumAmount * SubsidyPercent,0) | Base Subsidy Amount | Internal | | 999999999 | Round to whole number. | Cupped by the standard rule of \$1 if applicable. |
| | Subsidy Percent | A00070 | 15 | 9.999 | None | Edit with ADM Subsidy Percent, "A00070". |
| BFR/VFR SubsidyAmount = Round(TotalPremiumAmount * 0.10 * (1 - CCSubsidyReductionPercent),0) | BFR/VFR Subsidy Amount | P18 | 55 | 999999999 | Round to whole number. | Beginning Farmer Rancher/Veteran Farmer Rancher Subsidy Amount. If applicable; else 0. 0.10 (10%). |
| CCSubsidyReductionAmount = Round(BaseSubsidyAmount * CCSubsidyReductionPercent,0) | CC Subsidy Reduction Percentage | P18 | 34 | 9.9999 | None | If applicable; else 0. |
| | CC Subsidy Reduction Amount | P18 | 56 | 999999999 | Round to whole number | CC Subsidy Reduction Amount. If applicable; else 0. |
| SubsidyAmount = Round(BaseSubsidyAmount + BFR/VFR SubsidyAmount - CCSubsidyReductionAmount,0) | Subsidy Amount | P18 | 44 | 999999999 | Round to whole number | Subsidy Amount cannot exceed Total Premium Amount. Subsidy Amount will be cupped at \$0. |
| ProducerPremiumAmount = MAX(Round(TotalPremiumAmount - SubsidyAmount,0),1) | Producer Premium Amount | P18 | 46 | 999999999 | Round to whole number. | |