

Northern Victoria Grain & Graze 2 Stock Containment Day Notes

Donald Golf Club, Donald 9th June 2011

Key notes from presentations delivered by San Jolly, Productive Nutrition Ltd,
and Glen Tilley, producer on Yorke Peninsula, SA

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Stock Containment Area Design Principles

- National procedures and guidelines for intensive sheep and lamb feeding systems – contains factors driving lamb growth and production feeding of lambs.
<http://productivenutrition.com.au/COPlambfinishing>
- Currently no regulatory body in Victoria, but check with local council.

Site Selection

- Build containment areas across a slope not down. This way water can run across each pen, but not cumulatively down through pens.
- Contain effluent runoff. Site must be able to cope with a thunderstorm surge of rain.
- Build on a soil type that facilitates compaction and drainage – to avoid salinization etc.
- Choose aspect to maximise the benefit of shade during the main heat of the day.
- Ensure a high pressurised, quality water supply – refill rate of trough is more important, rather than trough length.

Design & Construction

- In Australia it is recommended to have 5m² per lamb.
- Doesn't matter how many per pen, as long as they have access to food and water.
- Provide more than one feeding point (self feeders). Bully sheep can then go to one feeder, and shy feeders can be accommodated for at alternate feeder. Rough guide is 1 feeder/ 200 lambs. Merinos will have more shy feeders than prime lambs.
- Ad-lib hay works well on boggy ground - the sheep spread the straw around, it soaks up urine which ferments and provides an electric blanket effect. You must clean it out regularly.
- Shade most important March-April. Mature trees offer the best form of shade. Fence off trees (or wrap with shade cloth) to protect against ring barking and nitrate poisoning (from urine). Fencing to 1m away may not be enough if roots are close to surface.
- Shelter and hay (for warmth) most important May-June. Building shade can be expensive unless you have surplus materials lying around. Must be built extremely well or will deteriorate quickly, eg. shade cloth or tin becomes loose in wind. Galvanised iron needs to be on the right angle so that it doesn't get too wet underneath.
- Hay bales can be used for shade by stacking them up (securely) outside the fence.
- Don't put shade over the feeder or trough, otherwise the bullies will camp in this area and prevent shy feeders from getting in to them.
- Include a sick pen so that you can isolate sick animals.

Stock Containment Management

Introduction to Containment

- Draft pregnant ewes into twins and singles – twins need more energy, and a little more protein. Draft lambs into weight groups.
- Vaccinations:
 - 3- in-1 (GlanVac) is fine - don't need 6-in-1 in one unless very high rainfall. This will cover the most important diseases to vaccinate against which are:
 - Pulpy Kidney (enterotoxaemia): rapid spill over of carbohydrates from rumen to abomasum. Blood around mouth and nose. Pulpy, puffy pale kidneys.
 - Tetanus: Bug paralysis respiratory muscles. Animal will be as stiff as a board.
 - Cheesy Gland: enters through wounds, travels to glands, forms an abscess.
 - Only use Vitamin A, D & E boost (often recommended when buying in lambs) if lambs have been grazing grossly copper, cobalt deficient pastures/you can see a deficiency.
 - Vitamin A deficiency: night blindness (not pink eye), eye discharges, ill thrift. Caused by long dry summer, no access to green.
 - Vitamin D deficiency: Seen when sheep are kept in sheds, don't see the sun.
 - Vitamin E deficiency: seen when continually grazing cereal stubbles or oats with Se deficiency. Can exacerbate Se deficiency and white muscle disease/rickets (bowed front legs, won't stand up), particularly in faster growing ram lambs.
 - B12 works if a cobalt deficiency is evident – if not, then they don't need it. Cobalt deficiency causes watery eyes, suboptimal growth rates. B12 does stimulate appetite.

