

OVERFAT STAGS

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The traditional conception of the general public is that venison is a lean, dry meat. Although the 'dry' nature may be as much due to a poor standard of preparation and cooking than an integral character, the leanness is a considerable attribute of deer meat. This is particularly so today as fat in almost any form may be treated as an undesirable by-product of the meat industry. Venison has then a head start over its more traditional rivals beef, lamb and pork in competing for a position in the lean meat market place. Imagine then the horror when it was realised that, when grown to a large size, venison did not retain its lean character but could become as fat as any of its competitors, albeit that the distribution of such fat differed. In this article I intend to consider this problem as New Zealand farmers see it, and point where U.K. farmers could benefit from their experience.

Deer growth is highly seasonal throughout life and stags in particular may lose a considerable amount of weight at rutting time and over the winter. This leads to a 'sawtooth' growth curve. It is obvious that a farmer will wish to pick a slaughter time at the end of the spring summer growing period to get maximum carcass weight. In practise this means 1½, 2½, 3½ and so on years of age. For each extra year past 1½ an analysis of feed costs versus carcass yield must be made. In a previous article (B.D.F.A. Newsletter 1982 No.9) I have argued that it is inefficient to keep stags older than 1½ years for meat production. As I shall now demonstrate, stags older than 1½ risk an overfat tag.

At Invermay, Ken Drew and I slaughtered four 6-7 year old stags every two months for a year. We ground up half the carcass i.e. dressed carcass with skin, feet and head off, and analysed it for fat. We found that from Devember-March (converted to Northern Hemisphere seasons) there was only about 2-5% fat in the carcass. This is very close to the level obtained for wild venison both in U.K. and N.Z. However, when the antlers were growing in velvet and liveweight was increasing in June fat level of the carcass rose rapidly to about 15-20% - far away from the lean bracket. But worse was to come. Just before the rut the fat level had risen to 30% of the dressed carcass. That is, almost a third of the body was pure fat. Most of this fat was under the skin, but trimming by butchers is time-consuming and therefore costly. The message clearly was kill aged stags in the winter when they are lean. The liveweight of the average aged stag in New Zealand is 160 kg during the winter rising to 200 kg in late summer.

We then compared the composition of the growth over the summer for yearling, 2-year old stags with the aged stags. The results are Table below.

| | Carcass Gain (kg) | Carcass Fat Gain(kg) | % Carcass Gain which is fat | Carcass Lean (kg) | % Carcass Gain which is lean |
|------------|-------------------|----------------------|-----------------------------|-------------------|------------------------------|
| Yearlings | 26.4 | 3.8 | 14.4 | 22.6 | 85.6 |
| 2-yr Olds | 21.5 | 5.0 | 23.2 | 16.5 | 76.8 |
| Aged stags | 33.9 | 21.5 | 63.4 | 12.4 | 36.6 |

Sixty three percent of the carcass gain over the summer period in aged stags is fat while in yearlings fat gain is only 14%. To emphasise this further the summer growth phase of an old stag is only about 37% lean meat while in young stags it is 86%. Aged stags compare poorly with yearlings and 2-year olds in terms of composition of gains and it would appear that yearlings perform better than the 2-year olds. The 'target weight' for yearlings in New Zealand is 107 kg and 2-year olds is about 130-140 kg. these values are high compared to Scotland but by no means unattainable. At the Rowett Institute Robin Kay and I were able to show that Scottish red deer below about 80 kg liveweight were very lean, about 2-4% fat in the carcass but as liveweight increased above 80 kg then fat level in the carcass increased dramatically, up to levels similar to those found in New Zealand. I feel therefore that the N.Z. results are directly applicable to the U.K. deer farming situation. This underlines the importance of slaughter at 15 months as it is most efficient and any overfatness problems are averted as all yearlings fall below the weight threshold for accelerated deposition of fat. In conclusion I recommend that -

1. The lean character of deer meat be preserved at all costs.
2. If ages, i.e. greater than 3-year old, farmed stags must be killed; this should be done in winter. Body weight is much less, but fat content of the carcass is relatively smaller.
3. Premiums should be paid, by seeking optimal markets, for young, lean venison. Fat old stags should not be passed off as prime lean venison.