



Dairy Cattle Evaluation and Management

Purpose

The purpose of the Tennessee FFA Dairy Cattle Evaluation and Management Career Development Event is to provide a competitive event for agricultural education students that emphasizes skills in dairy cattle management and evaluation.

Objectives

- To provide a practical experience to students enrolled in agricultural education with an interest in dairy cattle to help prepare them for industry positions or to manage a modern dairy herd.
- To develop students' skills in observation, analysis, communication, and team collaboration.
- To provide experience in the evaluation of dairy cattle type, production records and dairy herd management.
- To encourage agriculture instructors to seek assistance from various resources in the dairy industry. (Examples: dairy breed associations, artificial breeding organizations, state extension dairy specialists, state dairy herd improvement associations, dairy equipment manufacturers, local dairy farmers and breeders, etc.)

Event Rules

Each team will be comprised of four members.

- All four participant scores will be used to determine total team score.
- FFA Official Dress is required for this event.
- Participants will report to the team orientation meeting for instructions at the time and places shown in the current year's team orientation packet.
- The most current and updated information will be used as industry standards change.
- Computer score sheets will be used in the event to record all responses. These forms must be completed within the time allotted for each section of the event. No additional time will be permitted to transfer responses to computer scoring sheets. Responses that are not correctly recorded on the computer score sheets cannot be considered due to the large number of participants' responses that must be processed.

Event Format

Each participant must have:

- Two sharpened No. 2 pencils.
- Clean clipboard

Electronic Devices: Each state team or individual may be required to provide a laptop computer or other personal electronic devices for participation in the dairy cattle evaluation event. Minimum specifications will be determined and posted on the event webpage and in the team orientation packet prior to the event.

Equipment provided by Tennessee FFA:

- Judging Card

Individual Activities

General Knowledge Exam (150 points)

- The exam will consist of a 50-question exam involving dairy management practices and DHIA records. Exam questions will come from the previous five years National FFA Dairy General knowledge exam.
- Participants will have 40 minutes to complete the exam.

Evaluation and Selection (300 points)

- Five to Six classes of four dairy animals will each be placed on type. Classes will be selected from the recognized breeds of dairy cattle. The class selection committee, however, shall give priority to selecting quality cattle in the breeds available and not to having all breeds represented in the evaluation classes. Classes will consist of heifers, young cows or mature cows.
- Class or classes may contain production/pedigree data as part of the evaluation process.
- Participants will be permitted to view the animals from all angles but will not be permitted to handle them.
- The dairy cattle handlers will wear numbers, which identify the animals.
- Each class is worth 50 points maximum for a correct placing.
- Participants will have 12 minutes to place each class. For classes on which oral reasons will be given, participants will be given 15 minutes. Participants will be provided paper to take notes on each reasons class for preparation.

Oral Reasons (150 points)

- Oral reasons will be required on two to three classes. These two to three classes will be designated by the event superintendent prior to the actual evaluation of the class. Participants will be provided paper to take notes on each reasons class for preparation.
- Oral reasons will be given in another location immediately following the evaluation classes.
- Participants may not use notes during delivery of reasons. Points will be deducted for the use of notes.
- Each class is worth 50 points maximum for each set of reasons.

- Participants will have 12 minutes to prepare each set of oral reasons. No more than two minutes may be used to deliver the reasons before the judges.

Scoring

Activity	Individual Points	Team Points
General knowledge exam	150	600
Evaluation	250-300	1150-1200
Oral reasons	100-150	400-600
Total possible score	500-600	2000-2400

Tiebreakers

If a tie occurs, the following events will be used to determine award recipients:

Individual

- Oral reasons score.
- Evaluation score.
- General knowledge exam score.

Overall Team

- Total oral reasons score.
- Total evaluation score.
- Total general knowledge exam score.

References

This list of references is not intended to be all-inclusive.

Other sources may be utilized, and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.

