Beets and Brassicas

Considerations:

Cultivatable vs Non cultivatable

Ryegrass persistence

Quality for deer and timing

Easy Fixes

Cost: Benefit

Cost vs Benefit

- Better hind area
- 25km fencing
- Contour and mob size
- Educated assumptions on stocking rate and production potential
- Water also
- Timing of feed – growth, quality
- Mix of classes of stock
- Different land classes – get the most out of the best land
- Sub + annual clover
- Fit feed type to environment – use local experts
- Chemical top – Paraquat, Round up, Gallant – “Spray in Pray”
- Plantain – re-seeding in deer block?
- Want long term – sustainable solutions
- Over-sowing clover
- 4 yr old chicory – more chicory!

In summary

6-19c/kg of extra dry matter (net margin) – this is very compelling. What are the constraints?

- Environmental - Proactive

It is easy to quantify the quantity increase, not so easy to measure the quality. Need outside eyes.

Feeding During Lactation

January – aim to increase weaning weight and increase BCS.

Ready in 60-90 days Jan/Feb. Increase the quality and quantity – good regrowth. 200 hinds on 8ha. Taking genetic samples in Spring and shifting it to Jan/Feb.

Paddy – 5 wks on 18ha – 250 hinds

Can stitch legume and grass for further food in the autumn.

BCS of hinds at start (before calving) important if need to

Best response to good feeding is lifting BCS on hinds.

Milk production initially set by calf demand. Will peak (around January) at 4L /day. Will keep milking off her ..until Condition becomes dire?

Weaning trial – can still get 55kg weaning at start March but poorer fed hinds have lower BCS if target 65kg weaner and 3.5 BCS hind and fawn starts eating grass early so to improve fawn intake need to offer high quality food.

Hybrid calf will increase milk demand by about 20% and will drop BCS off hind in Feb. Can mitigate hind BCS loss through offering a Lucerne/rape crop. But if year is dry Lucerne quality can be down so can use supplements eg Barley, grain, PKE, nuts.

Group Observations:

Paddy – 50 day feeding grain, barley and lucerne baleage 175g/wk

One member feeds 50t in 10d flush and has good conception rates.

Early supplementation will lead to earlier… and teaches weaners to eat grain.

January start feeding barley (about 3kg/hind/week), tow behind …feeder

Preparing for lactation – can use cattle/sheep to take top off and improve quality before set stocking.

Kai.. Use urea or ammonia sulphate to boost growth after hard grazing.

Te – Lamb ewes in fawning paddocks and hinds in them. Start 10-15th January. Open gates and shift every 2-3 days.

If foetal age scanned can move hinds earlier – works well in winter (scanned in late May).

Need to watch .. AI hinds – high density of fawns as calving at the same time but still calve over 12-14 day period. Small hinds let female fawn – larger hinds with male fawns.

Uddering early Nov – udder early mob – 3wks later – 2nd mob.

Advantages of age scanning:

- can cull lates
- fawns for grazing on winter feed

Feeding ideas:

- If cold Urea + Pro if <12°C - - need good fertility.
- Silage/baleage if going dry – baleage can be expensive.
- ?? Plains: - have runoff at bottom of hill eg Lucerne, kale, rape, summer turnips (spray and pray). Turnips help loosen ground up before regrassing March/April.
- Ryecorn could be an alternative but quality poor and goes to seed early.
- Fodder raddish – can do double graze – first in Jan then again in winter.
- Plantain/chicory then later sow in ryegrass/grass.
- Strategic gain – balance of supplements.
- Earlier calving

Take Homes:

- Look at crop options – strategic timing. Bulk grain feeding. Flush for hinds after weaning.
- Grain feed to quieten hinds and fawns.
- Early age scanning to put hinds into calving mobs
- K – Grain feed crop and early scanning
- C 8-10% crop and get 2-3 grazing
- Janice – Choose best
- Paddy – Timing + BCS pf hinds +
- Lyndon – Foetal aging fawning date to chop out bottom set
- S – Rape crop
- M? – earlier calving peak milk Dec – can increase velvet stag numbers
- M – use Advantage feeder to help BCS on hinds for later
- Paddy – easier to maintain condition than put it back on if it's come off.
- Effect on milk production not as great as previously thought if feed quality low.
- Pressed grapeskin fed in winter increase in February. Store as silage – feed value similar to barley straw so need to feed lots.
- Self feeding pad would be better but Regional Council Issues eg Getting rid of hazardous substance
- Grape skin lower ME – about 7.5
- Fawns will eat more of a lower ME diet to a .. over winter.

