



April (Autumn) 2011, 2 pages

SPECIFIC VELVET – DISCUSSION PAPER

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Summary

Specific velvet is a very useful tool for a velvet antler operation. It appears to be a reliable early indicator of ongoing velvet performance and shows that the trend against age is a useful monitoring tool. We are finding it useful to select a young sire stag and also improve the average velvet of the herd.

Definition

$$\text{Specific Velvet} = \frac{\text{Velvet Harvest}}{\text{Deer Weight}} \times 100$$

Multiplying by 100 gets rid of the decimals and the number is a velvet harvest as a percentage of the animal weight.

The naming is consistent with scientific terminology such as specific heat, specific gravity, specific enthalpy and so on

We are measuring two figures:

SV1 – Specific Velvet on the first cut and

SVT – Specific Velvet for the total cut (If a second cut is performed)

The bottom platform of our crush is on load cells to provide the deer weight. The animals are always lighter on the first than the second cut. We do not obtain a summer weight if there is no re-growth following the first cut. We weigh before cutting.

Why are we looking at this?

- 1. Improved early velvet assessment.**
- 2. Ready comparison between breeds and lines.**
- 3. Improved margins and monitoring.**

1. Another metric for early assessment of velvet performance.

We do not velvet spikers because in a normal year they only number 10, so the velvet weight is not significant and we like the proper head of a 2 year old to develop with minimum stress and interference. There is no known analysis to support this policy decision.

After 20 years, we are confident that a spiker with small and spindly spikes will not be a good velvet producer. On the other hand, a spiker with thick and multi-pointed spikes may not necessarily be a good velvet stag.

A more reliable indication of velvet production is the two year old harvest, but considerable expertise is required, particularly if a stud animal is to be selected. In our experience, the heaviest velvet from a two year old stag rarely translates to later year's comparative performance.

Specific Velvet can partially nullify the environmental effects. Adverse seasons, poor pasture conditions, and herd social dynamics can have limiting effects on the size and velvet of the stag, but by looking at the velvet as a percentage of the animal weight we are hoping to limit some of the variables beyond our control.

2. Ready comparison.

Compared to elk, wapiti, and fallow, red deer yield higher velvet for their weight, and we suspect better than other breeds of deer. Lines within the Reds with high SVT's are not surprisingly from herds specifically bred for antler characteristics – Warnham Park, Woburn Abby, Rosegg Park and Furzeland. There may be other herds being developed that will surpass these old lines and we will judge them on their SVT's.

3. Improved Margins and Monitoring.

We do not see much point in breeding large stags that may give a slight improvement in velvet harvest, but eat much more than average size stags. It goes without saying that the best profit margin is obtained by a herd with the highest SVT's in any operation that supplementary feeds during pasture low growth stages.

Unexpectedly, specific velvet is a very useful indicator of ongoing performance because even though the harvest may be increasing each year due to age, a downward trend of specific velvet of a stag below 10 years of age points to a problem (the most serious would be mild Johnes disease that is not obvious from the condition of the stag).

SVT's trend against age tends to plateau early and then trends downwards in the poorer stags. Simply look at the trend and cull (also the Dam) if there is no other reason for a downward trend.

Current Results

It is early days, but indications are that a $SV1 > 2$ as a 2 year old translates to a great velvet stag, and 1.5 for an OK performer. It appears very definite that a stag should be culled if $SV1 < 1.35$. The best $SV1$ two year old appears to be a reliable indicator of best future performance. There are too few second cuts on a two year old to draw any meaningful conclusions on SVT.

Our top SVT velvet stag cuts over 5% of his summer weight ($SVT=5.3$) and also improves every year even though twelve years old. Many other younger stags have better SVT's for their age, particularly a 6 year old with an SVT of 4.6 and a fantastic temperament that we are using as a stud stag.

The velvet yield is definitely influenced by whether or not the stag has been used as a stud prior to the antler growth. In turn, the extent of the influence appears to be related to the severity of the climate during late summer and autumn (ie: during final preparation and early stages of the rut).

Interestingly, the best velvet stags have the least difference in weight between the first and second cut. High specific velvet may be due to:

1. The stag has a disposition to affect more growth into antler and less into body growth.
2. Tends to maintain good condition through the rut.
3. Gains weight rapidly following the rut.
4. A combination of all of the above (most likely).