Minnesota FFA 2015 Milk Quality Exam

Do not write on exam bubble in the most correct answer on your scantron with a #2 pencil.

Part I Milk Marketing

A. Who is involved with writing the provisions of the Grade A Pasteurized Milk Ordinance?
   A. The Food and Drug Administration
   B. State agriculture regulators
   C. The National Conference of Interstate Milk Shippers
   D. All of the above

2. Which state is ranked #1 in cheese production?
   A. Minnesota
   B. Wisconsin
   C. New York
   D. California

3. You find the provisions for the Federal Milk Marketing Order in what code?
   A. Title 7 of the Code of Federal Regulations
   B. Title 21 of the Code of Federal Regulations
   C. The Grade A Pasteurized Milk Ordinance
   D. The FDA Food Code

4. Which state below does not currently participate in the Federal Milk Marketing Order?
   A. Wisconsin
   B. California
   C. Missouri
   D. Iowa

5. The greatest amount of regular ice cream produced in the U.S. is in _____.
   A. California
   B. Florida
   C. Oregon
   D. Ohio

6. The milk fat differential used in paying for raw milk is:
   A. The price to be added or subtracted per 1/10 % of milk fat above or below a set percentage
   B. A value established to penalize milk producers who have too much fat in their milk
   C. A value set to penalize milk producers who have too little fat in their milk
   D. The price to be added or subtracted per 50 percent of milk fat above or below a set percentage

7. What is the justification of government involvement in the marketing of milk and setting prices paid to farmers?
   A. provide farmers price and income support
   B. The public sees better t.v. ads
   C. improves the ability of farmers to form unions
   D. Makes the price of milk less expensive for food companies

8. Which product below is <u>not</u> exempt from the rule that a milk product needs to be cooled immediately after pasteurization?
   A. Yogurt
   B. Cultured cottage cheese
   C. Chocolate milk
   D. Cultured buttermilk

9. The code of federal regulations stipulates that sour cream (without bulky flavors) must contain at least ____%milk fat.

A. 10
B. 15
C. 18
D. 20

10.The Federal Milk Marketing Orders were originally established under the Agricultural Marketing Agreement Act of _____.

A. 1906
B. 1922
C. 1935
D. 1937

11.The somatic cell count adjustment currently changes the price (March 2015) $0.00079 paid to the farmer per how many somatic cells?

