

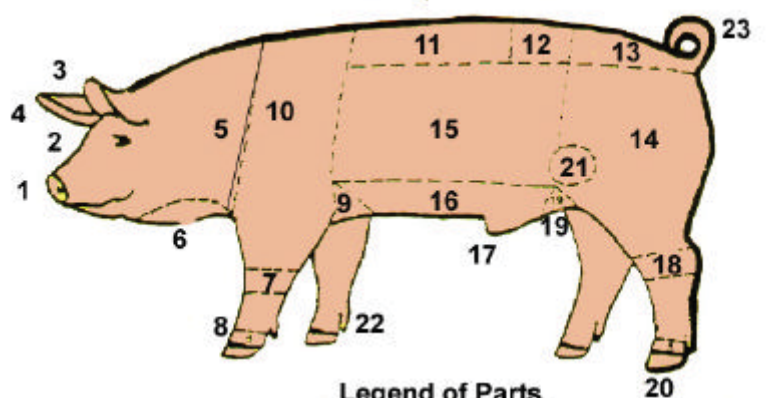
EVALUATING MARKET SWINE

By Chris T. Boleman, Texas A&M University

Introduction

Market swine evaluation emphasis continues to change rapidly. However, there are still some basic principles to understand and implement to more accurately evaluate market swine.

Figure 1 shows parts of market swine that are important to know before evaluation areas can be discussed. It is imperative to learn each of these parts before understanding how to evaluate market swine correctly.



Legend of Parts

- | | |
|------------------|------------------------|
| 1. Nose or snout | 13. Rump |
| 2. Face | 14. Ham |
| 3. Ear | 15. Side |
| 4. Poll | 16. Belly or underline |
| 5. Neck | 17. Sheath |
| 6. Jowl | 18. Hock |
| 7. Knee | 19. Rear flank |
| 8. Pastern | 20. Foot or toe |
| 9. Fore flank | 21. Stifle |
| 10. Shoulder | 22. Dew claw |
| 11. Back | 23. Tail |
| 12. Loin | |

Figure 1: Parts of Swine

Evaluating Market Swine

Market swine are placed on five basic areas:

- ✓ Muscle
- ✓ Leanness
- ✓ Growth
- ✓ Volume
- ✓ Structural Soundness

Muscle

Muscle refers to meat or the amount of meat within each individual market swine. Muscle can be evaluated in several areas. When viewing the side, it is important to look for the expression through the shoulder and forearm. However, it is the view from behind and down the top that gives the evaluator the most accurate view. Remember, muscle is bulging and roundish in shape. Thus, when viewing a hog from behind it is imperative to look for these types of shapes down the top, from stifle and throughout all portions of the ham. Figures 2ab and 3ab show two market hogs with distinct muscle pattern differences.

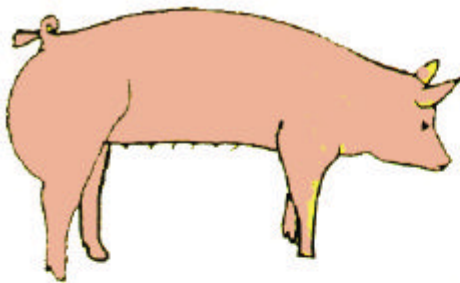


Figure 2a. Muscular Swine (side view)

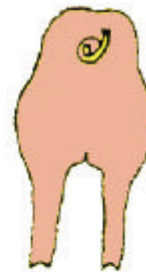


Figure 2b. Muscular Swine (rear view)

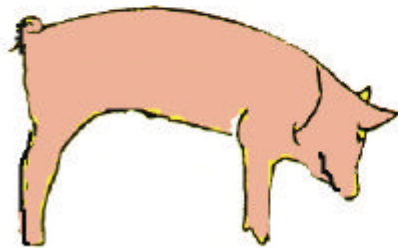


Figure 3a Light muscled swine (side view)



Figure 3b Light muscled swine (rear view)

Leanness

Market swine continue to become leaner and leaner each year. They need to be as lean as they can while maintaining muscle, body volume, growth, and structural soundness. As market swine continue to become genetically leaner, they can sometimes become slower growing due to lack of body volume and because they become too tightly wound in their skeletal design.

Nonetheless, when viewing market swine for leanness, there are many areas to evaluate for fat deposition. These include through the jowl, over the blades, behind the shoulder, along the loin edge, through the lower 1/3 of the body cavity, the flank, and the seam of the ham.

Growth

Market swine must have the ability to grow. Large statured, big framed, skeletally extended hogs are preferred because they are much more flexible as they increase in weight. In other words, as they increase in total weight, they are not gaining excess fat, but meat instead.

Percent Lean

Using the three above factors one can derive the percent lean formula. Percent lean is currently used to determine prices on live market swine. The higher the percent, the higher the premium each hog can be able to demand when sold for slaughter.

Percent Lean Factors and Adjustments- Start with a base of 50%

Factors	Base	Adjustments
10 th Rib Back Fat (BF)	.8 inches	For every .1 inch above subtract 1% For every .1 inch below add 1%
Loin Eye Area (LEA)	5.0 in ²	For every .1 in ² above add .2% For every .1 in ² below subtract .2%
Live Weight (LW)	240 lbs	For every 10 lbs above 240 subtract 2% For every 10 lbs below 240 add .2%

Example:

		<u>50% Base</u>
10 th Rib Back Fat	1.0 in.	= - 2.0 BF
Loin Eye Area	7.0 in.	= + 2.0% LEA
Live Weight	240 lbs	= <u>0.0% LW</u>

*Notice 10th rib backfat is the major factor in determining percent lean.

USDA Grade

In addition to percent lean, there is also a USDA Grade. The formula for figuring USDA grade is $4 \times \text{last rib backfat} - \text{Muscle Score}$.

The muscle scores range from 1-3 with 3 being thick, 2 moderate, and 1 is thin. Figure 4 shows the muscle scores from swine carcasses.



Figure 4. Muscle scores used to determine U.S. Grades

Body Capacity/Body Volume

Market swine will grow quicker and more efficiently with body capacity. Body capacity is internal dimension. This dimension can be visually evaluated by viewing swine for the width through their blades, the spring to their rib cages, and the width they possess through their chest floors.

Structural Soundness

There is no doubt, market swine do not have to be as correct in their structural design as breeding swine. However, major structural defects can hamper the ability of market swine to gain and grow effectively. Market hogs need to have adequate slope through the shoulder region, loose in their hip or spine and adequate flex to their rear hocks.

Conclusion

Market swine must be complete. They must be able to grow quickly, exhibit superior muscling while remaining lean designed. For a hog to thrive, it must also be loose in its design and have sufficient internal dimension (body volume) to grow quickly and be more desirable converters of feedstuffs they consume.