

Reader Cervus' is a new question-and-answer column on deer farming matters. You ask the questions and MAF Deer will supply the answers.



## READER CERVUS

# Pregnancy diagnosis a useful tool

*What are the techniques and relative merits of pregnancy diagnosis deer?*

EARLY PREGNANCY diagnoses in farmed deer allows:

- sales of guaranteed pregnant females
- early analysis of the success of artificial breeding programmes or particular sires
- important management decisions to be implemented before the breeding season is over (eg replacement of sires)
- detection of cull females before the onset of winter.

All these merits indicate the need for a reliable method that can detect pregnancies within the first 80 days of gestation. At present, the two main methods of pregnancy diagnosis in Red and Fallow deer are ultra-sound imaging of the foetus and analysis of blood plasma concentrations of a pregnancy-specific protein (BPSP) at a determinate interval from mating.

Real-time ultra-sound detection of pregnancy, using either a belly scanner or a rectal probe, has been highly effective in deer from 40-60 days gestation onwards. In the hands of a skilled operator, ultra-sound imaging is quick, reliable and relatively inexpensive.

Recent studies on Red deer at Massey indicate that ultra-sound imaging may also be used to accurately estimate foetal age.

Many veterinarians are equipped with the appropriate equipment and expertise to perform ultra-sound pregnancy diagnoses in deer. Most operators prefer rectal probes for ultra-sound imaging in deer; therefore good physical restraint of the animals is paramount.

For detection of pregnancy as early as 30 days, blood plasma samples can be analysed for the presence of pregnancy-specific proteins; high concentrations of BPSP indicate an embryo. However, the results are obtained from laboratory analysis

and may take some time to reach the farmer or veterinarian.

And for the method to be fully effective, known mating dates are required for all females tested. The method, therefore, has particular relevance to artificial breeding programmes in which oestrus and inseminations have been synchronised.

As with all such practices, deer farmers will need to consider the cost-effectiveness of pregnancy diagnosis.

One word of caution: Detection of early pregnancy does not necessarily imply that a full-term pregnancy will ensue. Embryonic mortality is a fact of life for all species and early pregnancy diagnosis will tend to slightly overestimate the proportion of females that actually give birth. This may be particularly relevant in hybridisation programmes in which there may be a degree of maternal-foetal genetic incompatibility.

However, in general, pregnancy diagnosis is a useful tool for deer farmers. Those interested should contact their veterinarian.

**Geoff Asher**  
Ruakura

## Stocking rates

*Could you supply the ewe equivalent stocking rates of Fallow, Red, Wapiti/Red and Elk/Wapiti?*

IN THE absence of any specific

**If you have a question for this column, simply write to 'Reader Cervus', P.O. Box 12014, Wellington. If you want a personal reply, enclose a stamped, self-addressed envelope.**

trials comparing the stock unit equivalents of the various species and hybrids of deer farmed in New Zealand, we are left with making comparisons with Red deer on a body weight basis.

This is not on body weight directly, but allows for the fact that heat production and hence feed requirements increase at a relatively lower rate than body weight.

To compare the requirements of the different species, simply take the liveweight in the accompanying table and read across.

For example, Red hinds of 100 kg have an annual feed requirement equivalent to 1.9 SU while a 200 kg stag has a feed requirement of about 2.2 SU. A 400 kg Elk stag would be 3.7 SU and 250 kg Elk hind about the same at 3.7 SU.

These annual SU equivalents take no account of differences between breeding ewes (on which the SU system is based) and deer in terms of the annual pattern of feed requirements.

Female deer have relatively high requirements in summer (lactation) while males have relatively greater feed demands during winter.

**MAF Tech**  
Invermay

BW (kg)	FEMALES			MALES		
	Relative BW	Relative MR	SU1	Relative BW	Relative MR	SU
40	0.4	0.5	0.95	0.2	0.3	0.65
50	0.5	0.6	1.1	0.25	0.35	0.8
80	0.8	0.85	1.6	0.4	0.5	1.1
100	1.0	1.0	1.9	0.5	0.6	1.3
200	2.0	1.7	3.2	1.0	1.0	2.2
250	2.5	2.0	3.7	1.25	1.2	2.6
300	3.0	2.3	4.3	1.5	1.4	3.0
400	4.0	2.8	5.3	2.0	1.7	3.7

*SU1 includes requirement for lactation.*