A. 1,000
B. 2,500
C. 3,000
D. 4,000

12. Before a tanker of Grade A milk can be unloaded at a milk plant what is one item that must be checked?

A. fat
B. lactose
C. flavor
D. the temperature of the milk

13. Which of the following is not a Class I product?

A. Milk
B. Kefir
C. Cottage cheese
D. Cream

14. Which of the following is not a Grade A product?

A. Milk
B. Cream
C. Ice Cream
D. Yogurt

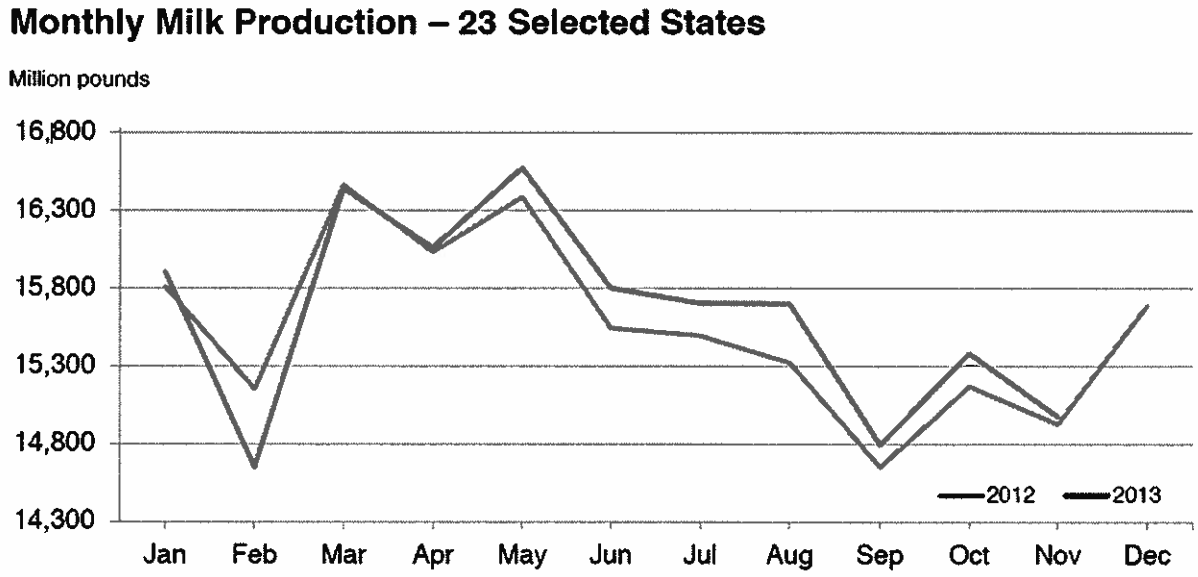
15. Somatic cells can be estimated by

A. A Coulter counter
B. A flow cytometer
C. The California Mastitis Test
D. All of the above

16. The check-off program, where a certain amount of money is collected per hundredweight sold by a producer, is used to fund:

A. Promotion of milk products
B. Research about milk products
C. Neither A nor B
D. Both A and B

17. Which of the following is not a Federal Milk Market?
    A. Northeast
    B. Upper Midwest
    C. South Pacific
    D. Florida



18. In the chart above, what are possible factors that could be responsible for the dip in milk production in September?
    A. Lowest number of milking cows at those times
    B. High atmospheric temperature and humidity
    C. Bad feed
    D. Both A and B

19. One type of test for antibiotics is based upon the _____ of growth of bacteria by them.
    A. Stimulation
    B. Enhancement
    C. Magnification
    D. Inhibition

20. Milk provides _____and_____ in approximately the same ratio as found in bone.
    A. Calcium and magnesium
    B. Calcium and phosphorus
    C. Calcium and iron
    D. Phosphorus and magnesium

21. Which USDA Economic Research Service (ERS) region is Minnesota located in? (categorized this way since 1995)
    A. Heartland
    B. Prairie Gateway
    C. Northern Great Plains
    D. All of the above

22. What ingredient was milk powder in China adulterated with to make it look like the protein content was higher than it was?
    A. Benzene
    B. Round-up
    C. Melamine
    D. Guanidine

23. In _____when the Capper-Volstead Act was enacted, cooperatives were given the right and power to organize producers of a farm commodity to its fullest extent.
   A. 1829
   B. 1959
   C. 1729
   D. 1929

24. Dairy farmers can buy and sell dairy futures on what exchange?
   A. New York Stock Exchange
   B. National Dairy Exchange
   C. Coffee, Sugar, Coca Exchange
   D. Chicago Mercantile Exchange

25.Which cheese is number 1 in pounds produced in the US?
   A. Cheddar
   B. Colby
   C. Mozzarella
   D. Parmesan

26. Multiple component prices, used in milk orders, are adjusted on butterfat content and _____ in the milk.
   A. Nonfat solids
   B. Protein
   C. Somatic cell count
   D. All of the above

27. What does "tilt" refer to in the USDA milk price support system for butter and nonfat dry milk?
   A. The amount of money tilted in favor of the farmer instead of the processing plant
   B. The price the Commodity Credit Corporation pays to purchase NFDM vs. butter
   C. The differential price a manufacturer gets for having high quality butter or NFDM
   D. The differential price a manufacture gets for the amount they paid the farmer for their milk

28. A cheese plant that sells 40 lb. block or 500 lb barrel Cheddar is mandated to provided data to the National Agricultural Statistics Service (NASS) to help calculate milk prices. How much does a plant need to produce to be required to participate by law?
   A. Sells over 1 million lbs. annually
   B. Sells over 500,000 lbs. annually
   C. Sells over 100,000 lbs. annually
   D. Sells over 50,000 lbs. annually

29. Where do you find commodity cheese prices listed?
   A. The Ag Marketing Service (USDA-AMS)
   B. The National Ag Statistics Service (USDA-NASS)
   C. The Chicago Mercantile Exchange (CME)
   D. All of the above

30. Which of the following influences the total milk supply?
   A. The price of imported ingredients
   B. The price paid for exported ingredients
   C. The price the manufacturing plants receive
   D. The price paid to milk producers

Milk production

31. A CMT test appearance with a strong gel formation that tends to adhere to the paddle and forms a distinct central peak would have a leukocyte per ml of:
    A. Below 200,000
    B. 150,000 – 500,000
    C. 800,000 – 5,000,000
    D. Over 5,000,000

32. The formation of free fatty acids that causes a rancid flavor in milk can be prevented by:
    A. pasteurizing the milk
    B. preventing excessive agitation of raw milk
    C. not allowing the milk to freeze
    D. all of the above