Weaners: Feeding for Growth

Participants: Bob, Brent, Hamish C, Mark, Paddy, Lyndsay, Michael, Simone

Initial ideas:

- Drench
- Yersiniavax
- Breeder recorded
- Supplementary feed
- Weaning target – 55kg – 80kg in June for Red deer.

Key point: Autumn represents the biggest opportunity – need to feed to genetic potential. Examples of feed: Lucerne/Prairie Grass/Advantage Feeder. Crops can vary from year to year. Fodder Beet can lack protein, good for older animals. Take pressure off farm by condensing stock to a certain area – therefore free up land for young stock.

Opportunity prior to weaning, whilst on Mum – target 450-500g/day from birth to weaning.

Also aim for an early condensed calving – 1:23 stag ratio

Gestation length varies according to nutrition

Autumn feed ideas: Pasja, Lucerne, Chicory, Red clover/white clover with or without plantain post weaning

Tips for annual ryegrass: Prohibb + N Liquid. Soil Temp >8 °C, leave 18 Days. Graze.

Suggested Annual Feeding:

	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Chicory												
Lucerne												
RC/WC w/wo plantain												
Annual ryegrass												
Shogun												
Rape												

Data from the group – LWG g/d

	Autumn	Winter	Spring
1. Bob	171	123	205
2. Brent	164	88	
3. Hamish C			
4. Mark			
5. Paddy	66-85		
6. Lyndsay	139	120	
7. Michael	200	110	
8. Simone	280 (263)	165 (220)	375 (356)

Notes from each group member:

8 New ground for deer – low parasite risk

7 Add barley feeder in autumn, still in weaning groups (may box up).(tetraploid ryegrass new) - u pto 1kg/d. 1800kgDM/ha – 1300 later.

7 Feed high protein supplements + soy meal hulls (22% protein) and minerals with fodder beet (200g+ /day)

7 Fodder beet not strip grazed, baleage after 3 weeks. Achieved11g/d in winter

6 Pre rut weaning, animal health key at weaning. Clover content lacking in pastures.

6 Early April started on grain – in trailer. Prior to this rotated pastures with no supplement. Supplement (silage and grain) increases as pasture covers reduce going in to winter. 2200KDM/ha ideal pasture cover going through till June.

6 Kale and bet crops for winter this year look disappointing.

6. Habit of daily grain feeding keeps deer happy.

5. Zero winter growth, so aim to not go backwards. Autumn growth is critical and dictates Spring kill.

5 Feed fawns on Mums 50d Jan – Feb with Lucerne baleage and barley 38c/d cost per hind with fawn at foot. Fawns were 5kg heavier at weaning. $20.hd cost. Hinds BCS + 1 at pre-rut weaning.

5 Bring hinds and fawns off hill onto 2nd cut Lucerne prior to weaning. Then wean onto new grass pastures under irrigation. Logistically can't do "Aitken" technique for weaning.

4 Hill country HB "KISS" principle all grass system. Breeder, sells weaners. Maize grain in silo with grain feeder used for feed pinches. Spray and pray crops looked at eg plantain..looking at turnips.

4 Strategic use of flown on N to kick pasture.

3 Invest in weighing system, soil fertility, fencing etc to renovate run-down deer unit.

3 Crops, maize, grain supplement pre-rut. Crops for pasture renovation. Maize silage for dairy cows and for pasture renovation.

2. Lease blocks – trying to stick to grass. Barley fed during dry autumn. Need enough paddocks for a rotation – therefore not too many mobs.

1. Winter in swedes and good baleage, don’t wean until Spring. Red clovers/plantain/tetraploid.

Hill Country and Dryland Development

Participants: Clayton, Paddy, Mike, Sue, Hayden, Mark, Duncan, Duncan Rose, Lyndsay, Justin, Jason

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How to develop Brown Top/Returns of the development

Looking at Hill and Dry and Hill that is Dry. Dry can be different to Hill. Hill can be high. Hill can have very different altitudes and slopes.

