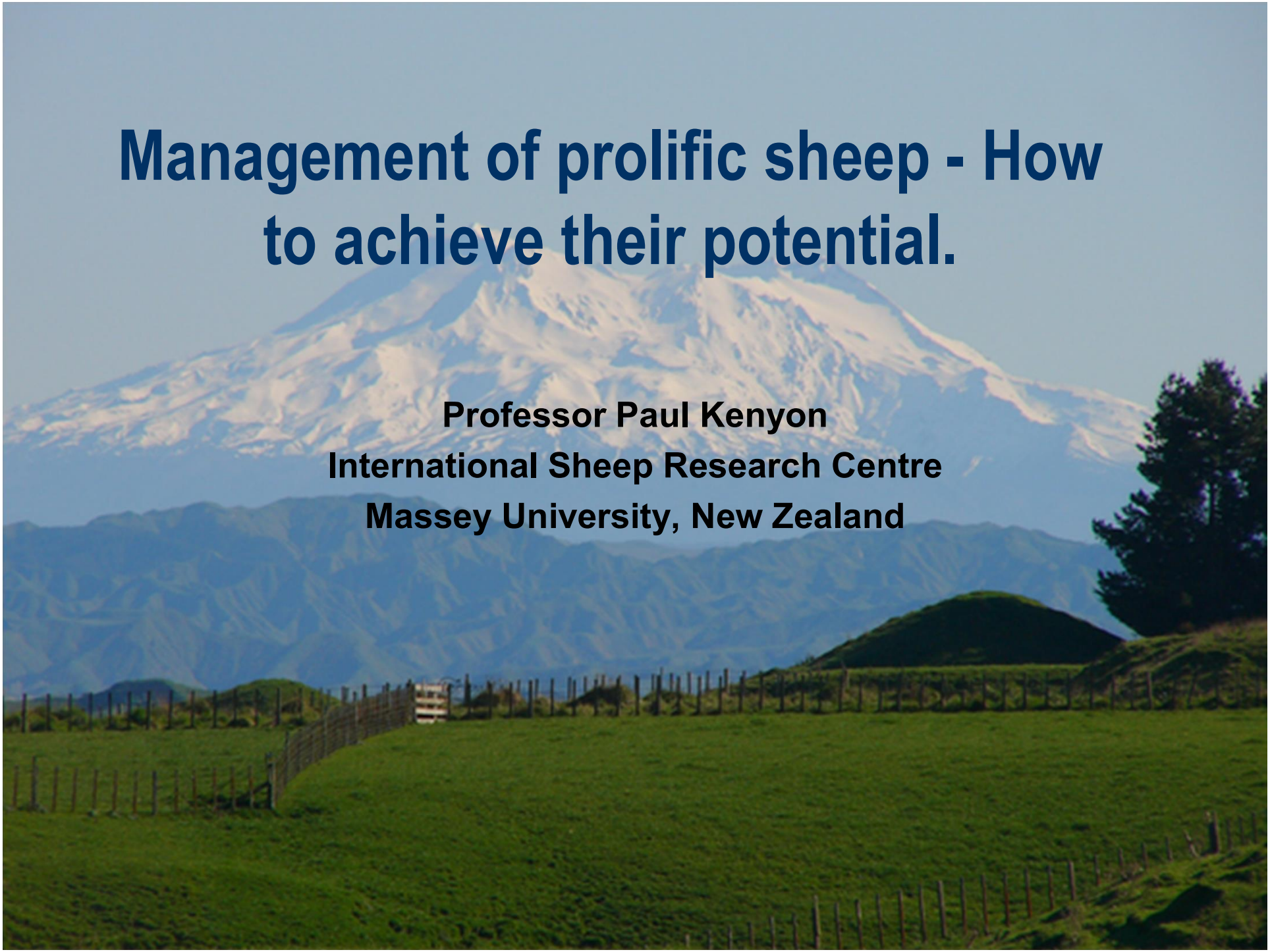
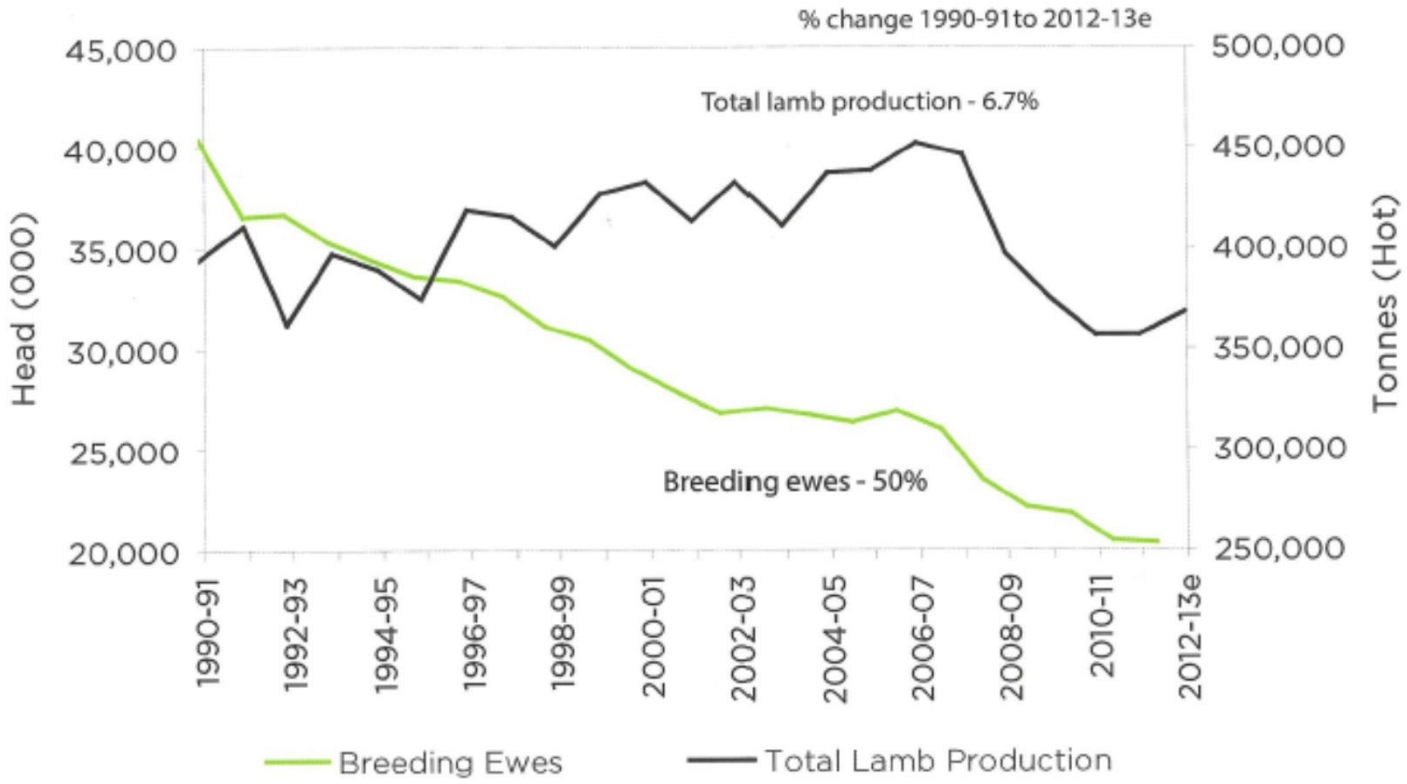