33. What should be used on a cow's teats after milking to prevent mastitis?
    A. a single service paper towel
    B. teat dip
    C. chlorine sanitizer
    D. Bag balm

34._____ is a defect in milk that is described as tasting like cardboard:
    A. bitter
    B. malty
    C. flat
    D. oxidized

35. The _____ test is used to detect if milk has been pasteurized properly.
    A. Delvo
    B. Disc Assay
    C. Standard Plate Count
    D. Phosphatase

36. The form of mastitis that is hidden from sight is known as _____
    A. Infectious
    B. Clinical
    C. Acute
    D. Sub-clinical

37.The presence of high numbers of psychrotrophic organisms (non-spore forming) in a pasteurized milk sample is an indication of
    A. high quality milk
    B. sanitary issues at the farm
    C. post-pasteurization contamination
    D. none of the above

38.Generally, which breed produces milk with the highest percentage of protein?
    A. Holstein
    B. Ayrshire
    C. Brown Swiss
    D. Jersey

39. What is included in a somatic cell count when using a flow cytometer?
   A. epithelial cells
   B. microorganisms
   C. leukocytes
   D. All of the above

40. Milkstone on dairy equipment is often caused by
   A. the use of hard water for cleaning and rinsing
   B. failure to use acid-type sanitizers on farms that have hard water
   C. failure to use adequate detergent on farms that have hard water
   D. All of the above

41. _____ off-flavor may be present in milk from cows that have mastitis.
   A. Salty
   B. Rancid
   C. Bitter
   D. Malty

42. What is the highest bacterial count (by the aerobic plate count) allowed for raw milk to be considered Grade A when measured in an individual producers bulk tank?
   A. 100,000/ml
   B. 300,000/ml
   C. 450,000/ml
   D. 500,000/ml

43.The normal pH of milk is around
   A. 4.6
   B. 6.8
   C. 9.2
   D. none of the above

44.Milk from a cow with mastitis will have
   A. a high somatic cell count
   B. abnormal freezing point
   C. both a and b
   D. none of the above

45. Farm water supplies must be protected from surface contamination. Water is usually tested for _____ as an indicator of possible sewage contamination.
   A. Proteolytic bacteria
   B. Lipolytic bacteria
   C. Coliform bacteria
   D. Psychotropic bacteria

46. Where is the sale of raw milk legal in Minnesota?
   A. At farmers markets
   B. At grocery stores
   C. On the farm it was produced
   D. Nowhere. It is not legal

47. Where can you sell raw milk, or products made from raw milk?
    A. Within the state boundaries of states that allow raw milk sales
    B. Anywhere as long as it is cheese and has been aged over 60 days
    C. The two above are correct
    D. Nowhere. It is not legal to sell raw milk or raw milk products

48. The sugar of milk that bacteria convert to acid is:
    A. maltose
    B. trehelose
    C. lactose
    D. fructose

49. The acronym DHIA stands for:
    A. Dairy Health Improvement Association
    B. Dairy Herd Immunization Association
    C. Dairy Herd Insemination Association
    D. Dairy Herd Improvement Association

50. During the Babcock test _____ is added to digest the nonfat milk solids and create heat allowing the fat to be separated and measured.
    A. chloroform
    B. alcohol
    C. sulfuric acid
    D. ether

51. The milk off-flavor resulting from spoilage bacterial growth will typically be called _____.
    A. Unclean
    B. Oxidized
    C. Acid
    D. A and C

52. To check if water has been illegally added to milk, what is measured?
    A. Freezing point
    B. Titratable acidity
    C. Acid degree value
    D. Calcium

53. What is a "dry cow treatment"?
    A. Treatment to dry the cows udder before milking
    B. Treatment designed to reduce mastitis during the dry period between lactations
    C. Treatment to keep cows dry in a free-stall
    D. A coat to keep the cow warm

54. A milk hauler found the bulk milk tank temperature of a farm she was picking up from to be 65 degrees Fahrenheit. Milking had been completed 3 hours previously. The hauler is correct in
    A. Expecting the milk to be sour
    B. Thinking the milk will have a high bacterial count
    C. Not pumping the milk into her tanker
    D. All of the above

55. Which of the following fatty acids in milk that is associated with health benefits in humans tends to increase with pasture feeding of cows?
    A. Butyric acid
    B. Conjugated linoleic acid
    C. Lactic acid
    D. Caproic acid

56. Milk with a high somatic cell count (SCC) is more likely to become _____ than is milk with a low SCC.
    A. rancid
    B. cooked
    C. feed
    D. garlic/onion

