SHORTHORN SB® BEEF

FACT SHEET

Structural Assessment in Beef Cattle

Structural traits are widely recognised as key traits for any breeding program. The question is, how to objectively measure these traits and relay those objective measures to prospective buyers?

Structure is one of the most subjective traits in the beef industry. What constitutes good structure in one breeders mind may also be inadequate in another.

However, one constant remains a fact, beyond subjective opinion, that poor structure costs the Australian beef industry millions of dollars annually in lost production.

Structural problems in cattle have a substantial effect on both the reproductive and growth performance of a beef herd. It is widely recognised that structural problems in sires has a detrimental effect on conception rates, calving patterns and therefore profitability. Similarly, females with inadequate structural characteristics are more prone to weaning lighter calves or conceiving later in the breeding season than their more functional counterparts. These structural problems are filtered through the supply chain resulting in reduced income for the producer or feedlot and thus reduces the overall profitability of the Australian beef industry.

Whilst genetic improvement for maternal, growth and carcass traits will continue to be pivotal in developing the Australian beef industry, correct structure and temperament remain fundamentals that all other traits are built on.

Heritability of Structure.

Structure is a moderately to highly heritable trait and can therefore be improved genetically.

Front and Rear foot angle, or heel depth and Front and Rear claw settings have similar and high heritability. Rear leg angle and Rear leg set, are moderately heritable traits, similar to growth traits, and are also able to be improved genetically. This means that careful selection of genetics will not only improve structure within a herd, but also that, incorrect selection of genetics for a herd, will also decrease structural integrity within a herd. It also means that correct culling for less functional cattle will increase the genetic potential within a herd to achieve good structure.

Effect of Poor Structure on Bulls.

Bulls work much like elite athletes to complete a joining season. Apart from the workload of serving the cows, bulls must also find time to graze. Bulls showing structural issues may have reduced function, reducing their ability to cover the required number of females in the required time. This can result in delayed or extended calving patterns, reducing the herds ability to retain a 12-month calving cycle, reducing weaning weights and potentially leaving valuable cows empty. Often these cows are culled for infertility, despite not having contributed to the fertility issues.

Bulls also represent a tremendous investment for any breeding program and achieving a long working life maximises the bull return on investment. Bulls with reduced function have higher rates of breakdowns at an earlier age, leading to lost investment.

The high heritability of structural traits means that the bull will also pass on any structural issues to their progeny, affecting profitability for years to come, unless affected progeny are culled from the herd.

Beef Class Structural Assessment System.

Bringing Objective Measurement to Structure

The Beef Class Structural Assessment System was designed by MLA, the BIA and several breed societies to address the structural problems in the beef industry. Detailed analysis of 300 genetically linked herds indicated that structural characteristics such as leg and foot structure were moderately to highly heritable.

As a result, the Beef Class Structural Assessment System was developed to assist producers to objectively measure these traits.
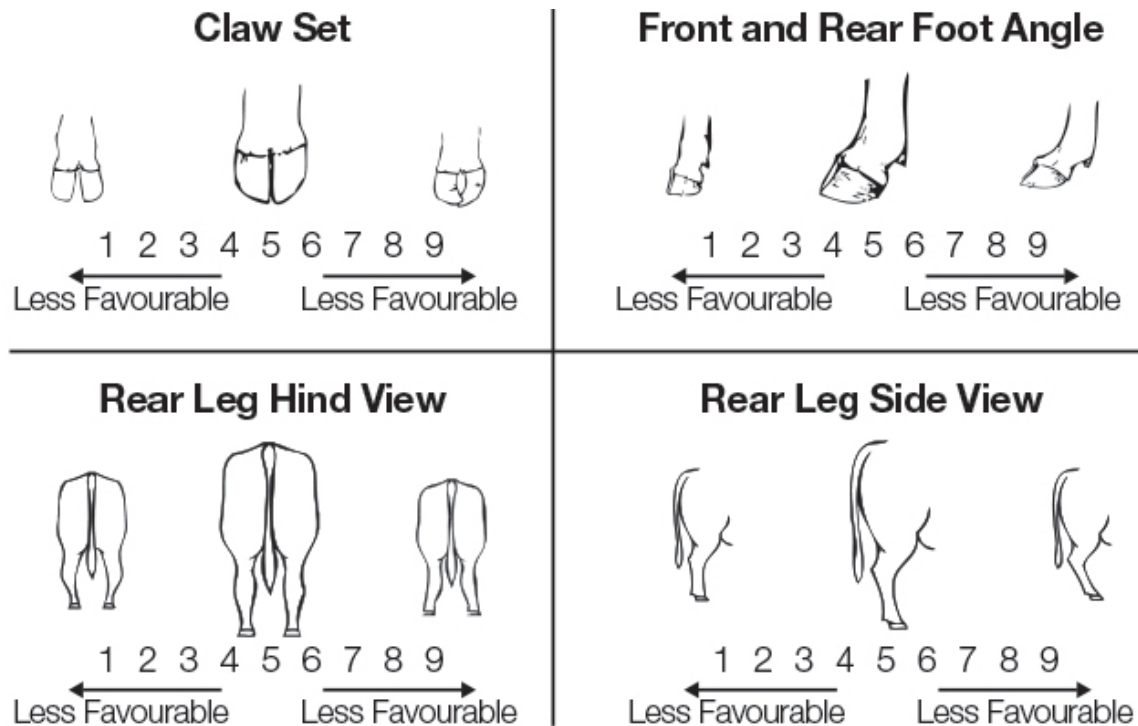
Whilst most breeders are conscious of structure and endeavour to improve structure within their herds, it is the ability to independently and objectively measure these traits and to present the results in a clear format to purchasers that was not previously available.

Assessors must be registered and have to undergo an accreditation process before being given an accredited assessor number. Only cattle assessed by accredited assessors should have Beef Class Assessment Structural data supplied to purchasers.

How the Beef Class Structural Assessment System works?

The Beef Class Structural Assessment System uses a 1-9 scoring system;

- A score of **5** is ideal. (Note: Temperament Score of **1** is preferable);
- A score of **4** or **6** shows slight variation from ideal, but this includes most animals. An animal scoring 4 or 6 would be acceptable in any breeding program;
- A score of **3** or **7** shows greater variation but would be acceptable in most commercial programs. However, seed stock producers should be vigilant and understand that this score indicates greater variation from ideal;
- A score of **2** or **8** are low scoring animals and should be looked at closely before purchasing;
- A score of **1** or **9** should not be catalogued and are considered culls.

Claw Set

1 2 3 4 5 6 7 8 9

Less Favourable   Less Favourable

Front and Rear Foot Angle

1 2 3 4 5 6 7 8 9

Less Favourable   Less Favourable

Rear Leg Hind View

1 2 3 4 5 6 7 8 9

Less Favourable   Less Favourable

Rear Leg Side View

1 2 3 4 5 6 7 8 9

Less Favourable   Less Favourable

Sheath Scores

Sheaths are also scored from 1 to 5 with **2** being ideal for most bulls. Temperament scores are also taken and provide a good opportunity to assess temperament whilst animals are being handled individually.

A score of 1 is tight   **A score of 5 is loose**

It is important to understand that very few animals are ever ideal for all traits and that some variation is more than acceptable and should not be seen as devaluing an animals' potential worth.

The purpose of the objective measurement is to provide some indication of how suitable an animal may be for your program. It is also ideal for herds that are trying to correct structural issues to consider having the herd assessed annually to ensure that female genetics are contributing favourably to your outcomes.