

## Using DEERSelect EBVs

### What is DEERSelect?

DEERSelect is the genetic evaluation system for the deer industry. DEERSelect can assist you in your purchase by providing an indication of the relative progeny performance of each stag.

DEERSelect is a simple system to use. Each animal has an individual "Breeding Value" (or BV) for certain traits which are related to economic profitability. By comparing BVs between animals, you can assess the relative merits of animals for different traits.

### What do I look for?

The first question is whether the DEERSelect analysis on the herd you are considering purchasing from is across-herd or within-herd. If across-herd, then the BVs are comparable to those from other herds participating in across-herd analysis. Within-herd BVs apply only to comparisons between animals in the one herd, and cannot be compared between two different herds.



**TOBY W12BV +11.8**  
**Top English Sire 2008/2009**

### What do the different BVs mean?

BVs are available for growth and antler traits (the system will be expanded over time to consider other economically important traits). The traits reported are:

**12-month weight (W12BV)=Yearling Weight** - This compares the weight of animals in spring i.e. the critical time for venison production. The values are expressed in kg of liveweight. For venison production, this is the trait deer farmers are paid on so should receive significant emphasis if purchasing genetics for venison.

**Mature weight (MWTBV) = Mature Weight** - This compares the mature weight of hinds (i.e. 3+ years). Again, the values are expressed in kg liveweight. This trait is economically important for both venison and velvet production, as it is an indicator of how much feed is required to maintain an adult animal. Although it is expressed on a breeding hind basis, it is closely related to mature weight of adult stags as well.

Those seeking specialist velvet production genetics should look for low or moderate mature weight, combined with excellent velvet genetics. This will maximise the profit per hectare of your velvet enterprise by producing more velvet per stag and running stags at higher stocking rates. For venison production, mature weight is somewhat correlated with 12-month weight. This means that if genetics are sought to breed replacement hinds, 12-month weight needs to be balanced with the mature weight to keep hind size (and hence feed costs) at an appropriate level. There may be considerations with handling ability too, depending on your individual preference. Mature weight is not economically important for terminal sires (concentrate on 12-month weight).

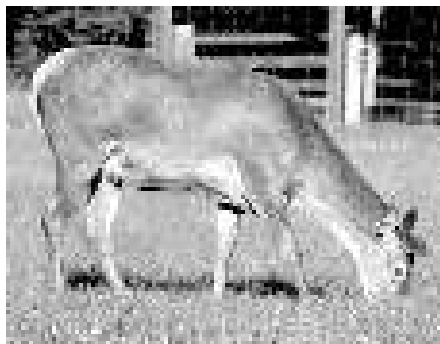
Mature Velvet Weight (**MVWBV**) = **Mature Velvet Weight** – This compares the weight of velvet produced by a mature velvetting stag – values are expressed as kg of velvet cut at optimal time. The MVWBV is a significant driver of velvet profitability and should be considered along with likely impacts on velvet grade when comparing animals.

### **How do BVs relate to performance?**

Bvs are expressed in actual units of production (kg of liveweight or velvet), so are directly related to expected impacts on performance. An animal passes on half of its genes to it's offspring (the other half come from the other parent). So if we take an example of 2 stags, one with a 12-month weight EBV of +12 kg and the other of +8 kg, and mate them to the same group of hinds, the first stag will pass on an impact of +6 kg to his offspring, while the second will pass on +4 kg. Thus we would expect the offspring of the +12 stag to be 2 kg heavier at 12 months of age than those of the +8 stag (i.e. half of the difference in breeding value).

### **What do accuracies mean?**

Bvs are always an estimate – we can never know the true breeding value of an animal. However, the more information we have the more confident we are that the BV we calculate is accurate and close to the true breeding value. The accuracy figure is an indication of how confident we are in the accuracy of the estimated BV. BVs with accuracies of 80%+ are excellent indications of true breeding value, and are unlikely to change significantly if we had more information. BVs with accuracies of 60-80% are good indicators of true breeding value, but adding more information may cause some changes in breeding value estimates.



**ATLAS W12BV +25.4**  
**Top Composite Sire 2007/2008**

Bvs with accuracies less than 60% are approximate indicators of breeding value, and may change significantly with additional information. To make maximum genetic progress, selection decisions should be based on the BV itself, not its accuracy. A higher BV, even with lower accuracy, will, on average, give greater genetic progress.

### **Work in progress**

Several traits other than growth and velvet have economic significance to deer production. The DEERSelect system will continue to develop over time, adding new traits and improving prediction of existing traits. Work is currently underway to develop predictors for velvet production, and the incorporation of SCI score as a trophy EBV will be considered. For venison production, work on reproduction and seasonality of calving will be undertaken.