57. Which two cultures are required to be in yogurt?
    A. *Streptococcus thermophilus* and *Lactobacillus bulgaricus*
    B. *Lactococcus lactis* ssp. *lactis* and *Lactococcus lactis* ssp. *creamoris*
    C. *Leuconostoc dextranicum* and *Penicillium roqueforti*
    D. none of the above

58. Which of the following products is made using thermophilic microorganisms?
    A. Sour cream
    B. Cottage cheese
    C. Parmesan cheese
    D. Cheddar cheese

59. High-temperature short-time pasteurization (HTST) requires that every particle of milk is heated to a minimum temperature of _____ for _____ seconds or its equivalent.
    A. 161°F for 15 seconds
    B. 101°F for 25 seconds
    C. 121°F for 20 seconds
    D. 131°F for 10 seconds

60. What is aflatoxin?
    A. A toxin produced by a bacteria when milk is stored at the wrong temperature
    B. A toxin produced by mold that can get in the milk of cows that eat the feed
    C. An anti-toxin that prevents the growth of *Staph. aureus*
    D. Something that was added to milk powder in China to make it look like it had a higher protein content than it really did.

Minnesota FFA 2015 Milk Quality Exam Key

1. D
2. B
3. A
4. B
5. A
6. A
7. A
8. C
9. C
10. D
11. A
12. D
13. C
14. C
15. D
16. D
17. C
18. D
19. D
20. B
21. D
22. C
23. D
24. D
25. C
26. D
27. B
28. A
29. D
30. D
31. D
32. D
33. B
34. D
35. D
36. D
37. C
38. D
39. D
40. D
41. A
42. A
43. B
44. C
45. C
46. C
47. C
48. C
49. D
50. C
51. D
52. A
53. B
54. D
55. B
56. A
57. A
58. C
59. A
60. B

Contestant Name _____ Contestant Number _____

FFA Chapter _____

Cheese Characteristics	Sample Numbers				
	1	2	3	4	5
A. Maximum Moisture=at least 50%					
B. Minimum fat in the solids= 50%					
C. Gas holes are expected= no					
D. Receives "pasta filata treatment"					
E. Salted in the brine					
F. Ripened by bacteria and mold					
G. Originated in France					

Contestant Name **Official Key** Contestant Number **2015**

FFA Chapter _____

Cheese Characteristics	Sample Numbers				
	1 Processed American	2 Brie	3 Mozzar-ella	4 Blue	5 Provolone
A. Maximum Moisture=at least 50%		X	X		
B. Minimum fat in the solids= 50%	X			X	
C. Gas holes are expected= no	X	X	X	X	X
D. Receives "pasta filata treatment"			X		X
E. Salted in the brine			X	X	X
F. Ripened by bacteria and mold		X			
G. Originated in France		X		X	

Fewest dairies exit since tracking began

Among the top 10 states when ranked by farm numbers, only 3.1 percent of dairies exited the business. For the 40 remaining states, losses were steeper at 4.9 percent.

by Hoard's Dairyman staff

RECORD milk checks received by U.S. dairy producers last year were a principal reason that the smallest number of dairy farmers left the business since tracking of commercial dairy farms began in 1992. Only 1,631 farms exited the dairy industry, and that represented the lowest total next to 2010's 1,800. On a percentage basis, only three years yielded lower losses — 3.3 percent in 2010 and 3.4 percent in both 2005 and 2008 — as shown in Table 1. Overall, there were 45,344 dairy farms in the U.S.

That combination of fewer farms and steady cow numbers once again caused the nation's average herd size to climb to a new record. At 204 cows per herd, the U.S. herd grew by eight cows this past year (see Table 2). That growth in cows per herd was just one off of the prior year's record of nine since this survey on commercial dairy farms first took place in 1992.

Table 1 shows the 23-year history detailing the number of dairy farms holding permits to sell milk. Since 1992, the drop in licensed, or so-called commercial, dairy farms has declined 86,165 from 131,509 to 45,344. That's a 66 percent drop during that time.

Among states with over 1,000 dairy operations — exactly 10 — farm numbers fell only 3.1 percent compared to 3.5 percent nationally. When comparing those numbers to the remaining 40 states with fewer than 1,000 farms each, 4.9 percent exited the business last year. That accelerated trend in the smaller dairy states has been taking place for some time.

Table 2 provides an overview of the last 23 years of change. Nationally, average herd size has gone up 177 percent, from 74 to 204 cows. Regionally, the West (+297) and the Midwest (+165) have seen the largest percentage gains in herd size.

