Improving Livestock Performance: Ewe Efficiency

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Ewe efficiency:

- Ewe efficiency – what is it?
- Understanding the reproduction cycle
- The basis of nutrition?
- Ewe efficiency in more detail and how it can be increased
- Examples of ewe nutrition
- Conundrum of growing more grass
- Baselines and monitoring
Ewe efficiency – what is it?

Move away from:
- Number of lambs weaned
- Live weight of lambs weaned per ewe
- ‘Older’ lamb weaning age

Move to:
- Kg lamb weaned/ha
  - Reproductive rate
  - Ewe stocking rate
  - Lamb weaning weight

- **NUTRITION – FEED THEM!!!**
- Acknowledge difference in farm system
Understanding the reproduction cycle

Day of Cycle

- E2
- P4
- LH
What is nutrition?

- Meeting energy requirements?
- Feeding what we have on-farm?
- Meeting trace element requirements?
- Feeding to manage the soil?
- “Doesn’t matter how much we feed them, we still make $$$”
Nutrition is...

“Feeding the animal to meet their ‘nutrient’ requirement to produce”

- Maintenance
- Growth (live weight and wool)
- Reproduction
- Lactation
Ewe efficiency – Reproductive rate

- Number of ewes cycling and ovulating
- Small number of eggs
- Poor sperm quality

- Embryo mortality
- Infectious disease?

- Lamb losses
- Ewe death
- (Colostrum intake)
Early embryo mortality

- Represents 58% in mature ewes and 76% in ewe lambs of total reproductive loss

High levels of feeding

↑

Increase blood flow

↑

Increased outflow of Progesterone

↑

Loss of embryo??
Relating it to the South East...

- Extended mating period
  - Difficulty in managing nutrition over a wide range of pregnancy stage
  - Issues with weaning weights

- Variable lambing dates – Autumn and Spring mainly
  - “Dynamic” farming system
  - Feed shortage in Autumn
    - Plenty of supplement feeding
  - Feed quality and pasture management
  - Pasture production and soil fertility issues
    - Soil modification – it’s not the soil’s fault!!!
Birth and lactation – Getting the lamb started

• Maximising lamb survival
  • There will always be deaths – Reality
    • Predators
    • Birthing difficulty – “Dystocia”
    • Starvation
    • Exposure
    • Colostrum is critical – Immune system

• Milk production knowledge of Border Leicester X Merino ewe???

A FUNCTION OF MORE EWES IN BETTER CONDITION AT MATING
Lamb growth

- Lambs grow the fastest and most efficient early in life
  - Greater proportion of nutrient intake going to growth
  - Muscle is predominantly the main end product
    - Greater efficiency compared to fat

- Ewe milk production
  - Critical for the first 6 weeks (depending on live weight)
  - Commencement of eating pasture
  - What is the milk production curve of the Merino X BL?
Weaning

- Ensure paddocks are selected for weaning
  - ‘Clean’
  - High quality pastures
    - 1700kg DM/ha BUT green

- Wean earlier rather than later
  - More time for ewe to recover
  - Easier with shorter breeding period >>> shorter lambing period >>> reduced age range
  - When the ewe has no milk, she has no milk
  - Relationship with suckling and returning to cycle
    - Hormones released from suckling and milk let down stop her from cycling
How do we calculate ‘ewe efficiency’?

• IT’S EASY – I CAN DO IT!!!!

• Don’t worry about the ewe, it’s the lamb we sell… and eat!!!!

• Weigh the lambs – representative sample

• Add the weights

• Know the area – NOT acres – HECTARES
  • Easy conversion though – 2.2 acres to the hectare

• Lamb weight / area

• Can include:
  • Per 100ml of rain?
  • Per kg of ewe at mating?
What is the ‘ewe efficiency’ in the South East???

• GOOD QUESTION
  • We simply don’t know
    • One part of the equation is missing
      • Some producers don’t know how much area they grazed and ‘don’t weigh anything, that’s the stock agents job’

• Once we calculate it, are we happy? … nope never happy
  • How can we improve it?

GROW MORE GRASS!!!!
How can we improve ‘ewe efficiency’

- Hard with not growing more grass... BUT when more grass is grown...
  - Increase stocking rate
  - Remove low CS ewes
    - Improve reproduction rate
  - Improve milk production
  - Improve lamb growth rate
    - Shorter time to get lambs finished...
      - Increased options... more time spent at the beach at xmas or buy in lambs and finish them off as well.... $$$$$$
Examples of increasing ‘ewe efficiency’ – stocking rate

• Started at 5 and went to 8 ewes/ha but what happens if I had 12 ewes to the hectare and maintained my 100% lambing and lamb weaning weight of 30kg…

• 5 ewes, 5 lambs = 150kg lamb weaned/ha...
• 8 ewe, 8 lambs = 240kg lamb weaned/ha
• 12 ewes, 12 lambs = 360kg lamb weaned/ha

GROW MORE GRASS!!!!
Examples of increasing ewe efficiency – increasing reproductive rate

- 100%, 110%, 130% and 150% lambing, 8 ewes per hectare and weaning weight of 30kg
  - 8 ewes, 8 lambs = 240kg lamb weaned/ha
  - 8 ewes, 9 lambs = 270kg lamb weaned/ha
  - 8 ewes, 10 lambs = 300kg lamb weaned/ha
  - 8 ewes, 12 lambs = 360kg lamb weaned

GROW MORE GRASS!!!
Examples of increasing ewe efficiency – Increasing lamb weaning weight

- 100% lambing, 8 ewes to the ha weaning weights of 30, 33, 36kg (at 14 weeks???)

- 8 ewes, 8 lambs = 240kg lamb weaned/ha

- 8 ewes, 8 lambs = 264kg lamb weaned/ha

- 8 ewes, 8 lambs = 288kg lamb weaned/ha

Greatest improvements would be seen with an interaction of these 3 example BUT…

GROW MORE GRASS
So... looks like we need to grow more grass... EASIER SAID THAN DONE

• Consistent rainfall and soil fertility

• What could we do?
  • Increase pasture utilisation
    • Maintain the plant in the stage for plant growth
    • Increase pasture growth (water)
  • Improved grazing management
  • ‘Catching’ more of the rain when it comes?
  • Investigate pasture types that are suitable to the area
  • Renew pasture more frequently
The need for monitoring...

- To improve ‘ewe efficiency’ there is the need to know what it is at the start

- Collect information that can be used to identify areas that can be improved
  - Ewe condition score
  - Mating spread
  - Pregnancy Scanning
  - Planning of paddocks for the next ‘phase’
  - Pasture assessment
  - Weaning age
  - Health
  - Costs
To summarise...

- To understand ‘ewe efficiency’ we need to understand the reproduction cycle and nutrition

- ‘Ewe efficiency’ is a function of:
  - Reproductive rate
  - Lamb weaning weight or growth rate
  - Stocking rate

- Improving each of these wouldn’t increase ewe efficiency as much compared to improving all

- It appears more grass is needed to achieve this
To summarise...

• Growing more grass is difficult due to climate and physical conditions

• But that doesn’t mean it isn’t impossible

• Need to know where we are before we can move forward

• The need to monitor and record

• Must be self critical to be able to improve