Management of prolific sheep - How to achieve their potential.

Professor Paul Kenyon
International Sheep Research Centre
Massey University, New Zealand

The change in the New Zealand flock and its performance



This has been achieved though

- Increased lamb growth to weaning - 50g/d
- Heavier carcass weights – 3 kg
- Lambing % increasing from 101 to 126%

The focus of the presentation

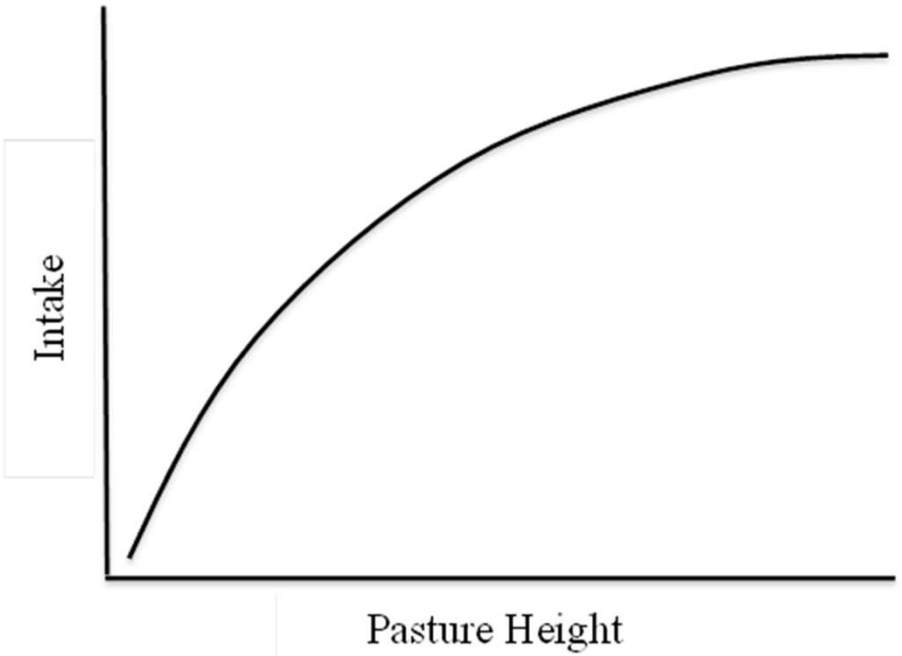
- Achieving the best out of multiple bearing mature ewes and pregnant ewe lambs
  - the focus will be on the pregnancy and lactation period
  - based on research and guidelines from NZ
    - it is likely the figures will be slightly different for your environment but the principles will still be the same

- This talk does not under estimate the importance of genetics

Pasture mass/height and intake

At pasture masses above 2000 kg DM/ha (9cm) pasture losses quality

Is that known for Uruguay?



Under ryegrass white clover (pasture) conditions sheep intake not restricted if pasture masses do not fall below 1200 kg DM/ha (4cm)