Western herds added 47 cows per herd last year bringing its average to over 1,000 cows per operation for the first time. That growth in cows was on top of adding 33 and 49 cows each of the two prior years.

Meanwhile, the Midwest (+8) matched the national growth rate. The Southeast grew (+2) in herd size, to hover six cows under the national average, while Northeast herds treaded water holding at 98 cows. From 2004 to 2014, gains ranged from 0 to 3 head annually in the Northeast, which was the slowest growth in the nation.

For only the second time in the past 12 years, the Midwest had the largest share of farms calling it quits this past year (Table 3). The 5.1 percent total yielded 1,300 dairy farms that left the business. The Midwest also had the most exits in 2011.

Next was the Southeast which lost 4.9 percent of its dairy operations. Outside of the Midwest, the Southeast was the only other region to see the most departures in the past 12 years on a percentage basis leading that category 10 times. Since 1992, the Southeast has lost more operations than any other area as farms fell from 12,057 to 2,900 . . . a drop of 9,157 or 76 percent. Cow numbers followed suit; there are 702,000 fewer cows, a 56 percent drop.

This marks the sixth straight year the Northeast has retained the most dairy farms among all regions. Pennsylvania stands second in herd numbers following Wisconsin's 10,290 dairy farms and bucked the national trend by adding 170 dairy farms to bring its total to 7,370 operations. All other states remained steady or realized a reduction in dairy farm numbers.

Table 1. Licensed U.S. dairy farms

Year	Number	% change
1992	131,509	
1993	124,945	-5.0
1994	117,732	-5.8
1995	111,825	-5.0
1996	106,181	-5.3
1997	99,413	-6.4
1998	91,508	-8.0
1999	87,527	-4.4
2000	82,937	-5.2
2001	76,875	-7.3
2002	74,012	-3.7
2003	70,375	-4.9
2004	66,830	-5.0
2005	64,540	-3.4
2006	62,070	-3.8
2007	59,130	-4.7
2008	57,127	-3.4
2009	54,932	-3.8
2010	53,132	-3.3
2011	51,291	-3.5
2012	49,281	-3.9
2013	46,960	-4.7
2014	45,344	-3.5

Table 2. How our industry changed from 1992 to 2014

	1992			2014			Percent change		
	Herds	Cows (1,000s)	Cows/ herd	Herds	Cows (1,000s)	Cows/ herd	Herds	Cows	Cows/ herd
Midwest	80,135	4,100	51	24,070	3,264	136	-70	-20	165
Northeast	29,758	1,824	61	14,525	1,425	98	-51	-22	60
Southeast	12,057	1,253	104	2,900	551	190	-76	-56	83
West	9,559	2,515	263	3,849	4,021	1,045	-60	60	297
U.S.	131,509	9,692	74	45,344	9,257	204	-66	-4	177