1) What/how can we cultivate?
2) What are the best mixtures/species for persistence and animal performance?

- Most species lack persistence especially over calving
- Ryegrass - phalaris is good especially in Central Otago dry for persistence
- Deer feed curve demand for quality quite different to some other livestock
- Need to factor in Environmental Considerations. There is a huge variation in environmental rules. Need to be aware of those constraints. Deer well suited to hills. Sediment tests at bottom of gullies easy to do?

3) How to decide on cost-benefit of hill country development. As an example Mt Peel spray and pray – 3T-12T DM production. Able to increase hind numbers for security of supply.

Considerations:

- Fence set out – by natural contours
- If pasture is not controlled quickly reverts to expansive brown top. Key is subdivision.
- Advantage feeders to supplement dry and poor quality feed
- Hill problem can be that a volume of feed will go dry and rank before Christmas. Stock integration can help the quality.
- Cheapest to develop the really good country for mid Jan through Feb for hinds and fawns.
- Big plus of development is the increase of quality but that can be difficult to measure/quantify.

What species to plant

- Red clovers/sub clovers need to be allowed to seed. Need to be patient with clovers.
- Cocksfoot.
- Match pasture species to rainfall.
- Plantain allowed to re-seed are persisting very well. Deer complement plantain well. Need to mix N fixers with plantain.

Weed/Pasture control options

- Chemical options to top or control wees to allow pasture to out compete weeds or clovers out compete grasses.
- Gallant good for brown top but not good for animals.
- Want long term species to keep soil on the hill.

- Spinning on clovers of heavily grazed area can be successful.
- Put seed in with fertilisers, Choppers are more accurate than planes.

Personal Experiences:

Clayton – did repeat oversow as had poor initial strike

Paddy – Lucerne and Brones as Jan/Feb runoffs. Cut Nov, Hinds eat next round. White clover flown on hills – hit and miss. New cocksfoots – less clumpy. Bareno P.G later seeding. P.G doesn't like set stocking. Galant may be better option than glyphosate – less soil exposed.

Mike – Cocksfoot/clover/lime. Good but also had rain. Undersown.

Sue - Chicory then grass/clover in autumn. Chicory in a bit late after beet – contractors late. Chicory to 500g/day R1 deer. Lucerne lasted 7t years. Lost one (high pH?) but putting in more. Issue with Nil winter grazing due to need t grow R1 deer all year.

Hayden – older Lucerne varieties 30T years, new ones <8 years. Plant shallow and slow. Probbaly best to avoid roller/harrows.

Duncan – Kale on hills, fallows old pasture but wet soil – losing plants. Tried Sulla – disaster (4ha), weeds, spring sown.

Duncan Rose – Brassica first - Broadcast. In easier country.

Lindsay – re-doing old country. Flying on 5T lime/ha. Annual –brassica winter – cocksfoot wc. Trouble keeping quality. Big blocks (100ha) with hinds set stocked.

Mark – no tractor country. Ratstail and brown top thatch restricted one drilled paddock and one oversown area. Have to spray and pray – wants good seed/soil contact so removing thatch important. Unsure what to sow – new grass/chicory. Galant wasn't great 0- no go don ratstail.

Jason – Met then burn in winter then fly lime and seed. Red clover ok – then seed rank. Lucerne and Chicory haven't been successful – seed/soil contact poor. Value for money for seed cost?

Justin – Hinds had three blocks so grass-grass-rape by late summer. Lucerne 14 -15 years then 2 crop rotations then Lucerne again. Small seeds strike best when flown on ie clover/plantain/chicory vs ryegrass.

Genetics

Facilitator: James Hoban

Recorder: Andrew Rose

Participants: Sharon, Grant, Jason

Topics the group were interested in:

1) One member had just DNA'd hinds and fawns – keen to know how best to use the info.
2) One member just getting into breeding after being totally finishing
3) What's better – keeping as many young hinds as possible (for maximum age gain) or keeping good performing hinds longer
4) Velvet genetics – what's available on DeerSelect and who is using it?

Velvet genetics are tricky as first of studs have emphasis on trophy market.

Grant believes the biggest benefit in knowing parentage is being able to cull the bottom 10-20% of his animals.

Sharon: Spiker velvet is not a good predictor of adult velvet.