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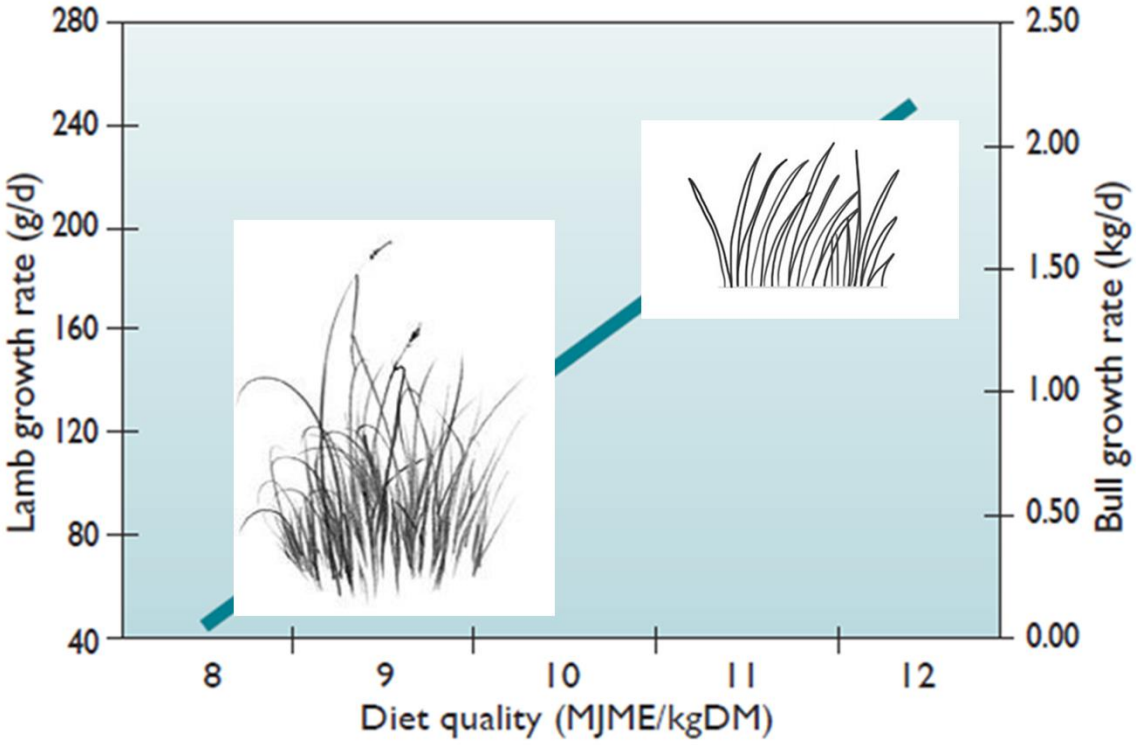
Pasture quality

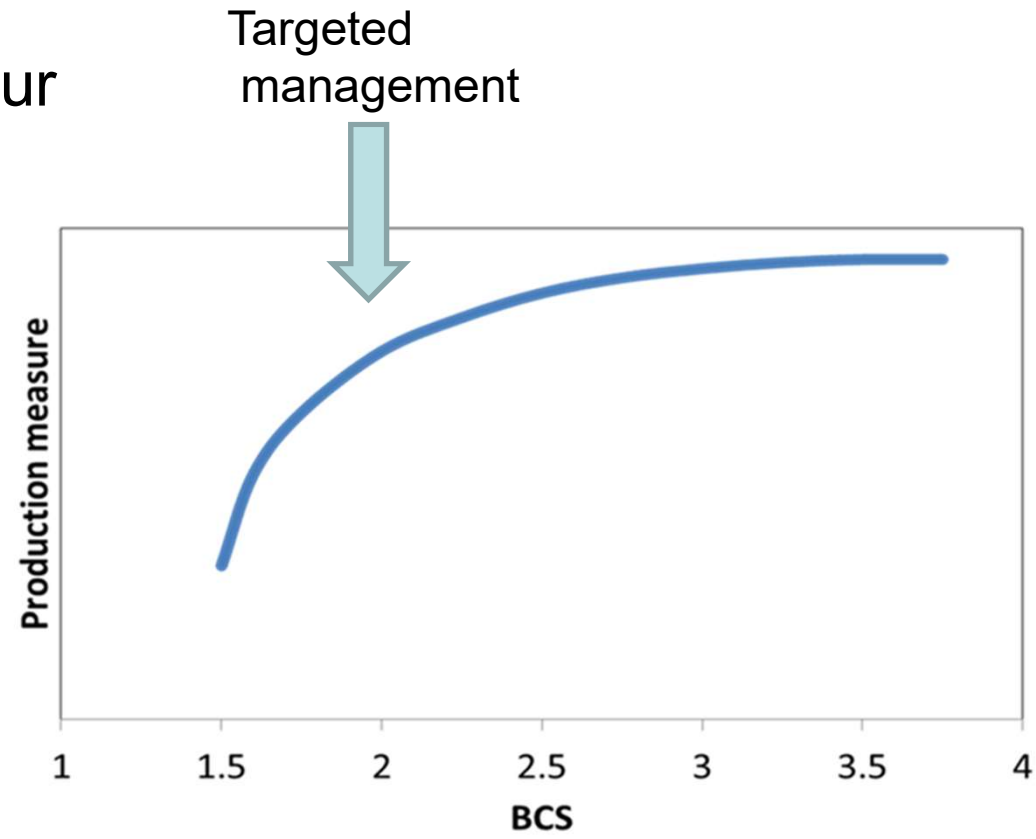
- If you want to achieve high performance
  - maximise bite size, allow the animal ability to choose
  - ensure herbage is of high quality



Te Kunenga ki Pūrehuroa
MASSEY UNIVERSITY

Body condition scoring

- Should be undertaken four times each year
  - prior to breeding
  - mid pregnancy
  - just prior to lambing
  - at weaning



Management of the multiple bearing mature ewe

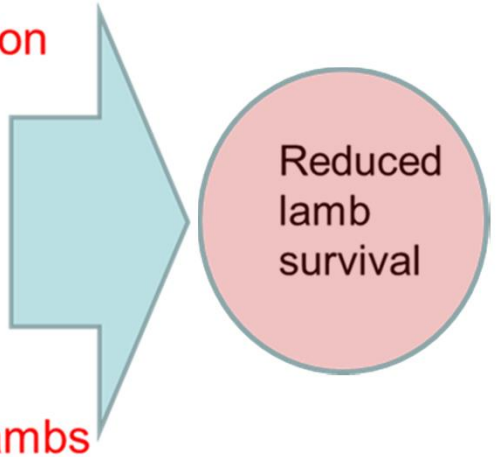
- The optimal management of the ewe in pregnancy depends on
  - stage of pregnancy
  - number of fetuses carried
  - the level of feed available and predicted pasture growth
  - body condition of the ewe