Table 3. Dairy farm numbers by state and region

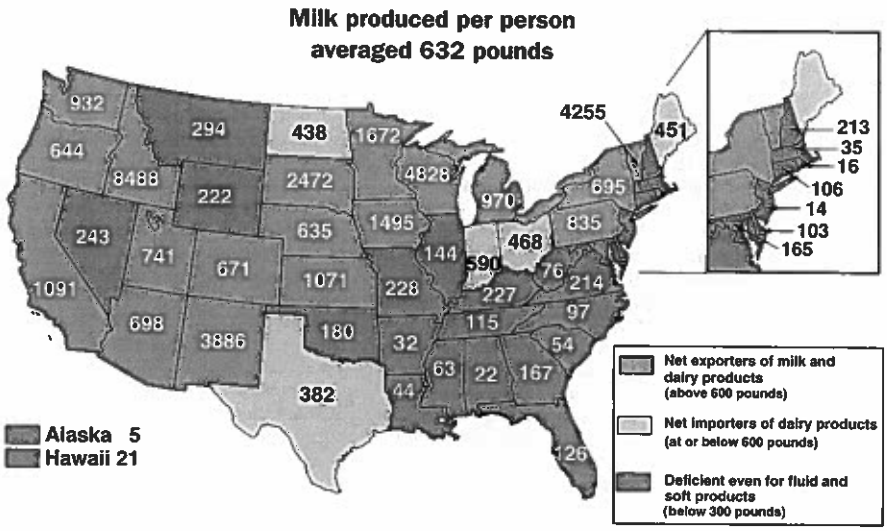
State/Region	2013	2014	Change	Percent change
Midwest				
Illinois	745	690	-55	-7.4
Indiana	1,315	1,265	-50	-3.8
Iowa	1,425	1,370	-55	-3.9
Kansas	325	315	-10	-3.1
Michigan	2,030	1,950	-80	-3.9
Minnesota	3,865	3,605	-260	-6.7
Missouri	1,290	1,230	-60	-4.7
Nebraska	200	190	-10	-5.0
North Dakota	110	100	-10	-9.1
Ohio	2,930	2,810	-120	-4.1
South Dakota	275	255	-20	-7.3
Wisconsin	10,860	10,290	-570	-5.2
Region total	***25,370***	***24,070***	***-1,300***	***-5.1***
Northeast				
Connecticut	130	130	0	0.0
Delaware	40	40	0	0.0
Maine	300	280	-20	-6.7
Maryland	470	450	-20	-4.3
Massachusetts	155	150	-5	-3.2
New Hampshire	120	120	0	0.0
New Jersey	75	65	-10	-13.3
New York	5,040	4,950	-90	-1.8
Pennsylvania	7,200	7,370	170	2.4
Rhode Island	15	15	0	0.0
Vermont	930	880	-50	-5.4
West Virginia	80	75	-5	-6.3
Region total	***14,555***	***14,525***	***-30***	***-0.2***
Southeast				
Alabama	45	40	-5	-11.1
Arkansas	85	75	-10	-11.8
Florida	130	130	0	0.0
Georgia	240	230	-10	-4.2
Kentucky	780	720	-60	-7.7
Louisiana	130	120	-10	-7.7
Mississippi	100	85	-15	-15.0
North Carolina	250	250	0	0.0
Oklahoma	180	170	-10	-5.6
South Carolina	80	80	0	0.0
Tennessee	390	370	-20	-5.1
Virginia	640	630	-10	-1.6
Region total	***3,050***	***2,900***	***-150***	***-4.9***
West				
Alaska	3	2	-1	-33.3
Arizona	110	100	-10	-9.1
California	1,535	1,485	-50	-3.3
Colorado	130	120	-10	-7.7
Hawaii	2	2	0	0.0
Idaho	550	530	-20	-3.6
Montana	70	70	0	0.0
Nevada	20	20	0	0.0
New Mexico	140	130	-10	-7.1
Oregon	260	250	-10	-3.8
Texas	460	440	-20	-4.3
Utah	220	210	-10	-4.5
Washington	480	480	0	0.0
Wyoming	20	10	-10	-50.0
Region total	***4,000***	***3,849***	***-151***	***-3.8***
U.S. Total	**46,975**	**45,344**	**-1,631**	**-3.5**

Strongest growth in milk output since 2006

NATIONALLY, milk production rose a brisk 2.4 percent last year. That gain was the largest expansion since 2006's 2.8 percent, and the total once again represented a new record for milk output. During the past decade, milk flow grew by 29.2 billion pounds, a growth rate of 16.5 percent.

Nearly all the additional raw materials for dairy products came from improved milk per cow as the nation's rolling herd average jumped 2 percent to 22,258 pounds. An additional 36,000 cows across the country contributed to the remainder of the growth.

Year	Billions of pounds	Percent change
2005	176.9	3.5
2006	181.8	2.8
2007	185.6	2.1
2008	190.0	2.3
2009	189.3	-0.3
2010	192.8	1.8
2011	196.2	1.8
2012	200.5	2.1
2013	201.2	0.3
2014	206.0	2.4



2014 milk production

State	Milk output in million pounds	% change from 2013	Rank
Alabama	109	-6.8	45
Alaska	4	9.4	50
Arizona	4,699	4.7	12
Arkansas	96	-8.6	47
California	42,337	2.6	1
Colorado	3,593	8.0	15
Connecticut	383	3.5	34
Delaware	97	3.2	46
Florida	2,507	5.2	19
Georgia	1,684	7.4	24
Hawaii	30	1.4	48
Idaho	13,873	3.3	3
Illinois	1,850	1.1	22
Indiana	3,892	1.6	14
Iowa	4,646	0.8	13
Kansas	3,111	6.1	16
Kentucky	1,002	-6.4	27
Louisiana	204	-1.0	40
Maine	600	-1.0	33
Maryland	987	1.5	28
Massachusetts	233	1.3	39
Michigan	9,609	4.9	7
Minnesota	9,127	-0.1	8
Mississippi	188	1.1	41
Missouri	1,383	2.5	25
Montana	301	1.0	36
Nebraska	1,195	2.6	26
Nevada	690	8.0	32
New Hampshire	282	3.7	37
New Jersey	127	0.0	44
New Mexico	8,105	0.6	9
New York	13,733	2.0	4
North Carolina	961	2.8	29
North Dakota	324	-5.0	35
Ohio	5,425	-0.4	11
Oklahoma	697	-10.5	31
Oregon	2,555	1.6	18
Pennsylvania	10,683	1.2	5
Rhode Island	17	0.0	49
South Carolina	262	-0.8	38
South Dakota	2,109	4.3	21
Tennessee	750	-2.0	30
Texas	10,310	7.3	6
Utah	2,182	2.4	20
Vermont	2,666	2.3	17
Virginia	1,780	2.2	23
Washington	6,584	3.9	10
West Virginia	140	-7.9	42
Wisconsin	27,795	0.8	2
Wyoming	130	1.0	43
U.S.	206,046	2.4	