Grant: reasons for DNA-ing his herd:

- Increase potential buyer interest in his velvet stags for sale.
- Being able to identify poorer animals
- Even though he single sire mated, DNA testing will show which weaners were sired by back up stag.

Jason recommended he no longer "single sires calves" as there will be a bias as between different calving paddocks.

Grant – the reason he single sires calves is because he places a lot of emphasis on deer social groups. He believes he gets good conception rates as a result of not mixing different groups.

Sharon –it is hard to get cross age group linkages – need to encourage farms to mix few MA hinds with R2 and R3 mating mobs to achieve this. She uses DNA testing now for info other than just parentage eg:

- English Red vs Euro Red vs Elk.
- Genetic markers being developed
- Pedigree trees
- Dam summaries (will tell all offspring of each hind)
- Sire summary – as above but for stags.

Question – what would encourage commercial farmers to use DeerSelect?

Answer – leave it up to the stud breeder.

EBVs now available for

- Early gestation
- EMA
- Velvet
- Growth rate
- Maternal reproduction trait – through low heritability.

Grant: For someone who doesn't do AI will they be at a disadvantage due to lack of linkage/lineage?

Sharon: Will only be able to within herd EBV unless they have swapped a stag occasionally.

Q - How often do commercial farmers look at the BVs in a stud catalogue?

A – Nearly always look at them but look at animal itself as well.

Jason: Recommended using BVs to narrow down stags you're interested in and then look at the appearance of the animal – (not the other way around).

For **velvet** the heritability of velvet is high (around 80%) so selecting on the basis of stag's own characteristics if fairly safe (compared to other traits).

Jason's take home message: much more important to select the breeder than the individual stag.

Sharon's take home message: Due to longevity of deer most farmers will only get the chance to make 3 changes of genetic direction in their career therefore it is vita l to ensure the stags you get are better than the ones you are replacing them with.

KPI’s and Data

Managing Data

- What are others doing?
  - Other opportunities?
  - Using Data – Analysis and Decision Making.
- What targets are appropriate?

Management Tools

- Cash Manager
- Weights – weaning/Kill/growth
- Benchmarking velvet weights/data
- ENIT/su/ha
- Tactical management – early indicators
- Target growth curves
- Truetest Weight file
- Spreadsheets
- Farm IQ
- DNA
- Farm ax
- Zero

Information needs to be:

- Easy to use
- Visual
- Comparable with industry benchmarks and own farm history
- Give purpose and ownership
- Shared with staff

Key Performance Indicator

Target – measurement vs target

  - Why is there a difference?
  - Drive management change

Velvet – Measures and Considerations

- Wt/head by age/grade
- Kg velvet/ha and or /kg dm
- Financial – EBIT/ha/su/kgdm
- Animal liveweight
- Regrowth
- DM consumed/grown
- Pasture growth
- Covers

Reproduction – Measures and Considerations

- Scan %
- Fawn survival (weaing %)
- Fawning/Hind mated (adjusted)
- Foetal aging (mean conception data)
- Weanng wgt
- Pre-weaning growth
- Double scan – hind condition
  - Time of weaning

Finishing – Measurements and Considerations

- Growth rate
- Mean slaughter data
- Carcass wt
- $ - margin
- 1 June wt – Kill flow
- JML – Johnes

In general:

- Sort own benchmarking out first
- Work out what is the key information required – eg financials
- Monitor financials
- Maintain R1 growth
- Think how info can be used – planning is important
- Set targets – suggest June 1.
- Motivation of staff can be achieved by sharing profits from meeting production targets. Share financials so staff have ownership of goals and performance.

Reproduction

Facilitator: Dave Lawrence

Recorder: Andrew Rose

Participants: Campbell, Donald, William, Ian, Liam James, Geoff, John,

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Q: What had participants done to improve one area of reproduction?

1) Campbell: Increased fertility of recently purchased block to increase grass growth (applied a lot of fertiliser). Also PK supplement fed to hinds pre-mating. This resulted in good BCs and good conception rate (first year on the farm so doesn't have anything to compare it with yet). He is planning on doing early scanning this year.

2) Donald: CRs in Elk been a challenge which improved (into the 90%s now) after started feeding PK in mid-January (summer dry conditions).

3) William Oliver: Spikers were used to mate with R2 hinds, but changes to using MA Stags. This lifted scanning % from 60-70% into the 90s. (Mates mid Feb to mid-May).