To maximise flock performance

- There is a change in the way NZ farmers now farm their flock
  - they have stopped thinking and managing on a *flock basis*
    - they now try to manage ewes based on the *need* of an *individual*

Under nutrition in pregnancy

- Excessive under nutrition can lead to:
  - sub-optimum levels of colostrum production
  - delayed milk let down
  - lower peak and total milk production
  - low lamb birth weights
  - poorly developed maternal instinct
  - impaired lamb bonding behaviour
  - impaired thermoregulatory capability of lambs
  - metabolic diseases in ewes



- lower lamb weaning weights
- lower ewe live weights and potential flow on effects

Early pregnancy

- Post breeding (until mid pregnancy)
  - sell non bred ewes (if crayon mating harness used)
  - determine which ewes would benefit from extra feed now (based on body condition) and which ewes can be held at maintenance
    - both help save feed to later in pregnancy

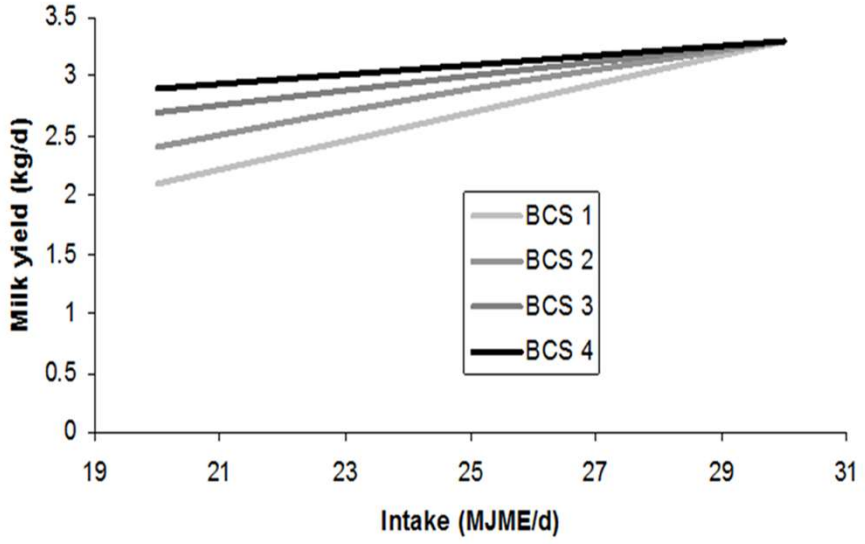
Pregnancy scanning – 45 days after the end of the breeding period

- Advantages
  - enables for the sale of, or reduced feed allowance of non pregnant ewes
  - identifies multiple bearing ewes who have the greatest need in late pregnancy (and single bearing ewes who feeding levels can be controlled in late pregnancy if feed availability is low)
  - identifies multiple bearing ewes who should be lambed in paddocks with the greatest feed availability and shelter
  - can be used to identify late lambing ewes whose feed allowance does not need to be increased as early

Body condition scoring

- Body condition scoring at pregnancy scanning
  - this identifies those ewes of the greatest need in pregnancy and lactation

Ewe BCS at lambing and milk yield based on feed intake



Adapted from Robinson 1990

Mid pregnancy nutrition – post pregnancy scanning until three weeks prior to lambing

- Optimal pasture based nutrition
  - post grazing covers of 900 kg DM/ha (2.5cm)

- Poorer body condition multiple bearing ewes should not be grazed below 1000 kg DM/ha (3cm)

Mid pregnancy nutrition

- If feed availability is very limited in this period
  - Singleton bearing ewes can be pushed to post grazing covers below 800 kg DM/ha
  - Later lambing ewes can be held at the early pregnancy feeding guidelines for another three weeks
    - saving feed

Mid pregnancy shearing

- If the majority of your income comes from the sale of lamb meat rather than wool, how farmers think about mid-pregnancy shearing is different
  - shearing between days 50 and 100 of pregnancy can increase multiple-born lamb birth weight, growth and survival (3-5%)
    - but only if ewes have a BCS of 2.5 or above
      - affect generally smaller in singletons
      - no need to shear all ewes!

Late pregnancy nutrition - last weeks of pregnancy

- Optimal pasture based nutrition
  - approximately 10 days pre-lambing multiple bearing ewes should not be grazed below 1200 kg DM/ha (4 - 5 cm)
  - singleton bearing ewes can cope with lower post grazing covers (≈ 1000 kg DM/ha, 3cm)
- Late lambing ewes can be held back three weeks
  - prioritising feed to those that need it now


1.75 kgDM

Shelter – especially for multiples

- Shelter is very important for lamb survival
  - especially multiples who are born smaller

- Farmers are advised not to place multiple bearing ewes in paddocks with steep slopes

- Using pregnancy scanning data and counting lambs at tailing/docking gives a farmers data over time to determine which paddocks are best from a lamb survival perspective

Lactation nutrition

- Optimal pasture based nutrition
  - a minimum pasture cover of 1200 kg DM/ha (4cm) but not above 2000 kg DM/ha (9cm)
  - if feed availability does not allow for the above target covers, singleton lambing ewes and ewes of better body condition and be offered lower covers

