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## **Carcass Ultrasound 101**

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### **Ultrasound Contemporary Groups**

Though their importance is often overlooked, contemporary groups are truly the cornerstone of any genetic evaluation. Unfortunately, establishment of an ultrasound contemporary group is sometimes done improperly. There are a number of rules that must be followed in order to receive the maximum benefit from reporting ultrasound data, particularly in establishing and increasing the accuracy of Carcass Expected Progeny Differences (EPD). Whether you have 5 yearlings to scan or 5,000, the process of contemporary grouping is basically the same. Here are a few guidelines:

First things first, if receiving carcass EPDs is the end goal, then the cattle being scanned should already be registered with a respective association and birth and weaning records should be previously reported. Failure to do so may cause ultrasound data results to be delayed at the processing lab or breed association office. Any errors in this step should appear on the ultrasound barnsheet generated by your breed association prior to scanning. The birth and weaning weight contemporary groups lay the foundation for the yearling and/or ultrasound contemporary group that follows.

The basic definition of a contemporary group is animals of the same breed, same sex, and similar age raised with the same environmental opportunities. Notice there is nothing contained within the definition dealing with ownership. If you share a pasture with a fellow breeder or run cows with your relatives, your calves are contemporaries. All breeders involved in the specific management technique must make the association aware of this fact prior to any performance reporting. Partnerships can strengthen the power of Carcass EPDs and should be utilized whenever possible.

At the most basic level, a contemporary group can be 2 bulls raised together until the day they are scanned. As proud as you may be, scanning just one bull or heifer has absolutely zero genetic value; there is simply nothing to compare. Still, actual scan data can be used to market the individual, satisfy your curiosity, or let any potential buyers know the value of the beast with the hide off. One common mistake involves the inclusion of “pampered” show animals in a contemporary group with others being given less daily attention. In most cases, this ends up being detrimental to the elite animal’s carcass EPDs. First of all, show cattle are normally fed harder, making them scan fatter than their contemporaries. Any EPDs for Yield Grade, Fat, or Retail Product wind up moving in the wrong direction, masking any muscle advantage the elite

animals may have possessed. The second factor is stress. No matter how comfortable the animal may seem in the show barn, they are under non-typical environmental conditions. This often causes ultrasound images to be darker than normal and return %IMF numbers far lower than the animal's genetics are capable of producing. Along with this, animals that are easily excitable or with poor dispositions could scan poorly as well. In the end, proper cattle handling and equal treatment of contemporaries will ensure the most accurate results.

Another form of "treatment" can also impact contemporary grouping. Individuals treated for illness or some form of abnormal weight loss should be removed from their contemporary group. Research trials have shown that feedlot cattle treated for illness earlier in life often grade poorer than their penmates. The same can be said for yearling seedstock and their contemporaries. Ultrasound data from these individuals will show lower %IMF, leaner back fat, and smaller ribeye area than the animal's genetics should allow. More importantly, the data reflects poorly on the sire and dam of the yearling. If you're trying to "prove out" your herd sire, inclusion of these animals will skew his carcass EPDs. With the small number of progeny recorded for a dam in her lifetime, data from an animal that has lived in the sick pen most of its life can be misleading for her as well.

Other factors like creep feeding should be considered as well. Even if the animals were just over the fence, calves with access to feed prior to weaning should be in a different contemporary group from those with only access to milk and grass. Creep feed allows an animal to lay down subcutaneous fat at an earlier age. In addition, the stress involved with "bunk breaking" or training an animal to eat concentrate feedstuffs can influence marbling deposition. Along these same lines, pasture grasses and legumes can have an impact on carcass performance. If you have one pasture in the fescue country of Missouri and another in central Iowa, the performance of the offspring could be drastically different. Even though the cattle may be fed the same diet at the same location post-weaning, these animals have not been given the same environmental opportunities. As a result, their ultrasound phenotypes will be different.

Contemporary grouping has one cardinal rule: groups can never get larger, only smaller. There are a number of reasons animals can "fall out" of their contemporary group, but they can never be added back in at a later date. For example, if you report the birth weights of your 10 March bulls on the same day, they are contemporary group A. If you then report the weaning weights on 5 of those bulls in September and the other 5 in October, they are weaning groups A and B. If you ultrasound all 10 bulls the following March, they are still in groups A & B, even though you submit their images as one group. Consistency must be maintained in order to ensure an accurate genetic evaluation. The integrity of carcass information produced via ultrasound lies in the hands of the breeder. Your customers are counting on it.