

Techniques and Philosophy for Training Students to Grade Carcass Beef

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Training students to effectively grade beef carcasses can often be one of the most challenging and difficult aspects of meat judging. One of the major difficulties encountered when training students to grade is that it does require repetitive training practice over several weeks with dozens of observations in order for students to develop a high degree of proficiency. However, we also find that students who are effective in grading beef carcasses for quality grade and yield grade are often successful in overall judging because the skills needed to evaluate grade traits are relevant across species and product lines. Although much of the training needed to develop grading skills is simply a matter of experience, as an instructor preparing to teach grading skills, there are several steps that can be followed that may allow you to most efficiently and effectively train your students.

Concentrate on the Basics

Initially, the basics of beef grading should be presented to students with visual aids and actual carcasses to demonstrate the range and variation in skeletal and lean maturity, marbling, lean firmness, internal and external fatness with and without adjustments, and *longissimus* muscle (LM) size across a range of carcass weights. Use the *Meat Evaluation Handbook* or similar reference to present the basics of balancing maturity, quality grade placements, and yield grade determinations. Develop sets of meaningful and realistic examples for exercises. Have the students complete these under tight time restraints until they almost become second nature to them. Once the students understand the key factors and the necessary calculations to combine these factors for both quality and yield grading then a session with probes, grids, and marbling cards may be used to test their ability to physically measure or evaluate each factor. Spend time to make sure each student can properly measure preliminary yield grade (PYG)

and measure LM size with a grid correctly. Many times we assume students can properly use a grid, but they cannot. It does not help to measure and estimate LM sizes if the measurement is incorrect. Have them develop a routine and follow it each time. Early training for students to call the factors without the use of mechanical aids is best accomplished concentrating on one trait at a time (e.g., call LM area on 15 carcasses and review; then actual preliminary yield grade (PYG) and review, then adjusted PYG, etc.). Sometimes we often try to cover all factors at once and the students become overwhelmed. If lack of product and time preclude working on one factor at a time, try to limit the work to just quality or yield factors, then move on to the other factors.

Encourage students to develop a sequence of practices that work for them to avoid oversights during appraisal. Key factors to consider include the amount of light available and the distance for eye contact they may have for evaluating individual traits. It is particularly important for Yield Grade training to standardize the distance and angle from the carcass and LM each time if at all possible.

Quality Grade Training

Quality grade training should focus on the lines of transition for each of the factors (marbling score, skeletal maturity, and lean maturity). Early training should not only focus on the transition lines, but also try to present fairly straightforward carcasses for evaluation. Do not tag carcasses with extreme marbling distribution problems, atypical marbling types (extremely fine or extremely coarse) until they have developed their evaluation skills. It is a good policy to only practice on carcasses on which you are confident. If you cannot make a call, the student cannot be expected to make a satisfactory call. While you want to continually challenge the student, do not concentrate on a large number of "odd-ball" carcasses that will undermine their confidence. When students first begin with either marbling or maturity calls, have them concentrate on recognizing full degree differences. As they begin to have the ability to recognize differences, then have them assign percentages to their calls. This will allow you to recognize how closely they have evaluated a particular trait. It is also useful to record and "track" students' individual calls for a given trait or grade. This will also allow you to track your own consistency and to effectively address needed adjustments. When adjustments are needed, try to make minimal

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Proceedings of the 54th Reciprocal Meat Conference (2001)

adjustments—it is better to make two or three smaller adjustments over a period of time than to try to make a major adjustment. Students need to be allowed to use mechanical aids for the first month or two of training, but you also have to observe them carefully and prevent a complete dependence upon the mechanical aid. Coaches or trainers should use the official USDA color marbling photographs to avoid drift (day to day, week to week, month to month) when making official calls. When possible, the coach should try to correlate with either a USDA grader or supervisor or with plant personnel. For both Quality and Yield Grade training, give students sufficient, but not excessive, time to make their evaluations. If given too much time early, many students may become dependent on this amount and always have trouble with the time constraints of a contest or industry situation.

One of the most difficult evaluations to train students to make is when there is uneven marbling distribution. Always have the student carefully evaluate the entire muscle, not to be attracted to a more heavily marbled area. When there is uneven distribution, train them to evaluate the LM in halves. Many students tend to concentrate on a heavily (or sparsely) marbled area that may be no more than 10 to 20 percent of the LM. It is simpler and more effective to concentrate on dividing the LM in no more than halves to simplify the math. For example, if there is carcass with a call of Small⁰⁰ for one half and Modest⁴⁰ for the other half, the overall average of Small⁷⁰ can easily be determined. Have students record all evaluations in percentages to determine and evaluate mistakes. It is also a good practice to have students record all maturity evaluations, including “A,” in order to have them not overlook a maturity problem.

Yield Grade Training

Learning to evaluate Yield Grade is often one of the most difficult areas of meat judging for most students. Consistency in LM area estimates and adjusted PYG are particularly hard to master. When beginning to train students to evaluate LM

area, it is often helpful to have them concentrate on full 2.54cm differences, and then with experience make more precise evaluations.

When evaluating fatness, have the students learn to make evaluations in tenths of a PYG. This saves time and prevents errors from estimating the fat thickness in centimeters and converting to PYG. When beginning Yield Grade training, it is generally best to evaluate carcasses that need only minimal or no adjustments to the PYG. After students are comfortable with these evaluations, training to recognize needed adjustments can be given. Concentrate on the major areas of the carcass that impact adjustments. It is often useful to include both sides of the same carcass when one side has dressing defects to show why adjustments are needed. Another tool to utilize is to cover the external fat exposed at the 12th rib to force students to learn the fat deposition patterns over the entire carcass. It is also useful to have students learn to evaluate the hindquarter and forequarter and arrive at an average call for the entire carcass. Finally, when setting up practice rails, try to have several adjacent carcasses with similar fatness, then when discussing the differences between carcasses, adjustments can be compared.

General Considerations

Students should be trained as individuals to refine their skills for problem traits or ranges within a trait. At each grading exercise, students should be encouraged to begin their evaluation using a carcass with traits that they are most confident in estimating (i.e., small⁰⁰ marbling, 80.6 sq cm LM area, etc.). Repetition is critical to instill the self-confidence needed by students to grade beef. Instructors are encouraged to involve students in obtaining individual measurements, computing official results, and discussing results while viewing carcasses, with free and open exchange. Overall, grading expertise requires and fosters numerous life skills: an eye for differences, discipline for repeatability, solid math skills, and the ability to think critically under pressure.