Management of the ewe after weaning

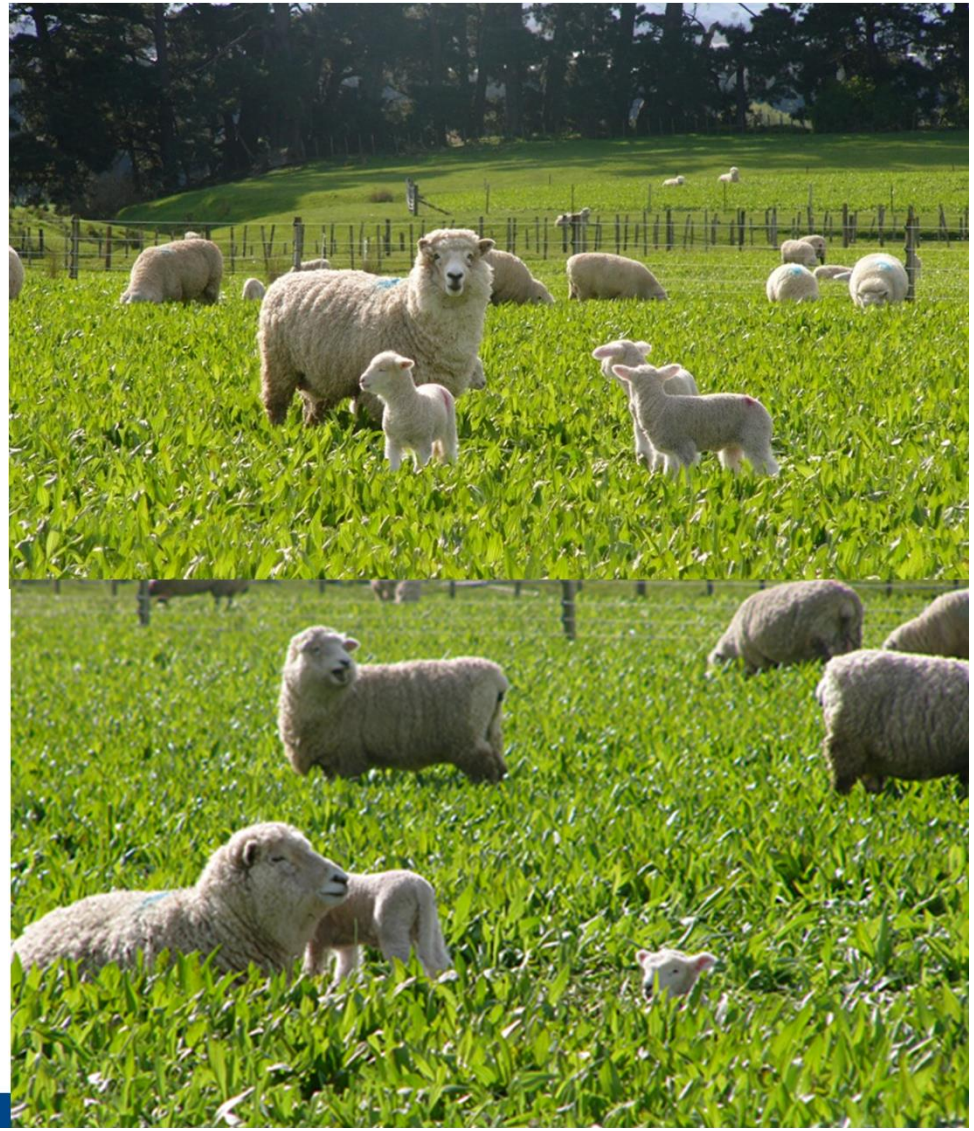
- Traditionally ewes have be managed as one group
  - however this does not take into account that ewes will be of varying body condition post weaning
    - poor body condition ewes at the next breeding will have lower performance

- Therefore farmers are now advised split ewes into 2 to 3 groups after weaning and offer more feed to those in poor body condition
  - 'targeted feeding'
    - total feed consumed by the ewe flock does not change

Alternative feeds in lactation

- Ewes can be lambed on a herb mix (Chicory, Plantain, Red and White Clover) or Lucerne – these result in greater performance (8cm minimum height)

- Alternatively ewes and their lambs can be moved onto these when lambs are a few weeks of age











