Texas FFA Milk Quality CDE

Problem Solving Examples

Assume a dairy producer marketed the following milk for the month of March.

This is a 1,500 milking cow herd:

2,500,000 pounds of milk marketed	**Prices:**
3.65% Butterfat test	$1.7476 / lb
3.05% Protein test	$2.8204 / lb
5.74% Other Solids test	$0.4179 / lb
Producer Price Differential (PPD)	$0.94 / cwt
320,000 Somatic Cell Count	$0.00082 / 100,000 cells / cwt

Component	Average Tests		Hundred Weights		Component Pounds Marketed		Component Prices		Total Value
Butterfat	3.65	x	25,000	=	91,250	x	$1.7476	=	$159,468.50
Protein	3.05	x	25,000	=	76,250	x	$2.8204	=	$215,055.50
Other Solids	5.74	x	25,000	=	143,500	x	$0.4179	=	$59,968.65
PPD			25,000			x	$0.94	=	$23,500.00
Somatic Cell Count	320,000								
(Calculate Adjuster)									
(350-320=30)	30 x $0.00082			=	$0.02	x	25,000	=	$500.00

Value Of Milk Marketed :   **$458,492.65**

Effective Price Per Hundredweight :   **$18.34**

1. Based on the description of the farm operation listed above, what is the average production per cow for a year?

        A. 20,000 pounds

        B. 22,000 pounds

        C. 26,000 pounds

        D. 28,000 pounds

2. Using the example above, what would be the value of the producer's butterfat if the average butterfat test was 3.80%?

        A. $16,602.84

        B. $147,108.36

        C. $166,022.00

        D. $182,500.00

3. Using the example on page 1, what would be the value of the milk marketed if the producer marketed 3,000,000 pounds of milk?

        A. $66,725.59

        B. $347,625.69

        C. $545,391.85

        D. $550,191.18

4. Calculate the value of skim in Class III (Class III Skim Milk Price) if the protein price is $3.05 and the other solids price is $0.39.

Formula:

(protein price per pound x 3.1) + (other solids price per pound x 5.9) = value of Class III skim milk price per hundredweight (_____ x _____) + (_____ x _____) = _____ /cwt

        A. $11.75

        B. $14.72

        C. $1.32

        D. $1.17

5. Calculate the price of Class III milk (used for making cheese). The Class III price is defined as 0.965 times the Class III skim milk price plus 3.5 times the butterfat price. The Class III skim milk price is $11.20 and the butterfat price is $1.80.

        A. $1.70

        B. $12.46

        C. $17.11

        D. $18.84

International Milk Quality Update

Several foreign countries reported a summary of 2011 milk quality at the National Mastitis Council Annual Meeting. Data is presented in the following table.

Country	Total Herds	Total Cows	Avg. Milk Per Cow (kg)	Avg. Bulk Tank SCC	Legal SCC Limit
Canada	12,746	985,300	9,774	240,000	400,000
Great Britain	12,000	1,800,000	7,600	191,000	400,000
New Zealand	11,798	4,600,000	4,250	187,000	400,000
Spain	22,553	845,749	10,984	266,000	400,000
United States	60,000	9,200,000	9,700	206,000	750,000

6. Based on the table above which country has the largest number of cows per herd?
        A. New Zealand
        B. Great Britain
        C. United States
        D. Canada

7. Which of the countries listed below produced the most total milk?
        A. New Zealand
        B. Great Britain
        C. Canada
        D. Spain

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Answer Key

1. A
2. C
3. D
4. A
5. C
6. A
7. A