2014 cow numbers

State	Milk cows 1,000's	% change from 2013	Rank
Alabama	8.0	-11.1	43
Alaska	0.3	0.0	50
Arizona	193.0	1.6	13
Arkansas	7.0	-22.2	44-T
California	1,780.0	0.0	1
Colorado	144.0	5.1	15
Connecticut	19.0	5.6	34
Delaware	4.8	0.0	47
Florida	123.0	0.0	19
Georgia	81.0	1.3	25
Hawaii	2.2	0.0	48
Idaho	575.0	0.3	4
Illinois	94.0	-2.1	22
Indiana	178.0	1.1	14
Iowa	207.0	-0.5	12
Kansas	141.0	5.2	16
Kentucky	63.0	-11.3	26
Louisiana	15.0	-6.3	37
Maine	30.0	-3.2	32
Maryland	50.0	0.0	28
Massachusetts	13.0	0.0	40-T
Michigan	390.0	2.6	8
Minnesota	460.0	-0.9	7
Mississippi	13.0	-7.1	40-T
Missouri	89.0	-3.3	24
Montana	14.0	0.0	38-T
Nebraska	54.0	0.0	27
Nevada	29.0	0.0	33
New Hampshire	14.0	7.7	38-T
New Jersey	7.0	0.0	44-T
New Mexico	323.0	0.0	9
New York	615.0	0.8	3
North Carolina	46.0	0.0	29-T
North Dakota	16.0	-11.1	35-T
Ohio	267.0	-1.1	11
Oklahoma	40.0	-11.1	31
Oregon	124.0	0.8	18
Pennsylvania	530.0	-0.6	5
Rhode Island	0.9	0.0	49
South Carolina	16.0	0.0	35-T
South Dakota	97.0	3.2	20
Tennessee	46.0	-4.2	29-T
Texas	463.0	5.9	6
Utah	95.0	0.0	21
Vermont	132.0	-1.5	17
Virginia	93.0	-2.1	23
Washington	273.0	2.6	10
West Virginia	9.0	-10.0	42
Wisconsin	1,271.0	0.0	2
Wyoming	6.0	0.0	46
U.S.	9,257	0.4	

2014 milk per cow

State	Milk per cow (pounds)	% change from 2013	Rank
Alabama	13,625	4.8	47
Alaska	11,667	9.4	50
Arizona	24,347	3.1	4
Arkansas	13,714	17.5	46
California	23,785	2.6	8
Colorado	24,951	2.7	2
Connecticut	20,158	-1.9	27
Delaware	20,146	3.2	29
Florida	20,382	5.2	23
Georgia	20,790	6.1	21
Hawaii	13,591	1.4	49
Idaho	24,127	2.9	5
Illinois	19,681	3.2	34
Indiana	21,865	0.5	16
Iowa	22,444	1.3	10
Kansas	22,064	0.8	14
Kentucky	15,905	5.5	42
Louisiana	13,600	5.6	48
Maine	20,000	2.3	31
Maryland	19,740	1.5	33
Massachusetts	17,923	1.3	38
Michigan	24,638	2.2	3
Minnesota	19,841	0.7	32
Mississippi	14,462	8.9	45
Missouri	15,539	6.0	44
Montana	21,500	1.0	19
Nebraska	22,130	2.6	13
Nevada	23,793	8.0	7
New Hampshire	20,143	-3.7	30
New Jersey	18,143	0.0	37
New Mexico	25,093	0.6	1
New York	22,330	1.2	11
North Carolina	20,891	2.8	20
North Dakota	20,250	6.9	25
Ohio	20,318	0.7	24
Oklahoma	17,425	0.7	39
Oregon	20,605	0.8	22
Pennsylvania	20,157	1.8	28
Rhode Island	19,000	0.0	36
South Carolina	16,375	-0.8	40
South Dakota	21,742	1.0	17
Tennessee	16,304	2.3	41
Texas	22,268	1.3	12
Utah	22,968	2.4	9
Vermont	20,197	3.9	26
Virginia	19,140	4.4	35
Washington	24,117	1.2	6
West Virginia	15,556	2.3	43
Wisconsin	21,869	0.8	15
Wyoming	21,583	1.0	18
U.S.	22,258	2.0	