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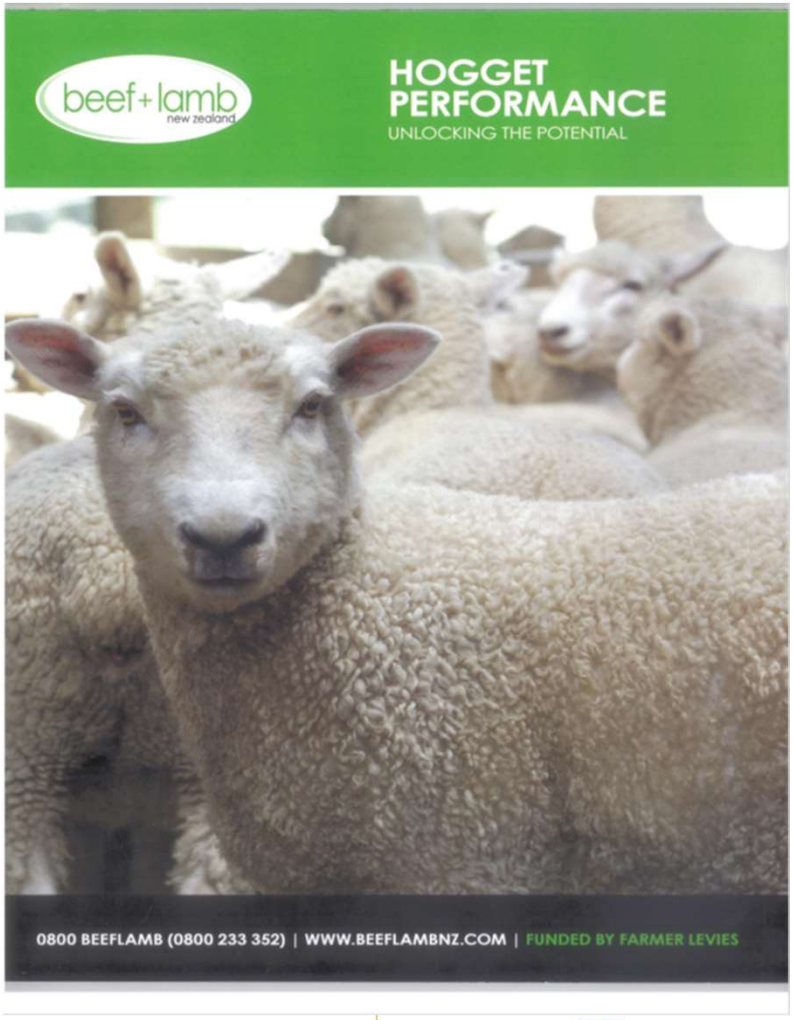
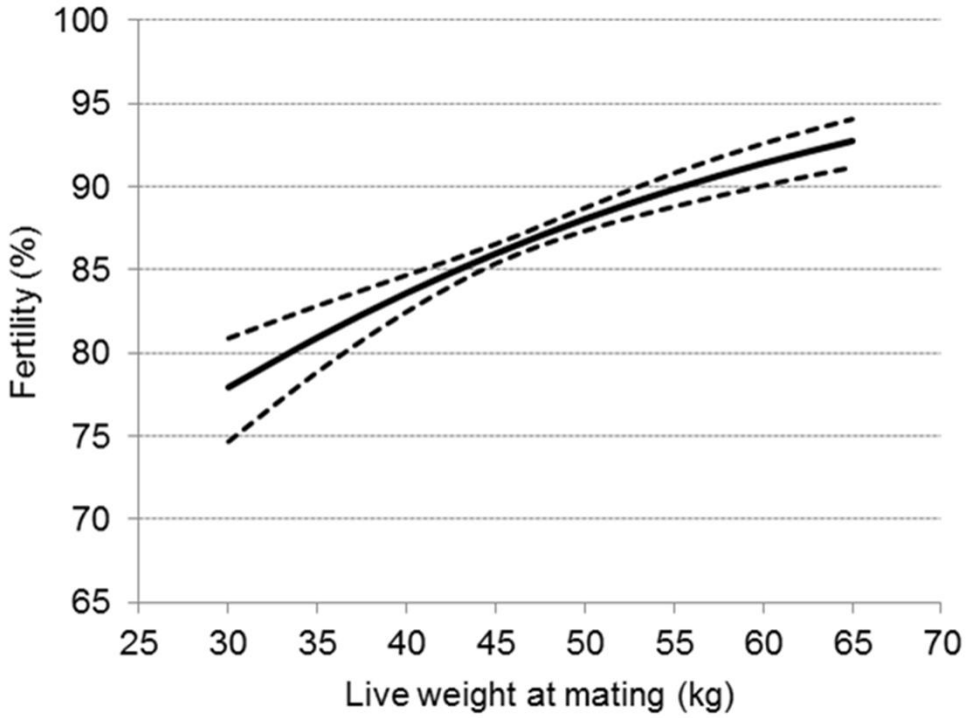
Managing pregnant ewe lambs (hoggets, ≈ 8/9 months at breeding)



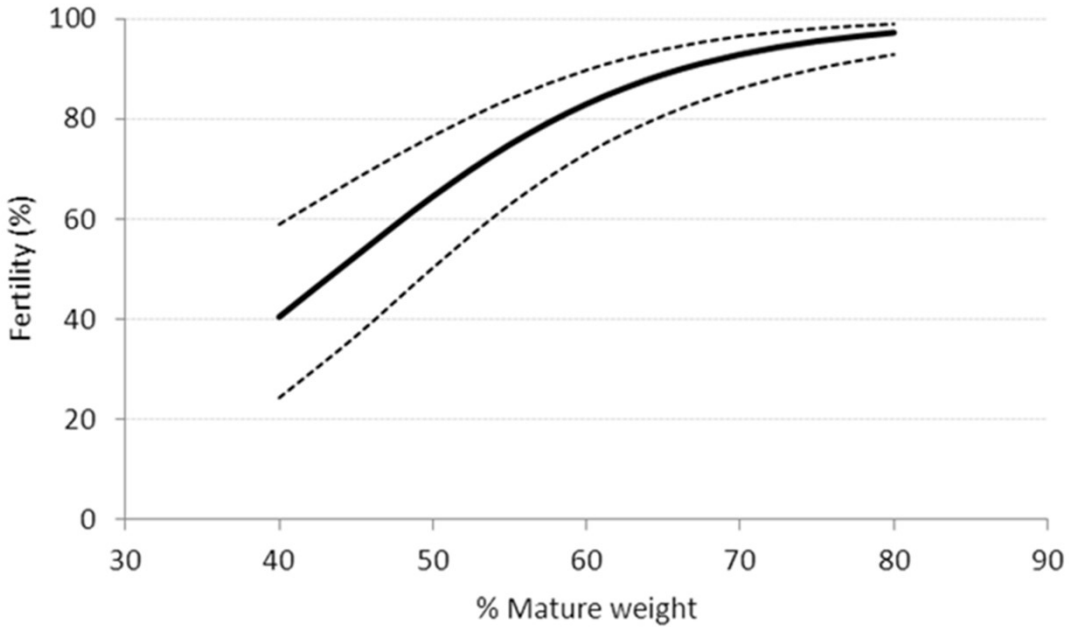
http://www.beeflambnz.com/Documents/Farm/Hogget%20performance%20-%20unlocking%20the%20potential.pdf

