**Lesson Title: Market steers**

**Unit: 8**

TEKS: 130.7(C) 5 (a)(b)(c)

OBJECTIVES

The student shall be able to:

1. Label body parts of steers
2. Discuss priorities in judging market steers
3. Calculate a yield grade

TEACHING MATERIALS, TOOLS, AND EQUIPMENT

PPT: Market Steers

TEACHING PROCEDURE

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| --- | --- |
| Interest Approach/Anticipatory Set | Teacher Notes |
| Open discussion – Review the selection process  This should take about 5 minutes. It is beneficial for this unit to have open discussions because students will learn from other students questions and comments | Teacher initiated – Student led  Teacher led discussion |

|  |  |
| --- | --- |
| Teaching Plan and Strategy / Presentation of New Material | Teacher Notes |
| Discuss the priorities of selection for market steers  Students will be taking notes directly from the PowerPoint. It is up to the teacher’s discretion how much information the student will take notes on  Selection of livestock is a result of consumer preference. There are niche markets that cattlemen can feed for, but most feed for the general public. Today, the general public desires lean beef. The trend with today’s society is more health conscious than in the past.  Muscle  Is the first selection point. Muscle is the first and most important priority because it is what consumers eat. Muscle can come from all seven locations (see power point). Muscle is ranked on a tenderness scale. Any muscle coming from the back or ribs is the most tender. These muscles are the most tender because they are the least used. The muscle on the hind end of the steer is the second most tender. These muscles are used for propulsion but are only in a response to the front end of the body. The muscle in the front end of the steer is the least tender. Within livestock animals 60% of motion and propulsion comes from the front end.  Rib  Rib is the second most important within selection for livestock. It goes hand in hand with finish. The size and shape of ribs are directly related to the amount of finish a steer can put on. If the ribs are narrow and shallow (narrow in reference to the width and shallow is reference to the actual depth of this rib, this is measured visually by looking from the spine to the lowest place on the rib). If the steer has deep and wide ribs it has more room within the stomach to consume more food, thereby producing more fat, resulting in more finish. Consequently, if the ribs are narrow, there is less room within the stomach to consume food, resulting in less fat being produced and less finish being applied.  Finish  The above statement can be combined within this section. You cannot have rib without finish and vice versa.  Yield grade and quality grade calculations  This activity is important for the purposes of understand why finish is important in producing consumer desired beef. Yield and quality grades are the two ways we as producers measure or rank meat. It is how we know which meat will be more palatable and more desirable by consumers. Yield grade for cattle is simply a way to measure the amount of lean meat on an animal. By USDA’s definition a yield grade is a way to estimate the amount of closely trimmed, boneless, retail cuts that can be obtained from a carcass. Carcass weight, fat thickness over the rib eye, rib eye area at the 12th rib and an estimate of internal (kidney, pelvic, and heart or KPH) fat are used in a formula to predict this endpoint. Yield grades are a ranked system from 1-5. 1 is the most desirable or most lean, 5 is the least desirable and fattest. 3 is average. It is not uncommon when feeding cattle and trying to achieve a premium for getting into a higher quality grade that the carcass will become more fat, thereby putting the cattle into a higher yield grade. All of this can be hard to understand so I recommend explaining the yield grade like a golf score, so we want a low yield grade. When discussing quality grades the most desirable is prime followed by choice, then select, and finally standard. Quality grades measure the amount of marbling at the 12th rib of the carcass. It is measured on a partially subjective scale, where a certified USDA grader looks at the amount of intramuscular fat (little white flecks of fat within the rib eye) and assigns a grade. The more intramuscular fat the higher the quality grade.  Structure  Structure is important and often overlooked. Although we do not eat bones, the way the bones connect within the body make it easier or more difficult to walk. In order for a steer to consume feed and water (the two most important nutrients that produce muscle at an efficient rate) they must have good structure. A good skeleton is flexible, allowing for a steer to take a long relaxed stride with minimal stress to their joints. A good skeleton has a 45 degree angle to their shoulder. The angle of the shoulder determines the steer’s length of stride. You can draw a line following the angle of the shoulder and where it meets the ground is where the steer’s foot will land. If the angle is less than 45 degrees the steer will have a shorter stride, which is undesirable. Their spine should be straight and flexible. Their legs should be straight in the knee, not over in the knee, resulting in a short stride. The angle of the pasterns should also be 45 degrees. The straighter a pastern becomes the more short the stride becomes. If a steer has no flexibility in their hocks they will also have a short stride.  Activity: Follow the leader | Use ppt  Lecture  Lecture  Lecture  HO: Yield grade calculation  Lecture  See engagement |

ENGAGEMENT

**Yield and quality grades:**

During this the students will be involved with calculations on the hand out and also looking at meat set out on a table or slides if fresh meat is not available.

**Follow the leader:**

Have the students play follow the leader, with the teacher being the leader. This will simulate poor structure within livestock and how it affects their ability to travel.

Ex. Once the students are in a single file line behind the teacher, proceed to walk. Then call out different structure issues, such as; pigeon toed, post legged, bow legged, straight pasterns, weak pasterns, toes out, long stride, short stride, etc. each time you call out a new structural issue you must walk like that structure issue. So if I said straight pasterns, I would walk around on my tip toes, and the students must do what the teacher does.

EVALUATION

Judge the market cattle; give the students ample time to take notes. Teacher should already have an idea of what the “official” placing will be. Allow 5-10 minutes to have open discussion of why the students placed the steer a certain way. Follow up with the official placing and why the steer need to be placed that way.

ADDITIONAL MATERIALS

Meat Science Laboratory Manual Eight Edition J.W. Savell G.C. Smith

College & Career Readiness Standards: II.C.1; II.E.7

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