

## Using \$ Indexes to Assist in Sire Selection

Limousin breeders who are bull buyers are now confronted by up to 17 different EBVs which describe the genetic merit of each animal for growth and fertility, carcass and docility.

It is impossible to put the correct economic weighting on each EBV to come up with the most profitable animal for a given production system.

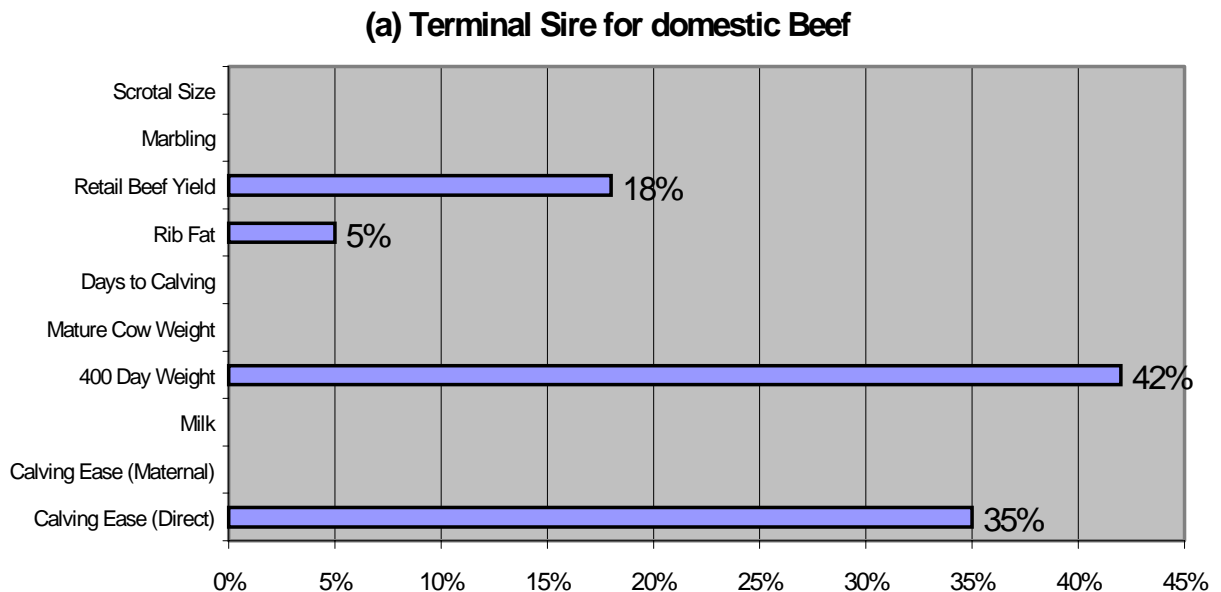
We now have the tools to do this in the form of dollar indexes which are calculated for many animals in the breed and displayed as an option on the website.

Three dollar indexes are available for Limousin:

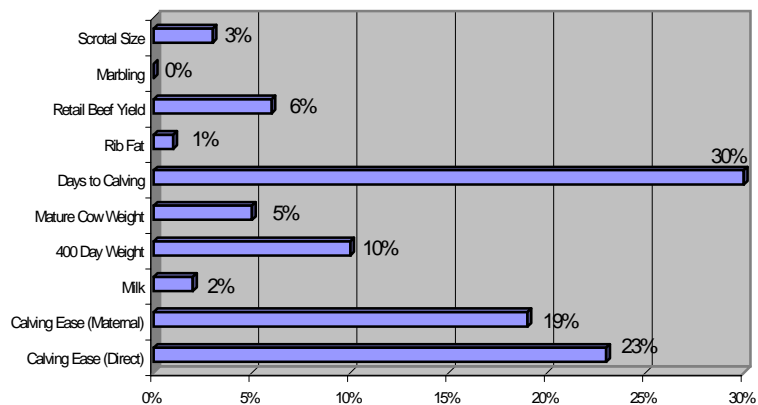
Terminal Sire for the Domestic Market  
Self-replacing herd producing steers  
Terminal Sire for the Heavy Steer market

Each of these indexes is based on the correct economic weighting for each trait which is relevant to that production system. For example, in the \$ index for a terminal sire for the domestic market the EBVs for milk and days to calving are not relevant because daughters of the bull are not retained. However for a self replacing Limousin herd these traits are important.

*Figure 1* shows the relative economic weighting on each trait for the two production systems.



### (b) Self Replacing herd producing steers



**Figure 1:** Composition of the \$ index for (a) terminal sire for the domestic market and (b) a self-replacing Limousin herd producing steers for the domestic and export markets.

For the terminal sire, 400 day weight and direct calving ease have the most importance with retail beef yield and fat depth also important.

In the self-replacing herd, calving ease is still very important together with days to calving, the female fertility trait.

When using the \$indexes to select AI sires or young bulls you can impose additional criteria. For example, the EBV for docility is not incorporated in the index and can be used independently.

While the birthweight EBV is incorporated in the \$ index a secondary criteria could be imposed to give some protection against a bad calving year. For example, a maximum birthweight of +4.0 could be imposed.

However the \$ index approach allows some compromises to be made. If a sire has a very high \$ index a slightly higher birthweight than 4.0 may be tolerated.

#### What does the \$ index mean?

If there was a choice between two bulls to be used as terminal sires with \$ indexes of +\$30 and +\$10 the value of each calf by the +\$30 bull would be \$10 greater than the value of the progeny of the +\$10 bull (This is because only half the difference between the bulls is passed onto the progeny  $\frac{30 - 10}{2} = 10$ )

However for 30 calves each year over five years this amounts to \$1500 difference in the value of the progeny of the two bulls.

For more information about the Breed Object program which calculates \$ indexes, click here [www.breedobject.com](http://www.breedobject.com)