Animal Nutrition

- Maintenance: 8 MJ ME and 8 % crude protein is required to keep sheep alive.
- Maintenance is usually not worth it unless you have elite genetics, stud rams or pregnant ewes. Get rid of unproductive sheep.
- It costs more to feed young stock – feed to grow, not just stay alive.
- Animals will eat about 4% of live weight/day (range 3.5-5.5%). Determine amount by whether it's for sale or kept for breeding (less).
- 35kg lamb: a good diet is 1-1.5 kg DM intake, 18 MJ ME + 16% protein. For an older lamb, protein and energy needs decrease.
- Don't want high protein late pregnancy – they will only excrete excess and can lead to larger lambs, increasing risk of dystocia.
- 1 condition score is about 10% live weight, eg. 80-90kg ewe – loss of one condition score is a loss of 8-10kg.
- If you are increasing body condition, feed to the next level. Life Time Ewe has good recommendations for middle weight animals.
- Feed conversion rates vary as lamb grows; slower initially, increase, then taper off again.
- There are 150 days from conception to lambing. At 90-120 days foetal growth increases dramatically, the placenta is working it's hardest, and fine wool follicles are developing – if ewe loses condition at this time, you may get more deaths later in pregnancy and affect life time wool production.

- Ensure high quality hay for first 7 days.
- 75% grain, 25% hay is a good ad-lib system. This needs to be at both feeders – not grain at one, hay at the other.
- If you get the trough mix correct it will be ok, but buying a mixer is costly. Ad lib is easier.
- Provide lime (calcium) and salt. Cereals are inherently low in calcium. Wheat is deficient in sodium salt (in grain and growing plants). 80% lime: 20% salt.
- Salt in the ration will increase food and water intake (20% in mix, as above)
- Turn off calcium 2 weeks prior to lambing to allow the ewe to begin to mobilise her own calcium from bones into the blood stream for milk production. Put Ca back in once lambed.

What to feed

- Feed test your feed – the only way to know you are giving them the right nutrition.
- Oats/beans or oats/lupins, and legume hay is a very good diet. Barley/lupins is also very good.
- Oats have on average 13.3-13.7% MJ ME – roo varieties (apart from Kangaroo) are good and Matika. Oats have fat instead of starch, unlike barley, and we should be trying to use more oats in the system.
- Introduction to high starch grain should occur over 2 weeks to get them to 600-700 grams/day. Blend wheat, triticale or barley with oats, and ensure a good fibre source.
- If you have been trail feeding or grazing standing wheat, triticale or barley in paddock, you still need to be careful with feeding the same pure grains straight away in feedlot – they can guts!
- Careful with shy feeders when you open up feeders – they are less adjusted to grain intake and can guts themselves -> can die.

- Pure lupins are too high in protein (and expensive) to use by themselves. White lupins 36-38%, yellow lupins 30-32%, vetch 24-26% protein. The outer shell of white lupins is unpalatable.
- Lupins vs vetch – can substitute lupins with vetch, but not Namoi vetch as it is toxic. Can feed up to 20% of ration. There is no evidence of meat taint when feeding vetch (or Lucerne). Sheep will graze cereal out of a Popany vetch crop, leaving you with Popany hay.
- Lentils are 10% lower in protein than lupins.
- Peas have too much starch – better to use lupins or beans.
- Chickpeas – don't have more than 20% in the ration.
- Grain legumes and legume pastures have anti-nutritive factors -> limits food intake.
- Legume hay: good protein and digestibility. Note - lower in fibre, and needs lime. Very good for introducing in lots. Consider cutting some vetch hay.

- Mouldy grain – be careful of toxins from Aspergillus. Get it tested in a lab.
- Shot grain – energy is almost the same as non-shot. Moisture may be higher (need to eat a little more for the same DM). If you have excess, keep it and use it.
- A mix of up to 20% of any dodgy grain (damaged or 'hot') should be ok.

- Canola hay is good quality and can be feed to lambs, but needs to be tested for nitrate (can accumulate nitrates over the winter). >500ppm presents a potential problem, but can be fed out with another hay source. Introduce on a full gut.

Joining & Lambing in Containment

- Joining in containment is fine.
- Lambing is not ideal, but it depends on conditions (eg. no paddock feed, cold conditions).
- Ewes with singles cope ok, but more mismothering occurs with twins.
- Extremely important to ensure they have adequate nutrition.
- Lambing in July/August is too cold – bring back lambing to May when warmer in containment -> better survival. Use hay for 'electric blanket' effect.
- Never lamb down maidens in containment area.
- Alternative is to carry over a standing crop and lamb onto in autumn – barley is a good option, more dry matter. Won't get an overload of grain as it is still in the head. Higher risk with wheat and triticale. Oats – grain will have lower protein and winter growth will be fairly low. Oats can accumulate nitrates in winter – bigger problem in higher rainfall areas.