- National FFA past CDE materials, FFA.org
- Hoard's Dairyman — Judging contest and materials, youth tests and quiz questions and current industry issues, www.hoards.com
- Cornell University Department of Animal Science Dairy Resources, <http://www.ansci.cornell.edu/4H/dairycattle/dairyresources.html>
- Virginia Dairy Quiz Bowl study materials, <https://www.vtdairy.dasc.vt.edu/youth/quizbowl/youth-quiz-bowl.html>
- CEV Multimedia, Inc., <https://www.icevonline.com/>
- Holstein Foundation Education Workbooks, <http://www.holsteinfoundation.org/education/workbooks.html>
- Holstein Foundation Youth Programs: Dairy Bowl Materials, <http://www.holsteinfoundation.org/youthprograms/dairybowl.html>
- Dairy Herd Improvement, www.drms.org
- Current Dairy Unified Scorecard, <http://www.purebreddairycattle.com/pages/Literature.php>
- Gillispie, James R. Modern Livestock and Poultry Production (most current edition). Albany, N.Y.: Delmar Cengage Learning, Inc. Cengage Publishers, Cengage.com

Herd Record Evaluation Example

Select the one cow that best answers each of the following 10 questions.

For questions 1 through 10, use the “herd record evaluation.”

1. Indicate which cow is potentially suffering from rumen acidosis.
2. Which cow should be the next one to be dried off after the testing date, assuming that breeding dates are accurate?
3. Indicate which cow has the highest index value that selects for the improvement of milk, fat and protein yield, somatic cell score and productive life.
4. Which cow has the lowest mature equivalent for fat?
5. Indicate the cow having the least impact on the somatic cell count in the bulk tank.
6. Indicate which cow is having the most impact on the somatic cell count in the bulk tank.
7. Select the cow that will transmit the lowest expected breeding value to her offspring for milk.
8. Select which cow will be the next one to calve after the testing date, assuming normal gestation length.
9. Determine the cow with the highest expectation among the cows for the value of a future lactation’s production, relative to the herd average.
10. Select the cow which is the most significantly underweight.

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Key DHI Benchmarks from Dairy Metrics

	PERCENTILE		
	50TH	75TH	95TH
Holstein Herds (N=73) with at least 100 cows			
Rolling Milk	19388.6	21482.4	24494.6
Rolling Fat	702.4	778.4	887.8
Rolling Protein	595.4	657.4	746.6
Daily Milk-Milk cows	59.0	65.6	75.1
Summit Milk 1st Lactation	66.2	72.4	81.3
Summit Milk 2nd Lactation	82.1	90.3	102.2
Summit Milk 3rd+ Lactation	87.4	95.9	108.1
Peak Milk 1st Lactation	71.8	78.5	88.2
Peak Milk 2nd Lactation	88.8	98.2	111.7
Peak Milk 3rd+ Lactation	95.2	103.7	115.9
Proj 305 Day ME Milk	21502.8	23491.3	26352.0
Standardized 150 Day Milk	67.6	75.2	86.0
Days in Milk	210.9	191.4	163.4
Age of 1st Lactation Cows	26.5	24.8	22.4
Cows Left Herd-All Lactations, %	34.5	25.0	11.3
Cows Died-All Lactations, %	7.4	4.0	0.0
Cows Left Herd for Repro-All Lactations, %	5.5	1.3	0.0
SCC Actual	397.0	273.0	94.5
SCC Score	3.2	2.8	2.2
SCC Score for 1st Lact Cows	2.8	2.4	1.8
SCC Score for 2nd Lact Cows	3.1	2.6	1.9
SCC Score for 3rd+ Lact Cows	3.6	3.1	2.4
Cows (SCCS of 0-3), %	57.9	65.2	75.7

