

7. MILK QUALITY AND PRODUCTS

Contest Coordinator:

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- A. **PURPOSE** – The Milk Quality and Products Career Development Event aims to promote practical learning activities in milk quality and dairy products while assisting students in developing team decision-making skills.
- B. **OBJECTIVES** – This event will provide participants with the opportunity to utilize and implement their knowledge of milk quality, milk pricing as well as the composition of milk and quality characteristics of raw and pasteurized milk and dairy products.
- C. **ELIGIBILITY – CAREER DEVELOPMENT EVENT** will consist of two levels of competition
- Senior Level, grades 7-12
 - Junior Level, grades 6-8
- D. **EVENT RULES**
- Not all activities listed below will be included every year in the State CDE. Refer to the “Flow of Event” for which are annual, and which will rotate.
 - Teams will consist of four members. Team ranking is determined by combining the scores of all team participants. Teams that have fewer than four members are not eligible for team awards, but students may receive individual awards.
 - Participants are **NOT** to use strong deodorant, perfume, chewing gum or other detractors to the taste and smell senses.
 - Any participant in possession of an electronic device in the event area is subject to disqualification.
 - All competitors will be recording their answers on a scan sheet. An example of the scan sheet used for this contest can be found at <https://www.judgingcard.com/ScanSheets/samples/479-6-MQP.pdf>.
- E. **Event Format**
- Equipment
 - Materials to be provided by the student: two no. 2 pencils & clipboard.
 - Students may wish to bring a non-programmable calculator, bottled water and/or palette cleanser.
No water will be provided by event management
 - Flow of Event
 - Written Exam (40 minutes - 120 points per student)
 - Milk Flavor Identification (20 minutes - 120 points per student)
 - Cheese Identification OR Product Identification (20 minutes - 100 points per student)
 - CMT test OR Bacteria Test OR Problem Solving (20 minutes - 40 points or 72 points depending on year, per student)
 - Team Activity (40 minutes - 400 points)
- F. **Activities (Reference National FFA Milk Quality and Products Handbook)**
- Milk Flavor Identification and Evaluation – (120 points - 6 points for flavor ID, 6 points for intensity score)
 - Ten milk samples will be scored on flavor (taste and odor) using the scorecard provided. All samples of milk are prepared from pasteurized milk intended for table use and will score 1 to 10. Only those cups provided at the event may be used.
 - Participants are to use whole numbers when scoring “Flavor” of milk and to check only the most serious defect in a sample even if more than one flavor is detected. If no defect is noted, participants should check, “No defect” and score as a ten.
 - Product Identification: Dairy Versus Non-Dairy – (100 points, 6 points identification, 4 points fat content)

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1. A total of ten samples consisting of dairy and non-dairy products will be identified and assigned a milk fat content score.
 2. The following products may be included among the samples:
 - Dairy Products:** nonfat (skim) milk (.05%), low fat milk (1.0%), reduced fat milk (2%), milk (3.25%), half and half (10.5%), butter (80%), sour cream (18%), flavored milk (6.05%-3.25%), light whipped cream (30%), heavy cream (36%)
 - Non-Dairy Products:** Margarine, non-dairy creamer, non-dairy sour cream, non-dairy milk, non-dairy flavored beverage and non-dairy whipped topping all of these are to be categorized as non-dairy fat.
- c. Cheese Identification – (100 points – 4 point for cheese ID, 6 points for characteristics)
1. Ten cheese samples for identification will be selected from those listed on the National FFA Website. Cubes of the cheeses will be available for tasting. Note: More than one sample of a given cheese may be used. A score of four points is given for each variety correctly identified. Uncolored cheeses may be used.
 2. In addition to identifying cheese samples, participants will classify characteristics of identified cheeses using the matrix found on the National FFA Website. Participants will have six characteristics to select based on the ten identified cheese samples (60 points possible). An example cheese characteristic problem can be found in the reference section of the National FFA CDE Handbook.
- d. California Mastitis Test – (40 points)
1. The California Mastitis Test will be scored using even numbers from 0 to 8 inclusive. (See the National FFA Milk Quality and Products Handbook for the Scoring Guide for the California Mastitis Test.)
 2. Five samples of milk will be evaluated for abnormality, using the California Mastitis Test method.
- e. Problem Solving - (72 points)
1. The problem-solving test will consist of a total of 12 critical-thinking, multiple-choice questions. Topics may include, but are not limited to:
 - Decisions about the quality and acceptability of milk.
 - Calculations of the value of milk and components of milk.
 - Decisions about components of milk and milk products (including processing procedures).
 - Decisions about the use of chemicals in cleaning and sanitizing operations.
- f. Written exam (120 points)
1. The written exam will consist of a total of 40 multiple-choice items. The exam will be given in two parts with one part consisting of twenty (20) questions on quality milk production and a second part of twenty (20) questions on milk marketing.
- g. Team Activity (400 points)
1. Team members will work together to determine producer milk acceptability based on some or all of the following tests.
 2. Teams may have to perform the acceptability tests or analyze test results given. Teamwork will be assessed during the completion of the acceptability tests.
 3. Examples of acceptability tests include the following:
 - Recent producer history
 - Percent TA (acidity)
 - DMSCC (Direct Microscopic Somatic Cell Count)
 - SPC (Standard Plate Count)
 - PI count (Preliminary Incubation Count)

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- Antibiotic screening test
- Sample temperature
- Sample freezing point
- Equipment
- Sanitation
- Food safety

4. Teams will present their test findings, acceptability solution and improvement recommendations to a panel of judges. Order of participation and presentations will be based upon a random lottery draw.

5. Scoring Includes:

- Accuracy of report results: 100 points
- Content of comments: 200 points
- Presentation (written/oral): 50 points
- Teamwork/Process: 50 points

G. ATTIRE – FFA jacket or state or chapter FFA t-shirt

H. LOCATION – Location - FFA Building, Monday, August 28, 9:00 a.m.

I. AWARDS – 1:00 p.m.

Note: National FFA Rubrics will be used. Refer to the National FFA Milk Quality and Dairy Products Handbook for reference information and additional specifications. Students will be provided with a copy of the FFA Milk Quality and Products Participant Worksheet as well as a Scantron.