Effect of live weight at breeding



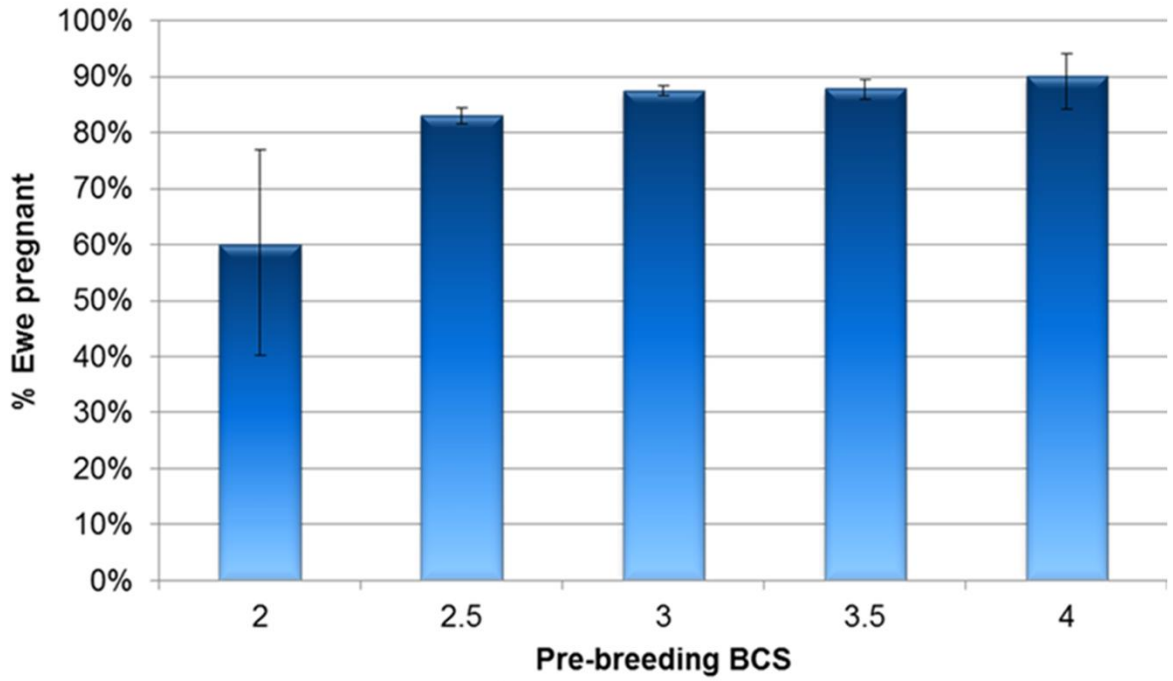
Target - 40 kg minimum

Performance based on % mature weight



Effect of body condition at breeding

Target minimum 2.5



Traditional management of our mature ewe flock in pregnancy

- With mature ewes the aim is not to feed them to gain significant amounts of their own live weight in the first two thirds of pregnancy
  - we can do this because she has reached her mature weight
  - *but a ewe lamb* needs to continue to grow herself, in addition to the requirements of pregnancy
    - failure to do this is likely the biggest reason that pregnant ewes lambs perform poorly to weaning and perform poorly in future years as they age

