

Balancing seasonal food intake 581

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IT IS WELL KNOWN that deer eat less and grow more slowly during winter than in spring, which extends the time needed to grow young male weaners up to target weights.

During the slow winter growth period, animals eat only half the amount of food that they consume in spring when growing rapidly.

It is generally thought that deer are growing close to their maximum rate during spring, so most efforts to advance slaughter date have focused on ways to get animals to eat more and increase growth during the winter.

This brings several questions to mind. Why do deer eat less during winter? What stops them eating more? Do they really eat as much as they can during spring?

The AgResearch Invermay Deer Growth Group has started to look at these questions. It is already making some interesting discoveries about the control of food intake in these young male deer.

In a trial, groups of deer indoors were fed concentrate diets differing in the amount of energy they contained, from a very poor level to an excellent one but with protein level kept constant at 15.5 percent. The amount of food eaten on each of these diets was measured every two days from April until December.

Results indicated that animals consumed a similar amount of energy and grew at similar rates no matter what the diet. However, the animals on the poorest diet ate around 25 percent more food during both winter and spring.

These results suggest that deer eat less during winter because they don't need as much energy to grow during this period. Therefore, the animals only eat sufficient food to allow them to grow at a certain rate.

This suggests a high degree of control between how fast the animal is "programmed" to grow and how much it needs to eat to achieve this.

Deer are very adaptable in the amount of food they can eat and will compensate for low energy in a diet by eating more, providing they have the physical capacity to do so. This point is critical, because further work with weaner deer on bulky silage-based diets outdoors, with the additional energy demand to keep warm that this entails, indicates that they may not have the physical capacity to eat sufficient to grow even at the lower winter rate.

The next questions we are investigating then are:

- How do we ensure that an animal's diet in the practical winter-feeding situation is always balanced to allow it to grow at its potential?
- If animals on a good quality diet are obviously capable of eating more in either winter or spring, can we encourage them to do this and perhaps grow even faster? 