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A good foundation is always important, and feet and leg soundness in show pigs is no exception. It is important to remember that any "small" problems that an animal may have at a young age will most likely turn into big problems as the animal matures. Breeding animals that cannot stand to be mounted and support the weight of a boar or maintain stance while either collecting semen or inseminating are definitely undesirable. Many things can put stress on the feet and legs of an animal. First and foremost is flooring. Structural soundness becomes even more critical when raising pigs in confinement. Cement is the easiest flooring to clean, and is superior to both wood, dirt or sand in regards to ability to disinfect. However, cement is harder on joints. While I still recommend cement flooring in an ideal situation, in order for it to be effective you must be selecting pigs that can get up and move without hindrance. The importance of structural soundness selection cannot be underestimated, regardless of the facilities. Other stressors include growth rate, stocking density or crowding, degree and extremeness of muscling and frame size.

Figures 1 and 2 have been taken from "Structural Soundness" by Dr. Howard Miller at Mississippi State University. They will be used for reference in the following discussion. Probably the easiest place to start is the rear legs. In Figure 1, the tail sits low in relation to the height of the back. The rump is too steep. This is due to the fact that the hip (joint E), stifle (joint F) and hock (joint G) joints are forced to be in a straight line. Figure 2 shows the proper angulation in the hind legs. The tail sits almost as high as the highest point of the back, and the rump is level (from the last vertebrae to the tailhead). This causes the hip joint (joint E) to appear higher. The femur (bone 1) sits at approximately a 45° instead of the larger angle in Figure 1. The stifle (joint F) and hock (joint G) also have more angulation and are not as straight as the corresponding joints in Figure 1. An animal that is undesirable in its rear leg structure will have a short "goose step" stride, due to the fact that it cannot open those angles much farther. These three joints essentially become a straight line as the animal steps forward. This can also be a problem in breeding boars. Due to the lack of enough angles to help support the weight during mounting or breeding, the boar will often fall backwards.

As we follow the body forward, it has already been mentioned that the top of the pig in Figure 1 is arched too high. This "roach top" is often a sign that the animal is not sound underneath. The pig in Figure 2 is more level over its top, which also suggests that he will be structurally sound and able to support his weight at maturity. This is what judges are referring to when they use terms such as "leveler designed" and "confinement adaptable".

Moving to the front legs, the shoulder blade (A) of the pig in Figure 1 is almost in a straight line with the front leg. The straightness of the shoulder blade and the decrease in the angle at the shoulder (joint B) put pressure on the knee joint. Animals that are straight-fronted often "buckle over" at the knee due to this pressure. Similar to straightness in the rear legs, the animal in Figure 1 will have a short stride in the front quarters because of the lack of angularity in the joints.

Animals that are straight on both the front and the rear legs, as the animal in Figure 1, will take small, exaggerated steps and often walk up on the toes. "Goosestepping", or pushing its foot farther ahead but then placing it back a bit, taking a small step, but with a lot of effort, is common. The pads of the feet of such an animal will also show abnormal wear.

Too much angle is also a problem, although less common. This is most obvious at the pasterns (near the dew claws). The dew claws may even touch the ground when walking. While this is not a painful to the pig as straightness, it is still undesirable.

Choosing the "perfect" pig should involve more than looking only for muscle and fat. If the structural problems are severe enough, the animal will be less willing to exercise and even get up to get to the feeder. Often, problems aren't obvious until a stress occurs, such as loading and riding in a trailer, slipping in the wash rack or being moved onto cement at a show. It is important to consider your pig "from the ground up".

*For further information, consult:

- *Structural Soundness* by Dr. Howard W. Miller, Mississippi State University

Figure 1. An animal considered "undesirable" in its feet and leg structure. Figure adapted from *Structural Soundness* by Dr. Howard W. Miller, Mississippi State University.

UNDESIRABLE

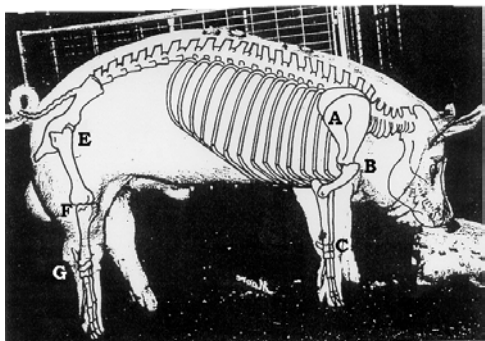


Figure 2. A structurally correct animal. Figure adapted from *Structural Soundness* by Dr. Howard W. Miller, Mississippi State University.

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