   Donald commented it's important to be on a rising plane of nutrition around early March (R2s). Geoff agreed – common for R2s to do really well and then stop growing mid Jan (but they are capable of putting on 15kg KWT from January to mating).

4) Ian: R2 Scanning % was 65-70%. The reason was they weren't well grown, not fed well enough. This year they have been fed much better. He is about to scan so will soon know ow much improvement has been made. He fed maize and PKE. He also shortened the mating period (stags went out before the end of April) to prevent late born calves. Feed quality is a challenge on his property – there is a lot of Kikuyu pasture.

5) Liam James: R2 hinds is also an area this farm has targeted recently. They were fed a summer crop and baleage. The stags were put out early for socialisation (they use R3 stags at 1:12 ratio), multi sire mating. Have noticed that if an older stag accidentally gets in there will be a drop in CR for a period due to disruption of social hierarchy. (Mated in mobs of 80 in 14-45ha paddocks).

   Geoff commented that it was good that Liam was using large enough paddocks for multi sire mating. Achieved 98% CR last year. He suggested that it's a good idea to spend time observing mating so if there is a problem it will be picked up. Mating finished mid-May.

Question to Geoff: What is the ideal ratio for single sire mating?
A: 1:40 for mature stags and hinds (Donald suggested 1:50 for Wapiti over reds).

6) John – Set stock based on calving date. Takes early hinds out early November and set stock them on their own. Target feed to appropriate stage of pregnancy. This year only 30 out of 300 didn't have udder development – so these run together. If there were more he would have repeated the exercise later and further subdivided the ones. John does uddering also to identify those that lost pregnancy since scanning (instead of doing a second, late scan). Mating is 8th of March.

   Geoff commented that he finds uddering unreliable in R2s (some don't form an udder until a day or two before calving). John agreed – he only does his MA hinds.

   Dave commented on length of time members of group leaving stag out for with R2 hinds. If stags are going to be left in for that long it is beneficial to divide into fawning date mobs (improves fawn survival).

   Donald asked is there a difference in mean conception date depending on the part of NZ you're in? Geoff A: No as oestry determined by photoperiod (the equinox).

   Dave said he believed there was no evidence on need to socialise stags with R2s 0 he puts his stags with R2s on March 20 – only out until April 20, still got 87% CR this year.

   Remember efforts made I getting good early CRs can be lost if hinds are not fed well over winter – because their gestation length increases if poorly fed.

   John grain fed his R3s this year to improve conception dates for this group. As a result they had the same mean conception date as his MZ hinds (usually a bit later).

Birth to Weaning Factors

Donald – tries to calve the same animals on the same blocks each year (so they are familiar with that environment). He also has a policy that if certain blocks are repeated and there is poor fawn survival he will stop calving in them.

Geoff – Loss between birth and weaning is one of his biggest areas of loss and most farmers underestimate those losses. He believes the highest cause of loss is the "disturbance effect". For example - stocking rate too high.

Invermay keep stocking rate at calving to 7/ha of lower.

There was general agreement in the group to the benefit of calving in age groups. Most members calve in three groups: R2, R3 and MA.

Ian observed that ticks are a major problem for young fawn survival. He has found using pesticide via ear tags has improved his weaning rates.

Campbell monitors tick levels by looking at infection on velvet.

Supplementary Feeding

Benefits of feeding well

- Increased milk supply – therefore increased weaner weights – better performance
- Increased BCS for hinds can lead to better conception rates
- Survivability of fawn
- Less health problems
- Education of fawn to supplementary feed
- Introduce fawns to mustering/farm
- Help with rumen development pf fawns/weaners
- Concentrate on feeding stock classes better to ensure they get all the help they can to get back in fawn
- Capturing genetic potential
- Controlling pasture – rotational grazing compared to set stocking
- Timing of specific feeds
- Natural grazing – better balance of diet leads to better performance
- More $$$ and better return on investment

Reaching a target BCS of 3.5-4

1) 15ha Rape/Plantain for 250 deer
   Sell stock to increase paddock area for hinds
   Foetal aging of hinds
   Grazing strategies eg decrease Stocking Rate in fawn area
   Chemical topping early/mid October
   Weaner >4kg on crop of grass post rut

2) Supplementary feed/PKE
   Check for trace element deficiencies

3) Crops

4) Advantage Feeders

Supplementary Feeding over Lactation – Grazing strategies

- Length – 2500-3000kgdm/ha
- Decrease stocking rate – 6 hind/ha
- Specialist pasture for when fawns are up and running – ideally the paddock next door
- Using other classes of stock to control feed
- Use supplementary feed while on Mum so fawn gets used to it
- Crop needs to last long enough to get a benefit from it
- Can integrate mobs of hinds
  Cons of Supplementary feeding over Lactation:

- $$$ - Monitor/Measure – build knowledge/trends.
- Rumen adjustment factors.

