Calculating Class III Price

1. Calculating Other Solids Price:
   \[
   \text{Other Solids Price} = \frac{\text{Dry Whey Price}}{\text{Yield}} - \text{Make Allowance}
   \]
   - Commodity: Dry Whey Price ($/lb)
   - Make Allowance: $0.1991 ($/lb)
   - Yield: 1.03 (lb dry whey/lb other solids)
   \[
   \text{Other Solids Price} = 
   \frac{\text{Dry Whey Price}}{1.03} - 0.1991
   \]

2. Calculating Butterfat Price:
   \[
   \text{Butterfat Price} = \frac{\text{Butter Price}}{\text{Yield}} - \text{Make Allowance}
   \]
   - Commodity: Butter Price ($/lb)
   - Make Allowance: $0.1715 ($/lb)
   - Yield: 1.211 (lb butter/lb butterfat)
   \[
   \text{Butterfat Price} = 
   \frac{\text{Butter Price}}{1.211} - 0.1715
   \]

3. Component Value and Butterfat Adjustment:
   \[
   \text{Protein Value in Cheese} + \text{Butterfat Value in Cheese} - \text{Butterfat Value in Butter} = \text{Protein Price}
   \]
   - Protein Value in Cheese ($/lb protein)
   - Butterfat Value in Cheese ($/lb butterfat)
   - Butterfat Value in Butter ($/lb butterfat)
   \[
   \text{Protein Price} = 
   \text{Protein Value in Cheese} + \text{Butterfat Value in Cheese} - \text{Butterfat Value in Butter}
   \]

4. Calculating Skim Milk Price:
   \[
   \text{Skim Milk Price} = \frac{\text{Percent Protein}}{\text{Percent Other Solids}} + \text{Other Solids Price}
   \]
   - Percent Protein: 3.1 (lb protein/cwt skim)
   - Percent Other Solids: 5.9 (lb other solids/cwt skim)
   \[
   \text{Class III Skim Milk Price} = 
   \frac{3.1}{5.9} + \text{Other Solids Price}
   \]

5. Calculating Class III Price:
   \[
   \text{Class III Price} = \frac{\text{Yield}}{\text{Yield}} + \text{Butterfat Price}
   \]
   - Yield: 0.965 (cwt skim/cwt milk)
   - Butterfat Price ($/lb)
   \[
   \text{Class III Price} = 
   \frac{0.965}{3.5} + \text{Butterfat Price}
   \]
Calculating Class III Price: Details

Monthly commodity prices are announced on or before the 5th day of the following month. Class prices are announced as dollars per hundredweight. CWT= hundredweight, 100 pounds.

Formula Details

1. $0.1991 = $0.1991 = Manufacturing cost to produce 1 pound of dry whey, excluding cost of raw milk ($/lb).
   1.03 = Factor representing pounds of dry whey that can be made from 1 pound of other solids (lb dry whey/lb other solids).

2. $0.1715 = $0.1715 = Manufacturing cost to produce 1 pound of butter, excluding cost of raw milk ($/lb).
   1.211 = Factor representing pounds of butter that can be made from 1 pound of butterfat (lb butter/lb butterfat).

3. 1.17 = Assuming standard cwt of milk components (3.5 lb butterfat and 2.99 lb protein), 1.17 pounds of butterfat are associated with 1 pound of protein.
   $0.2003 = $0.2003 = Manufacturing cost to produce 1 pound of cheese, excluding cost of raw milk ($/lb).
   1.383 = Factor representing pounds of cheese that can be made from 1 pound of protein (lb cheese/lb protein).
   1.572 = Factor representing pounds of cheese that can be made from 1 pound of butterfat (lb cheese/lb butterfat).
   0.9 = Factor accounting for the butterfat retained in the cheese manufacturing process (90 lb butterfat in cheese/cwt of butterfat used). Accounts for the fat lost in the whey stream.

4. 3.1 = Pounds of protein in 100 pounds of skim milk (lb protein/cwt skim).
   5.9 = Pounds of other solids in 100 pounds of skim milk (lb other solids/cwt skim).

5. 0.965 = 96.5 pounds of skim in 100 pounds of milk (cwt skim/cwt milk).
   3.5 = Pounds of butterfat in 100 pounds of skim milk (lb butterfat/cwt milk).

For more information on the Price Formulas, visit www.ams.usda.gov/resources/price-formulas

For more information on Advanced Prices & Pricing Factors and Class & Component Prices, visit www.ams.usda.gov/rules-regulations/mmr/dmr

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