

How old is old?

Or, asks
**Trevor
Walton**, how
do your
hinds cope
with
menopause?

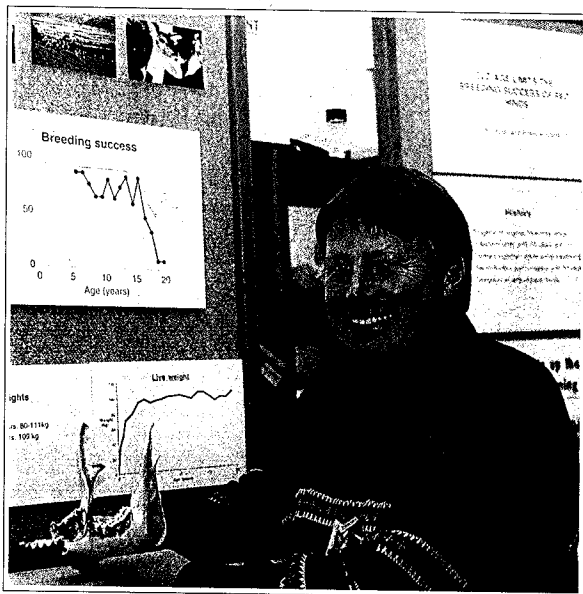
CAST-FOR-AGE EWES go to the works at between five and eight years of age. Cows last a few years longer before going to the great salt lick in the sky.

So when should hinds be given their marching orders? Work done by Mark Fisher, an Invermay research scientist, may help provide some of the answers.

He's being studying the reproductive life of Red hinds as part of a project started by Dr Ken Drew and Geoff Moore nearly 20 years ago.

The hinds in the study were from the first age-group (or "cohort") to be born on Invermay.

At birth in the summer of 1973/74 they weighed on average 6.3 kg and



Alas poor White 33, I knew her well
Invermay's Mark Fisher with the jaw of an aged hind

by four years of age reached mature autumn liveweights of between 80 and 111 kg.

These weights gradually increased to an average of 109 kg at 20 years of age.

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THE HEAVYWEIGHT OF DRENCHES

During their two decades at Invermay most of these hinds survived well. But, from seven years of age when 89 per cent raised a fawn, their breeding success slowly declined until at 17 years only half were successful.

From then on, fecundity fell rapidly with only one fawn being reared successfully at years 19 and 20.

Since the hinds were then obviously old and failing to produce fawns, they were slaughtered during the 1995 breeding season.

Blood samples taken from the old hinds before slaughter showed that, unlike a group of 7-year old hinds with which they were compared, few had an oestrous cycle during the breeding season. On post-mortem, their reproductive tracts were very small and their ovaries almost depleted of eggs.

Fisher says their inability to produce fawns in later years was probably due to ovarian failure similar perhaps to that which occurs in post-menopausal women.

He says hinds are born with many tens of thousands of eggs in their ovaries. Since few eggs remain in the ovaries of aged hinds, there is an awful lot of wastage along the way.

"While our findings are backed by some snippets we've picked up from researchers in Scotland, it's up to farmers to draw their own conclusions from this research," he says.

"Before I started advising farmers on the optimum age for culling hinds, I would need to have figures from different cohorts and preferably from different bloodlines."

The project is part of Invermay's basic research into the biology of deer, designed to improve our understanding of cervids.

This means it doesn't have the replications you normally get with applied research designed to provide



Photo: Kerry Walker Photography

How long can they go on producing fawns?

As yet, little is known about the longevity of fawning

answers to specific farm management problems.

Other researchers at Invermay and at Massey University are now studying various parts of the slaughtered hinds.

One researcher is studying the effects of age on the brain structure, one is looking at the pineal gland and another is measuring the density of the femur bones — to see whether there is the loss of bone density that occurs in post-menopausal women.

"There is actually very little research information on the longevity of farm animals. Most are culled in middle age," Fisher says.

Indeed, the research raises questions as to the optimum culling age of sheep and cattle as much as it does of deer. As Mark Fisher points out, there are ewes recorded as producing lambs until 20 years of age and cows producing calves up to 27 years. Somewhere out there, there may be hinds churning out fawns at a similar age.

"We've talked to a lot of farmers about this work. Many pass the comment that most hinds run out of teeth at six or seven years, but still they keep going.

"None of the hinds in this study had any teeth, yet most of them were healthy until the end."