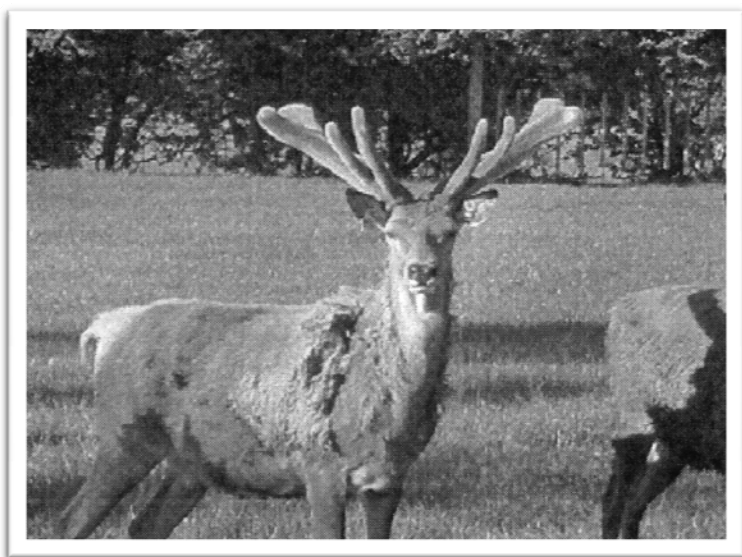
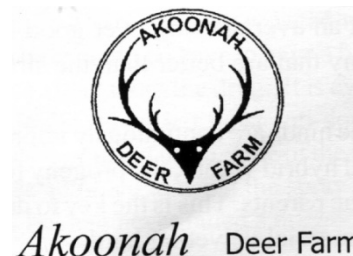




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## GENETICS AND VELVET For a Commercial Velvet Herd Discussion Paper

By Michael Coffin  
October 2010



**131 W – Nearly 8 Kg SA velvet  
at 7 years old.**

**F3 Warnham – over 5% of his summer  
weight will be velveted  
this season.**

### Summary

Our experiences are three main points:

1. The most important criterion is to breed with good hinds.
2. Then use at least two good stags from different complimentary lines.
3. Cycle the breeding hinds in the pure to F3 status to obtain consistency and vigour.

### Preamble

The following views are entirely as a result of our own limited experience and are provided to disseminate information that may assist others. Hopefully, other deer farmers will also share their experiences so that we all don't have to "reinvent the wheel". It is impossible to find any literature on how to establish and maintain a decent velvet herd.

It takes two years to get a handle on the potential of a velvet stag and at least three years for the potential of a hind (she is three if her first calf is a stag). Accordingly, even though we are now in our 21<sup>st</sup> year of farming deer and only the twelfth year with a focus on velvet, our experience is necessarily narrow and limited.

If it was only a matter of buying an elite stag, or its straws for AI, and then just making sure not to inbreed, then it would be simple. Our experience is that it requires more complexity to obtain a good velvet average across the herd.

I am certain that we will have different views as time and experience progress, unless we fail to analyse, listen and learn. Part of the journey is to make errors, but hopefully not the same mistake twice.

### **Essential to have appropriate Hinds**

We started with the premise that the hind is a dominant contributor to velvet characteristics (as a human female to eye colour of progeny). We still hold a similar view.

A good stag over poor hinds will yield progeny considerably worse, in velvet characteristics, than the sire, but an average stag over good hinds will yield progeny that are better than the sire stag.

Further, if the hinds are continuously improved with some careful hybrid vigour, the progeny tends to be better than the parents. This is the key to developing a good commercial velvet herd.

Accordingly, we take great care to pair hind and calf and identify good hinds. A pattern has emerged where all the best hinds can be traced back to only two of the foundation hinds. We culled over 350 hinds to end up with the twenty best, and regardless of many stags and AI using straws from elite stags, the best are descended from just two hinds. This is the only common thread and highlights the importance of the hind in good velvet characteristics.

The hind breeding is a major factor in our decision to select straws for AI. "Thelma" was obviously one of the great Warnham Park hinds that we look for in the heritage of elite pure Warnham stags. As an example, "Andre" carries 25% of Thelma's genes which injected 12.5% of Thelma into some of our hinds to assist with continuous improvement.

### **Good Stags will flow from Good Hinds**

Having emphasized the importance of good hinds, it is also clear that the stags' velvet characteristics are unmistakable in the stag progeny of the sire. The better the stag – the better the progeny. Since one stag can easily sire 50 hinds in any one year, a single stag's influence on the herd progeny is profound by the weight of numbers compared to a single hind.

Experience has shown that some degree of hybrid vigour has to enter the equation in order to continuously improve. We developed a pure Warnham breeding hind herd which provided a high consistency in the velvet heritability of the progeny, but no major leap forward in the yields per stag. But when we introduced some hybrid vigour, a significant step improvement occurred.

Branko Sarunic (of the former International Deer) promulgated a similar experience.

### **Genetic lines that we use**

We now breed F3 to pure Warnham lines. The 1/8 hybridization, essentially Yugoslavian (Leopould)/Woburn/NZ mixture from Otto, appears sufficient to provide some vigour.

We look for good confirmation, clean and thick velvet. Multi-pointed heads are the domain of the trophy style breeders.

Even though Warnham Park is a closed herd where a degree of inbreeding must be experienced, we do not inbreed in order to have progeny that is well behaved, sound and healthy, and exhibit good high consistency in velvet production.

There is no aim whatsoever to breed that elusive elite stag, but the steady improvement has yielded good performance depth where we are happy to use any one of several stags for breeding.

Initially, our best results came from the Rosegg Park (Otto) line over Warnham Park hinds. This was followed by the resulting line crossed with a Windermere Warnham stag. When these hinds were sired back to the Otto line, we obtained another step increase well above that obtained by continuing the pure line with AI using imported pure Warnham straws.

Since we appear to be heading down the Furzeland type of genetics, we have recently bought Major Pel and Jamieson x Warnham genetics from Branko's fire sale which is hoped to compliment and accelerate herd improvement. The Major Peel stag has just cut 6.4 Kg SA velvet as a 4 year old which is a pleasing result since the 1200 Km trip in February affected both stags severely to an extent that we were not expecting much this year.

The Furzeland stags will be followed by going back to a pure Warnham stag, probably the Windermere James line again, and so the cycle continues. Staying with pure genetics only ends up much like treading water instead of swimming forwards.