STATION #2: NUTRITION

Contact: ***Jeff Pastoor, Beef Technical Consultant, Quality Liquid Feeds***
jpastoor@qlf.com
515-290-5469

STATION PURPOSE:

Team members will need to body condition score 5 cows and then assist the station judge in balancing a cow ration to solve a problem. To prepare, students will learn about body condition scoring, cattle nutrient requirements, the nutrient values of feedstuffs and how to use that information to determine what diet will be the best for the exercise.

STATION STRUCTURE:

- The station will be split evenly between body condition scoring (50 points) and ration formulation (50 points). You will have approximately 12 minutes for each task.
- The team will evaluate 5 mature beef cows using the Cow Body Condition Scoring standard of BCS 1-9. The scores are further split into low, medium or high within each BCS.
- Students will then be given a scenario, with a list of ingredients including nutrient values and costs. Station personnel will run the computer program for you, but you will be required to tell them the ingredients you wish to use and the amount of each ingredient. Points will be earned for how closely you meet the nutrient requirements of the problem while controlling cost, as well as the common sense selection of feedstuffs (including the use of a Trace Mineral and Vitamin source in the ration).
- The program will express each essential nutritional parameter as a ratio or % of requirements. The closer students get to 100% on each of the nutrients, the better their score will be. With the exception of dry matter intake, it is better to be over than under 100% for scoring.
- The scoring is split up in this manner:

Dry Matter Intake requirements	10 points
Crude Protein requirements	10 points
Energy requirements	10 points
Calcium requirements	5 points
Phosphorus requirements	5 points
Cost per cow per day	5 points
Ingredient Selection	5 points

AREAS of STUDY:

General Nutrition:

- Understand the importance of protein, energy, vitamins and minerals during various stages of the production cycle.
- Understand which is more effective for improving digestion and body condition when poor quality forages are being fed: the use of corn or a protein supplement. Why?

Ration Formulation:

- Be able to design a diet given a specific situation, using a computer ration formulation program.
- Understand what common feedstuffs bring to the diet nutritionally. What feedstuffs are primary sources for roughage, energy, protein, minerals, etc?
- Understand the place of roughage in the cow diet. How can we maximize use of home grown roughages in order to control costs?
- Understand the relative price differences between feedstuffs. How do things like dry matter, energy or protein level affect the relative cost of a feedstuff?
- Formulate a diet that is easy to manage, avoiding duplication and meeting the requirements of the cattle and the problem.

Management Considerations:

- Practice body scoring cows, either live animals or with pictures.
- How does body condition score affects the nutritional needs of the cow?
- How does stage of production (mid or late gestation, early or late lactation) affect requirements?
- How do the nutrient requirements for a first calf heifer differ from that of a mature cow, in order to assure reproductive performance and longevity?
- How does the environment affect nutrient requirements?

AVALIBLE RESOURSES:

Cow Body Condition Scoring
http://www.iowabeefcenter.org/bch/BodyConditionScoring.pdf

Factors Affecting Cow Nutrition
http://www.iowabeefcenter.org/bch/FeedingCowHerdPart1.pdf

Managing the Cow Feed Program
http://www.iowabeefcenter.org/CowsPlows/IBC44.pdf

Distillers Grains for Beef Cows
http://www.iowabeefcenter.org/CowsPlows/IBC43.pdf

For training purposes, the software used will be similar to the ISU Brands Cow Edition.
http://www.iowabeefcenter.org/brands.html