Animal Health

- Good hygiene is important in a feedlot. No increased risk of infection if you haven't introduced it.
- High energy, high starch diet can encourage scours in feedlot.
- Buffer for acidosis very effective for sheep. Use Bentonite or sodium bicarb – will increase pH and reduce acidosis, but also reduces intake. Can put ½ cup/day of sodium bicarb into the trough.
- Sheep with worms tend to seek a high protein diet.
- Prolapse of the uterus can occur when ewes are fed too much grain (a low fibre diet).
- If an animal gets the squirts, remove both animal and poo. Diseases like scabby mouth and Coccidiosis can live in the soil from very long periods of time.

Paddock Nutrition

Returning stock to pastures

- Got a big mob, then have a big paddock.
- Measuring feed: Options include the plate meter, MLA pasture ruler (need to adjust both for bare ground), pasture cut (dried at 60 degrees C for 24 hours) or feed test (note feed will grow during the time taken to receive test back).
- Make sure they have a full rumen – high quality hay for 3 days, and remove from containment late in the day to ensure full bellies.
- You can lose animals when they go from feedlot to paddock due to a sudden flush of protein and energy, which can also cause a break in the wool. Ewes in late pregnancy are more susceptible as this is when fibre diameter narrows.
- Vaccinations: 3-in-1 Glanvac for Tetanus and pulpy kidney – described previously.
- Avoid letting stock out onto calcium deficient pastures.
- A legume (vetch, medic)-cereal mix is the best.
- Pastures may incur nutrient deficiencies at different times of the season.
- It is unlikely for a Mg deficiency to occur around Wimmera Mallee. Animals will ingest enough Mg from dry soil. Don't give Mg in summer and autumn – excess can lead to scours.
- For lambs, the biggest risk to growth rates occurs in late autumn/winter – time of feedgap.

General Comments

- Introduce grain up to 600-700 g/day before putting sheep onto failed crops.
- If crop is at milky dough stage it is exceptionally unpalatable and feed value is low. The protein of oaten hay is much lower than wheat or barley – cut earlier.
- Ca/P relationship: On higher P fertilised pastures, animals need higher calcium. Provide 80% lime: 20% salt mix.
- Calcium and Vitamin E deficiency are the main causes of ewe mortality.
- Shearing does not increase growth rates. When shorn, energy demand goes up and intake increases but GROWTH RATE DOESN'T GO UP!! Only shear for flies.
- Ewe numbers – to breed or trade? Consider what's limiting your carrying capacity? Are your current numbers viable? Economics of more sheep vs crop? When do you need sheep? Will you be able to source them? Biosecurity?

Marketing – Glen Tilley, SA

- Many wonder how they'll market their lambs when they're 12 weeks old – Glen recommends starting a long time before that.
- Options include saleyards, on property, over the hooks, Auctions Plus, forward contracts.

- Develop a relationship with buyers. Get feedback and know what you are producing
- Saleyards can increase price risk (price is volatile). Animals also off water longer.
- Fancy saleyards – who's paying for it? The grower!
- Be organised. Shear early in summer, and weigh lambs before buyer comes to farm so you know your range.

How Glen manages his sheep enterprise efficiently

1. *Good planning.* Ewe and ram condition, feed budgeting, mating schedule, lambing paddocks, weaning paddocks, finishing system, target markets.
2. *Good infrastructure.* Easy to handle and monitor stock. Reduced labour and time efficient.
Raised board shearing shed. Covered yards, good 3 way draft. Plenty of pens and gates for ease of movement. Laneways. Autodrafter.
3. *Have large mobs* as often as possible. Hence less mobs to monitor, feed and shift. Larger mobs improve grazing utilisation.
4. *Use contractors.* We generally use a contractor for mulesing and marking. Shearers do our crutching. A contractor does some of our fencing. We work with the contractors. The benefit is that we get a good job done quickly.



Left to Right: Kate Reilly (BCG), Glen Tilly, San Jolly and Alison Frischke (BCG)