



Brainstorming Brassicas Field Day

Glen Cary - John and Matt Abelene

3rd May 2021

Guest Speakers: **Charlotte Westwood, Wayne Nicol and Jaimee Pemberton** from **PGG Wrightson Seeds**

Notes from conversations in the crop paddock:

- Test your crops, you don't know what you don't know.
 - DM
 - Crude Protein - most protein held in the leaf, Leaf loss = protein loss
 - ME
 - Nitrates - Stem will have the highest nitrates, middle $\frac{1}{3}$ for kale
- Crude protein does not necessarily = high nitrate
- Stock can adjust to high nitrate. A transition period is necessary, with fibre. Fibre preferably introduced before transition
- Watch animals doing clean-up work (Stem nitrates)
- Frosting increases the risk of nitrate poisoning. Rumen operates optimally at 39-40 degrees, a gut full of cold feed = reduced feed conversion efficiency increasing risk.

Why Kale:

- Theoretically cheap to grow
- Green leaf = Higher protein (vs bulb)
- Some water efficiency
- Agronomically robust (insect tolerance)
- Easy to establish

Risks/cons Kale:

- Snow
- Utilisation lower - 65-75% utilisation under cattle, does do better when dry or smaller plants
- Putting up breaks

Notes from Conversations at The Woolshed:

Wayne Nicholson: Forage Crop options now - future

Crop options- we've got what we've got, not a lot of new ones coming

- Ryegrass and cereals likely to become more common for environmental considerations. Ryecorn most frost hardy, oats not.
- Turnips have big virus issues transferred by aphids
- Kale pick your type, most robust brassica we have
- Swede, newest types are the best
- Fodder Beet, declining market in dairy - suspect due to: price, animal health, ease of mgmt
- Raphno, most drought-tolerant, more crop per drop
- Leafy Turnips (pasja etc) are not dry tolerant

Going forwards:

- Fundamentals remain the same
- Becoming highly specialised field - new cultivars - new technology - crop rotation program
- Consider the impact of/on:
 - Climate change
 - EFP environmental farm plan
 - Carbon emissions
 - Wastage (silage wrap, chemical)
 - Animal health, MPI are taking this very seriously
 - Health and Safety
- Climate farming in this environment:
 - Use the tools available
 - Farming for moisture (1mm of water = 20kgDM/ha of brassica)
 - Reduce soil loss (wind, wash out)
 - Used Inputs efficiently (Chem, fertiliser, wastage)
 - Carbon emissions
- Low or no tillage - seems the obvious way for things to go
 - Autumn spraying Winter fallow = Lock down moisture
 - Nitrogen - Use the year before
 - Strip till - no rocks, no hills
 - Precision drill
 - Direct drill
 - Weeds will strip yield - Pre-emergence for here

Charlotte Westwood : Winter crop - Animal Perspective

Supplements - Which supplementary fibre source? Sheep v Cattle

- Sheep chew lots, cattle not so much
- Chewing breaks feed down and produces saliva which has anti-bloat properties and has more buffer properties.

- Cattle not chewing don't add much in therefore are more at risk than sheep
- Cattle have the highest priority to having a fibre source with crop
- Sheep less critical
- Deer more like sheep

In a Dry year

- No such thing as feed that doesn't work, just how it's used
- Make decisions early
- Younger stock classes need higher protein priority
- MA (especially multiples) protein demand increases dramatically closer to lambing
- Condition score and prioritise light Ewes (esp. multiples)
- Possibly Sheep nuts to critically Light, Barley possibly to light
- Don't treat every stock class the same, Rank them and feed accordingly
- Keep your feed budget as a work in progress, adjust as you go
- Good weather = feed gained
- Feed budget scenario Testing - Run worst-case scenario, best-case and somewhere in the middle
- Worst case scenario can be hard to do if things are tight but helps to identify trigger points for decision making and gives perspective
- Do it with a trusted advisor, neighbour, or friend if it helps
- Might find that worst case is not as bad as it might feel
- Reach out for help e.g. rural support trust
- Make decisions early
- Understand pinch points for stock, identifying when you can slow stock down/hold them vs when you have to flush/push forwards
- Condition scoring is a really useful tool
- 30 days post embryo implantation is crucial for the establishment of a viable pregnancy by making sure the bundle of small cells of the embryo can successfully implant into the wall of the uterus. Aim for ewes to hold BCS and not lose condition in the first 30 days after going to the ram.
- Ironically, we don't want the ewes gaining too much weight during that first 30 days either, sometimes that can reduce conception and implantation success but realistically not everyone feeds ewes that heavily after the ram is out!
- Appropriate nutrition remains important after implantation - with placental development largely completed by scanning time. Ewes don't necessarily need to be fed for condition gain between implantation and scanning (unless the ewes are lighter than target BCS 3.0 in condition) but all ewes should be fed best you can so they don't lose body condition / live weight before scanning - or placental development might be compromised. A poor placenta can be the difference between viable strong lambs and poor smaller lambs at birth, this really comes into play in adverse lambing conditions e.g. southerly.
- Protein demand for an in-lamb ewe increases as pregnancy progresses from 12% at 6 weeks to possibly up to 16% at birth especially in lighter/younger animals
- Protein blocks/Feed blocks
- Protein blocks - check protein source, not all created equal. Most blocks that contain "protein" actually deliver this protein as urea. When eaten, the urea in the blocks is converted in the rumen to ammonia. When there's enough fermentable energy

present in the rumen (from molasses, in most blocks) the rumen microbes convert the ammonia into microbial protein – this, in turn, is used to build muscle protein (in young growing animals) or for other purposes such as supporting late the needs of late pregnancy or lactation.

- A small number of blocks available in NZ contain some soybean meal which improves the quality of these blocks, these tend to be the more expensive products that are specifically designed for stock that need good quality protein such as young calves.
- In drought years when there's not a lot of good quality green pick left in pasture and/or baleage isn't that higher quality, during times of critical need e.g. pre-lambing for lighter twin/triplet bearing ewes really a good quality sheep nut is preferable to relying on protein from lick blocks. Not all animals eat the lick blocks or receive enough protein from them- very hit and miss for high value capital stock classes such as triplet ewes in the couple to three weeks pre-lamb.
- Urea/molasses blocks plus very poor quality supplements such as straw and/or standing pasture 'tag' might help animals hold body condition (rather than them going backward on just a straw based diet). So urea/molasses is helpful but only really for holding stock at a maintenance level of feeding if supplementary feeds are of very poor quality, not for flushing of ewes pre-tup or supporting decent rates of live weight gain.
- The better the quality of supplementary baleage or hay, the better response to urea/molasses – that is, moderate quality baleage plus urea/molasses blocks would support better animal performance compared to barley straw plus urea/molasses.
NOTE: If protein levels are high enough to meet the needs of a particular stock class from e.g. good green pick of pasture or from top quality baleage or hay, don't feed blocks that contain urea – there's already ample ammonia in the rumen so the urea won't be needed