Supplementary Feeds – Pros and Cons

	Pros	**Cons**
Maize	High ME, high palatability, low protein?	Low protein, Not best for stags in August
PK	Alter fat composition of product.	
PK + Maize	Good for lactating hinds. Stags in August	
Baleage + Maize	For wintering stags. Good storage.	Cost
Peas		
Barley	Crushed vs Not? Look in faeces	
Nuts	Digestibility. Utilisation. Less wastage. Can balance ration.	Unknown ingredients? Added cost of palletising. Variable quality. Seed dressings/imported ingredients.

General Principles

- Need to balance protein/ME in diet
- Need idea of what pasture quality is
- Look at faeces for undigested grain

Supplementary Feeding of Fawns and Weaners

Summer: Protein – 15%, Energy, Fibre, Good milk, Baleage (tested).

Autumn: ME, protein, palatability egs barley (crushed vs not), maize, nuts

Winter: Beet – protein, Kale – sugars, Grass. Consider cost of grain.

Spring

Weaner Health

Attendees: Anton Croad, Justin Stevens, S Stokes, John Harwood, Bruce Allan, Sharon McIntyre, D Lawrence, Andrew Mahan, Quentin Cornell, Mike Ferrier, E Ferrier, Louise M.PI, SFF, Ian Bristow R Hilson (facilitator), Notes: J Hoban

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Health Issues affecting Weaner Growth.

Health Issue	Risk Factor	Prevention Measure
Lungworm G I Parasites	Autumn, moist, wet persistent, coughing, Contamination back to paddock weaned on. extended drench intervals. Drench gun maintenance (suboptimal drench dose). Drench timing post weaning. Drench product choices – WHP issues.	• Cross grazing – older stock, other stock/species. • Crops • Pasture rotation to reduce contamination
Yersiniosis	Feeding, hard frost, post rut weaning may have better equipped weaners, stress, yard set up, low covers, first 3-4 frosts trigger, stress. Over ¾ group vaccinates.	• Vax • reduce stress • feed well • Timing. Vax 1st Feb – March. Better than May
Leptospirosis	Fawn loss – abortion, red water, shedding Wet season/autumn/winter. Waterways, river/pooled water. 7% death, Pomona. Ictero. H & S risk, vaccines cover 2-3 strains, there are 170 strains globally. Lepto programme timing. Stock classes, wild animals.	
Facial Eczema	Autumn/late summer, >12°C soil temp, fungal spores. Climate, N and Central N.I., moisture and pasture length. In fallow deer.	Covers, residuals, zinc sprays, spray paddocks out, fodder crops eg chicory, rape, plantain. Genetic resilience.
Foot abscess	Dirty trucks, yard condition, moisture high, rough concrete	Rubber matting, binatop, oxytectracycline
Social/stress issues	Feed change. Frozen crop affecting intake.	Hinds and fawns well segregated. Secure paddock. Supplement feeding prior to weaning. Group sizes 150-200max. Sample weigh. Good plane of nutrition.
Thiamine Vitamin B1 Deficiency	Blindness, feed change, Rape crop.	Vitamin B1 supplement
Copper	Lowest in winter. Supplement prior to this	Bullets/capsules, Copper injection, optigrow liver levels, soil copper levels.
Misadventure	Cliffs. Fawns through fences. Ducks!	
Ticks	Worse in red deer. Less in fallow.	BAYTICOL – just before fawning, (winter/early spring, Aug/September). Stags after velvet. Pyton ear tags –

		bilaterally.
Pasture quality/T.E.		
Fuso		
Aeidosis		
Johnes	Feed	
Se Deficiency	sudden death soon after arrival	
AHP		