



A Different Approach To Handling A Parapox Outbreak In Young Velvet Stags

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Introduction

This paper presents details of a parapox outbreak in velvet stags and explains a different course of action from the usual approach taken in handling the problem.

Description

The farm involved is clear, rolling to flat land and runs 100 mixed age velvet stags, 100 two-year olds, 300 spikers, bulls and some sheep. The weaner deer arrive post-weaning from a farm in Taihape and occasional introductions of potential velvetters (anything from yearlings to MA stags) provides a great coming-together of deer and their diseases

On 18 November 1996 the farmer contacted the clinic regarding five of his two-year velvet stags which had swollen faces and scabby velvet. Without a visit, the vet who spoke to the client had to assume a parapox problem and recommended that these animals be velvetted immediately.

I spoke to the client when he rang again three days later - he had five more stags with swollen faces. He was loathe to velvet all the remainder of the mob (around 80 animals) as had been recommended on 18 November so a visit was made immediately.

The animals were spread out through about eight pens and we could not find a single animal that did not have lesions on the velvet.

I sedated six stags with swollen oedematous faces or very badly affected velvet for photography and velvetting. At the same time I took bloods from the two worst affected stags - interestingly enough their blood pictures suggested no systemic effect....

viz	1. WBC 2.6×10^9	GGT 26 iu
	2. WBC 5.0×10^9	GGT 26
	(Normal: $2.3-8.6 \times 10^9/L$)	Normal: 18-56 iu/L)

Velvet samples submitted to Batchelar Animal Health Lab confirmed that the problem was consistent with parapox (ruling out my distant differential of some crazed form of dermatophilosis).

Also of interest was the lack of obvious cause of damage to velvet we usually expect to see in these cases. We were in yet another typical HB drought and velvet hardly had an opportunity to get macerated. We usually see problems in wetter country, especially on regrowth when Californian thistles are well up and I assume causing plenty of damage as stags graze close to the weeds.

In this case, there were virtually no thistles present. Clean paddocks, a few Totara and cabbage trees and a few Nodding thistles on one fence line. Nine days before the first lesions were seen though, the stags were in a paddock of very seedy ryegrass and I wonder if this was enough to quickly spread the virus through the mob.

My recommendation was:

- Remove velvet from animals with swollen faces. The worst cases were treated with Penicillin and those animals identified to avoid meat residue problems in culls.
- Divide mob into two groups - those with velvet growth at around the trez tyne; the rest with shorter velvet well below the trez, to minimise handling.
- Continue velvetting as normal but aim to velvet any stags with profoundly swollen faces.
- Have the two-year stags, velvetted or otherwise, grazing behind younger stags and MA stags which were still in velvet or growing regrowth soon, and not yet infected, to avoid transmission to potentially naive groups.

The basis of the ideas was the behaviour of pox virus lesions as we see with scabby mouth in lambs - often "healed" in 2-3 weeks. Hopefully some of the later cut velvet could recover in time to be saleable.

Also with 100 stags averaging over a kilogram of velvet, the farmer faced the loss of potentially \$10000 of velvet and all the relevant records to allow selection of retained velvet stags and culling of venison stags.

After drafting, we had 39 stags at the trez or higher, and 34 with short velvet.

How Did It Work?

- a. The client got good velvet weight records (averaged 1.2kg).
- b. No further oedematous faces occurred. The swollen faced stags seen initially were all in very early velvet; "older" velvet seemed less susceptible. From a welfare point of view a couple of stags were seen, over the next week or two, to rub their velvet on tree branches - obviously it was itching or sore.
- c. About 20 stags produced saleable velvet (over 20 kilograms). The velvet harvested closest to the time of the outbreak was all discarded and some later velvet, while

- obviously healing well, eventually had to be harvested at around 55 days growth and also discarded. The saleable velvet was all from stags in the later mob.
- d. No MA stags had parapox problems but some of the spikers did, despite care in grazing patterns. Lesions were much less severe than on two year olds and were seen on the lips, cheeks, and pedicles of some spikers.
- a. **Zoonotic Potential**
- The client was left long gloves for handling velvet.
 - The virus is apparently resistant to the process used for drying.
 - How much virus is still on or in the velvet? We do not stop killing lambs if the farm has a case of orf diagnosed. And we still eat venison as long as we cannot see gross TB lesions at inspection.
- b. **Hygiene**
- I considered the potential for spread via crush and yards to other mobs. All velvettied MA stags were run apart from velvettied two year stags to avoid regrowth infection.
 - Suggested velvettied two year olds last each day and sluicing the crush with lots of water afterwards
 - Hygiene of personnel and gear if visiting other farms - especially the vet!
- c. **Infectivity**
- By leaving the velvet on it was suggested that considerably more virus would be excreted onto pasture and fomites. I would suggest that by the time the vesicle ruptures, the spread is nearly maximised and we would only expect to see lesions later than that, when the scabs are obvious.
 - Obviously the farm is now infected "forever" - how much difference will a few million more viral particles make, especially if the aim now must be to hope all young stock contact the virus before growing velvet in future?
- d. **Future Vaccinations**
- No useful commercial vaccine exists (and who is going to scratch deer in the groin?!). With the number of varied introductions into the herd, no particular source could be identified but certainly the hardy pox virus is there to stay.
 - If the problem persists in future, we will have to consider vaccination with a DPV vaccine prepared with viral material from the property.
 - We did not try to deliberately infect MA stags after velvettied but we probably should have joined two-year-olds with older stags immediately after regrowth/removal. Hopefully the grazing of stags in late summer will allow plenty of contact with shed virus in paddocks grazed previously by young stags.
- e. **Timing**
- The outbreak occurred at an early stage of velvet growth and thus I considered it a possibility that some velvet would heal in the time until removal. Although regrowth would not figure in young stags in future, I would probably suggest

immediate velvetting of affected animals that would have to be velvetted within the next fortnight anyway.

Comments

This was one of about five properties I visited this season with obvious parapox problems but only one other was with first cut velvet and that was also in just two-year-old stags. This property had no significant history of introductions of animals for a number of years except sire stags which generally would not graze any paddocks that young stock grazed. Fortunately, this outbreak occurred at the second to last day of velvetting for the young stags so we were able to velvet the last dozen stags early and remove most of the velvet before it was overtly affected. There were two stags with swollen faces with velvet around 45-50 days growth, differing from the other property.

The most exasperating aspect of these problems was not having an obvious source of infection on either property. Do deer carry the parapox virus at all times and does our desire to force animals into domesticity and intensive farming systems create the opportunity for these diseases to be easily contagious?

Certainly the only constant factors are the deer themselves and our farming systems - the rain, the thistles, the mosquitoes and the long grass are not always a factor.