	PERCENTILE		
	50TH	75TH	95TH
Holstein Herds (N=73) with at least 100 cows			
1st lact (SCCS of 0-3), %	65.0	72.7	83.8
2nd lact (SCCS of 0-3), %	60.9	70.1	83.4
3rd lact (SCCS of 0-3), %	50.1	59.4	72.8
Pregnancy Rate-Current, %	13.5	19.7	28.6
Days Open-Projected Minimum-Total Herd	180.7	155.6	119.5
Projected Calving Interval	15.2	14.3	12.9
Actual Calving Interval	14.5	13.7	12.5
Days to 1st Service-(%herd < VWP)	19.2	28.0	40.7
Days to 1st Service-(%VWP to 100D)	44.8	56.9	74.2
Days to 1st Service-(%herd > 100D)	37.5	49.9	67.8
Days to 1st Service-Total Herd	108.1	84.0	49.2
Days to 1st Service (%herd <100D)-1st Lact	62.5	76.3	96.1
Days to 1st Service (%herd <100D)-2nd Lact	65.5	79.2	98.9
Days to 1st Service (%herd <100D)-3rd+ Lact	63.0	74.1	90.1
Conception Rate for Past 12M-1st Service, %	48.4	66.5	92.6
Conception Rate for Past 12M-2nd Service, %	45.1	63.9	90.8
Conception Rate for Past 12M-3rd+ Service, %	35.0	51.9	76.3
Service per Preg-All Lact	2.5	1.8	
Service per Preg-1st Lact	2.5	1.8	
Service per Preg-2nd Lact	2.6	1.7	
Service per Preg-3rd+ Lact	2.6	1.8	
Heats Observed, %	29.7	42.1	60.0
Percentile Rank of Proven AI Bulls	40.0	61.8	93.1

Herd Record Evaluation Answer Key

Cow No.	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
460	0	0	0	0	0	0	0	0	0	0
564	0	3	0	0	0	0	0	0	0	0
569	0	0	0	0	0	0	0	0	0	3
570	0	0	0	0	0	0	0	0	0	0
594	0	0	0	0	0	0	0	0	0	0
607	0	0	0	0	0	0	0	0	0	0
612	0	0	0	0	0	0	0	0	0	0
618	0	0	0	0	0	0	0	0	0	0
626	0	0	0	0	0	0	0	0	0	0
627	0	0	0	0	0	0	0	0	0	0
633	2	0	0	0	0	0	0	0	1	0
648	0	0	0	0	0	0	0	0	0	0
650	0	0	0	0	3	0	0	0	0	0
651	0	0	0	3	0	0	0	0	0	0
652	0	0	0	0	0	0	0	0	0	0
657	0	0	0	0	0	0	0	0	0	0
658	0	0	0	0	0	0	0	0	3	0
661	0	0	0	0	0	0	0	0	0	0
662	0	0	0	0	0	0	1	3	0	0
672	0	0	0	0	0	0	0	0	0	0
674	0	0	0	0	0	0	0	0	0	0
675	0	0	0	0	0	0	0	0	0	0
686	0	0	0	0	0	0	0	0	0	0
689	0	0	0	0	0	0	0	0	0	0
695	0	0	0	0	0	0	0	0	0	0
698	0	0	0	0	0	0	3	0	0	0
701	0	0	0	0	0	3	0	0	0	0
704	0	0	0	0	0	0	0	0	3	0
708	0	0	0	0	0	0	0	0	0	0
709	0	0	0	0	0	0	0	0	0	0
711	0	0	3	0	0	0	0	0	0	0
712	0	0	0	0	0	0	0	0	0	0
723	0	0	0	1	0	0	0	0	0	0
730	0	0	0	0	0	0	0	0	0	0
738	0	2	0	0	0	0	0	0	0	0
744	0	0	0	0	0	0	0	0	0	0
745	0	0	0	0	0	0	0	0	0	0
746	0	0	0	0	0	0	0	0	0	0
748	0	0	0	0	0	0	0	0	0	0
749	0	0	0	0	0	0	0	0	0	0
753	3	0	0	0	0	0	0	0	0	0
757	0	1	0	0	0	0	0	0	0	0
758	0	0	0	0	0	0	0	0	0	0
759	0	0	0	0	0	0	0	0	0	0
765	0	0	0	0	0	0	0	0	0	0
767	0	0	1	0	0	0	0	0	0	0
769	0	0	0	0	0	0	0	2	0	0
770	0	0	0	0	0	0	0	0	0	0
771	0	0	0	0	0	0	0	0	0	0

3 is a full credit answer.

1 and 2 is partial-credit answer.

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