2015 State FFA Milk Quality CDE Problem Solving

100 Points (5 points per Question)

Use the March 10, 2014 Hoard's Dairyman articles to answer the following questions.

1. 2014 had the smallest number of dairies leaving the dairy industry since tracking began in 1992. The principle reason for this was:
   A. More automation.
   B. Low feed costs.
   C. High feed costs.
   D. Low milk price.
   E. High milk price

2. What was the number of dairy farms that held permits to sell milk in the U. S. in 2014?
   A. 45,344
   B. 46,975
   C. 46,960
   D. 49,281
   E. 51,291

3. What was the percentage change of licensed U. S. dairy farms in 2014?
   A. – 0.2
   B. – 3.8
   C. – 3.5
   D. – 4.9
   E. – 5.1

4. From 1992 to 2014 how many licensed U. S. dairy farms have left the milking business?
   A. 45,344
   B. 46,975
   C. 74,012
   D. 86,165
   E. 106,181

5. Which U. S. region lost the largest percentage of dairy farms in 2014?
   A. All regions lost the same amount.
   B. Midwest
   C. Northeast
   D. Southwest
   E. West

6. The U. S. average herd size in 2014 was:
   A. 196 cows
   B. 204 cows
   C. 214 cows
   D. 220 cows
   E. 227 cows

7. Which U. S. region had an average of 1,045 cows per herd in 2014?
   A. All regions averaged the same.
   B. Midwest
   C. Northeast
   D. Southwest
   E. West

8. Which state actually had an increase in the number of dairy farms in 2014?
   A. California
   B. Wisconsin
   C. Minnesota
   D. Pennsylvania
   E. Idaho

9. Minnesota lost how many dairy farms in 2014?
   A. 260
   B. 280
   C. 315
   D. 345
   E. 570

10. The only state to lose more dairy farms than Minnesota in 2014 was:
    A. Pennsylvania
    B. Wisconsin
    C. California
    D. New York
    E. Ohio

11. Nationally, milk production rose _____ percent in 2014.
    A. 0.4
    B. 2.0
    C. 2.4
    D. 2.8
    E. 3.5

12. The U. S. had a rolling herd average of _____ pounds in 2014.
    A. 19,841
    B. 21,869
    C. 22,258
    D. 22,968
    E. 23,785

13. California's 2014 milk production output was _____ million pounds more than any other state.
    A. 13,873
    B. 14,542
    C. 15,905
    D. 16,375
    E. 17,425

14. The U. S. total milk output in 2014 was about:
    A. 206 thousand pounds
    B. 206 million pounds
    C. 206 billion pounds
    D. 206 trillion pounds
    E. Cannot be determined

15. Minnesota had how many milk cows in 2014?
    A. 460
    B. 4,600
    C. 46,000
    D. 460,000
    E. 4,600,000

16. Which state had the most milk cows in 2014?
    A. Wisconsin
    B. Pennsylvania
    C. Idaho
    D. New York
    E. California

17. Which state had the largest % change in milk per cow from 2013 to 2014?
    A. Alaska
    B. Arkansas
    C. Georgia
    D. Mississippi
    E. Missouri

18. Which state had the lowest 2014 milk production per cow?
    A. Alaska
    B. Arkansas
    C. Georgia
    D. Mississippi
    E. Missouri

19. Which state produced the most milk per person in 2014?
    A. Vermont
    B. New Mexico
    C. California
    D. Wisconsin
    E. Idaho

20. Which state was a net importer of dairy products in 2014?
    A. Utah
    B. Kansas
    C. North Dakota
    D. Nebraska
    E. South Dakota

2015 MILK QUALITY PROBLEM KEY

1. E
2. A
3. C
4. D
5. B
6. B
7. E
8. D
9. A
10. B
11. C
12. C
13. B
14. C
15. D
16. E
17. B
18. A
19. E
20. C
21.