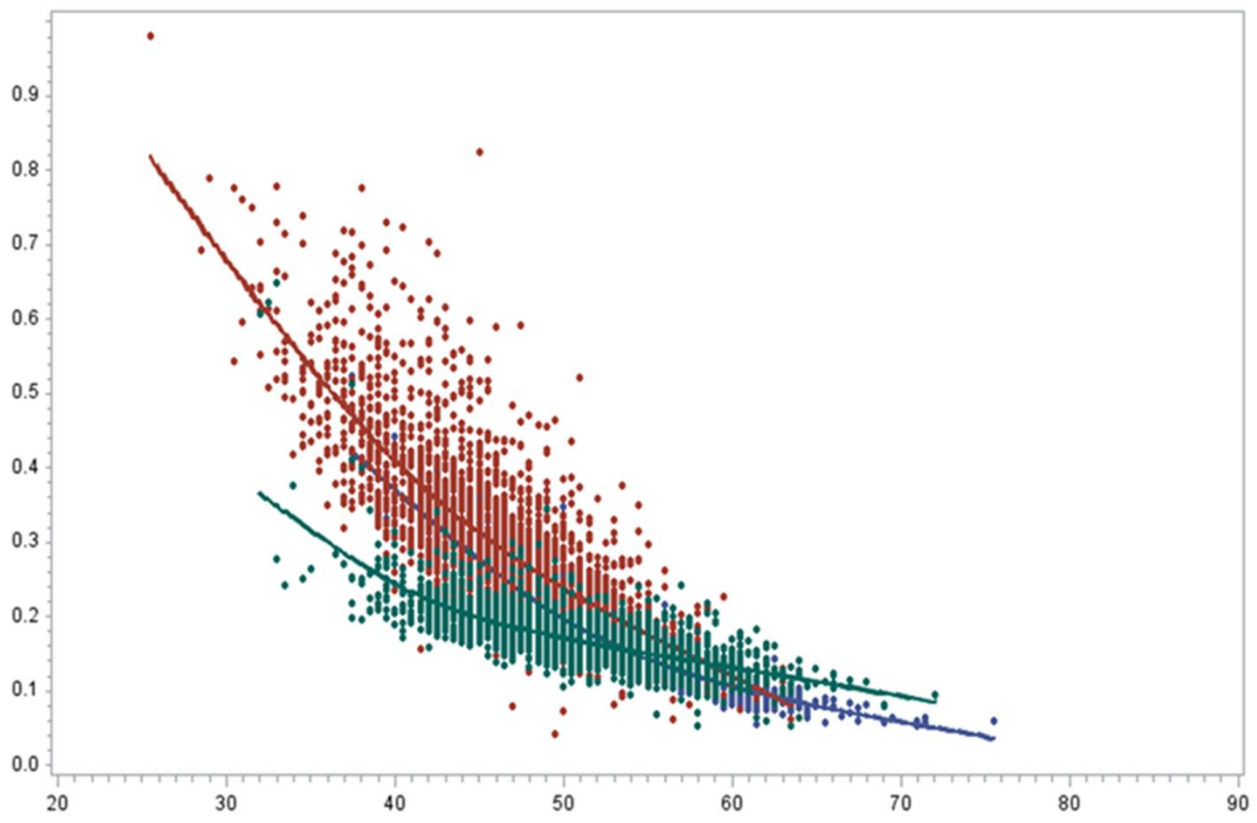
The pregnant ewe lamb

- If we make some assumptions
  - (i) she weighs 40 kg at breeding (8 months)
  - (ii) pregnancy ‘weight’ will be 10 kg (single conceptus)
  - (iii) aim to have her 50 kg the day after she lambs (she will have to be 60 kg the day before)
    - this is a minimum if she is going to be at least 60 kg at rebreeding at 18 months

- Therefore she needs to gain 20 kg in total weight in pregnancy which equates to 135 g/d throughout pregnancy

The impact of live weight prior to lambing

The likelihood of not rearing the lamb to weaning



Live weight just prior to lambing

Management in pregnancy and lactation

- Optimal pasture management
  - To achieve the live weight gains required ewe lambs need to be offered post grazing covers above 1000 kg DM/ha (3cm) – throughout pregnancy (including the breeding period) and 1200 kg DM/ha (4 cm) in lactation

- Farmers are increasingly using alternative herbages in lactation to maximise performance

What are the long term impacts of ewe lamb breeding?

- Ewe lamb breeding has the potential to increase lifetime performance and longevity
  - if fed well in their first pregnancy and lactation and if their weight at rebreeding at 18 months is not significantly affected (i.e. no more than 4 kg's behind)

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Farmer learning and technology transfer

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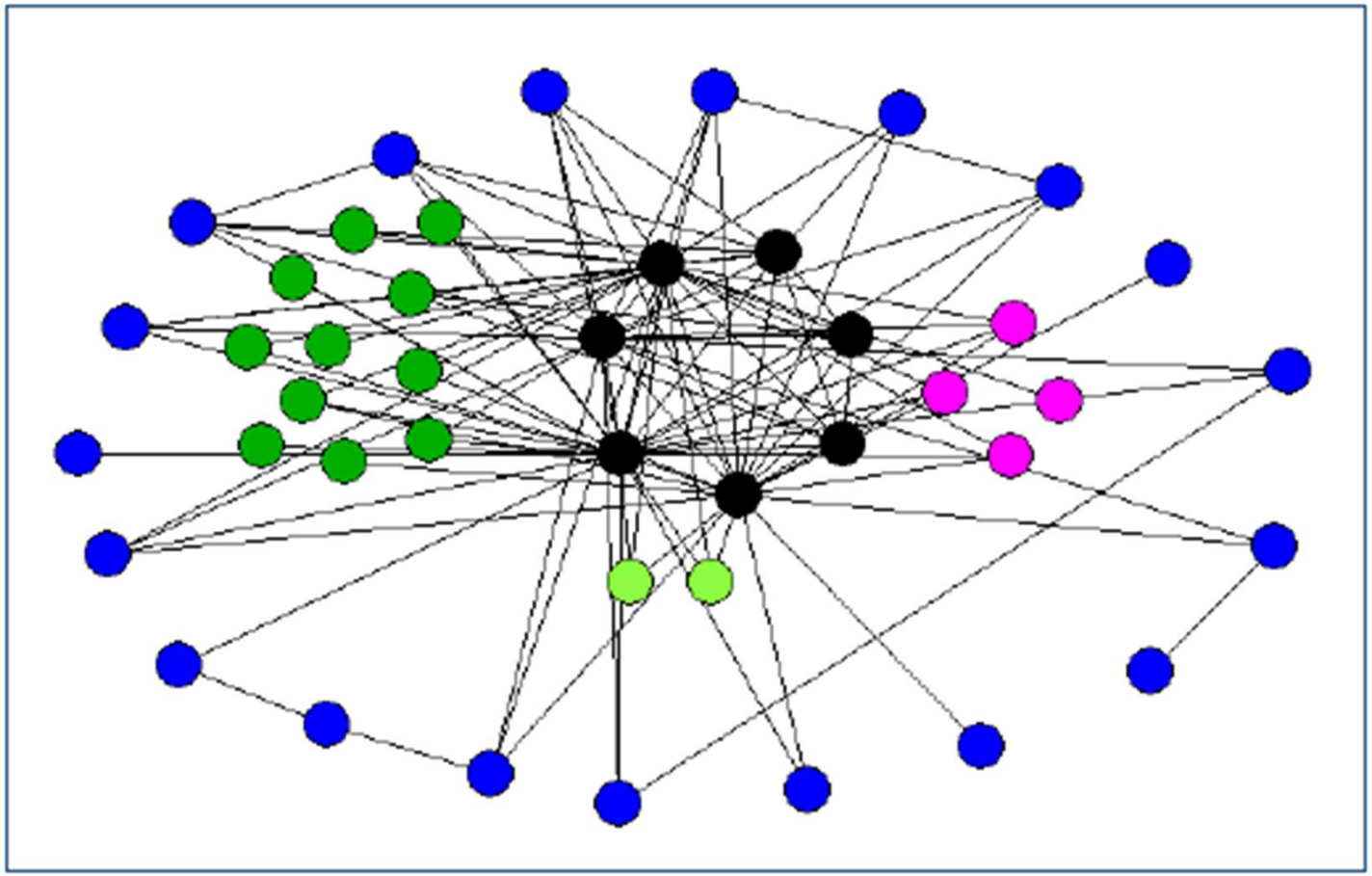
A learning network



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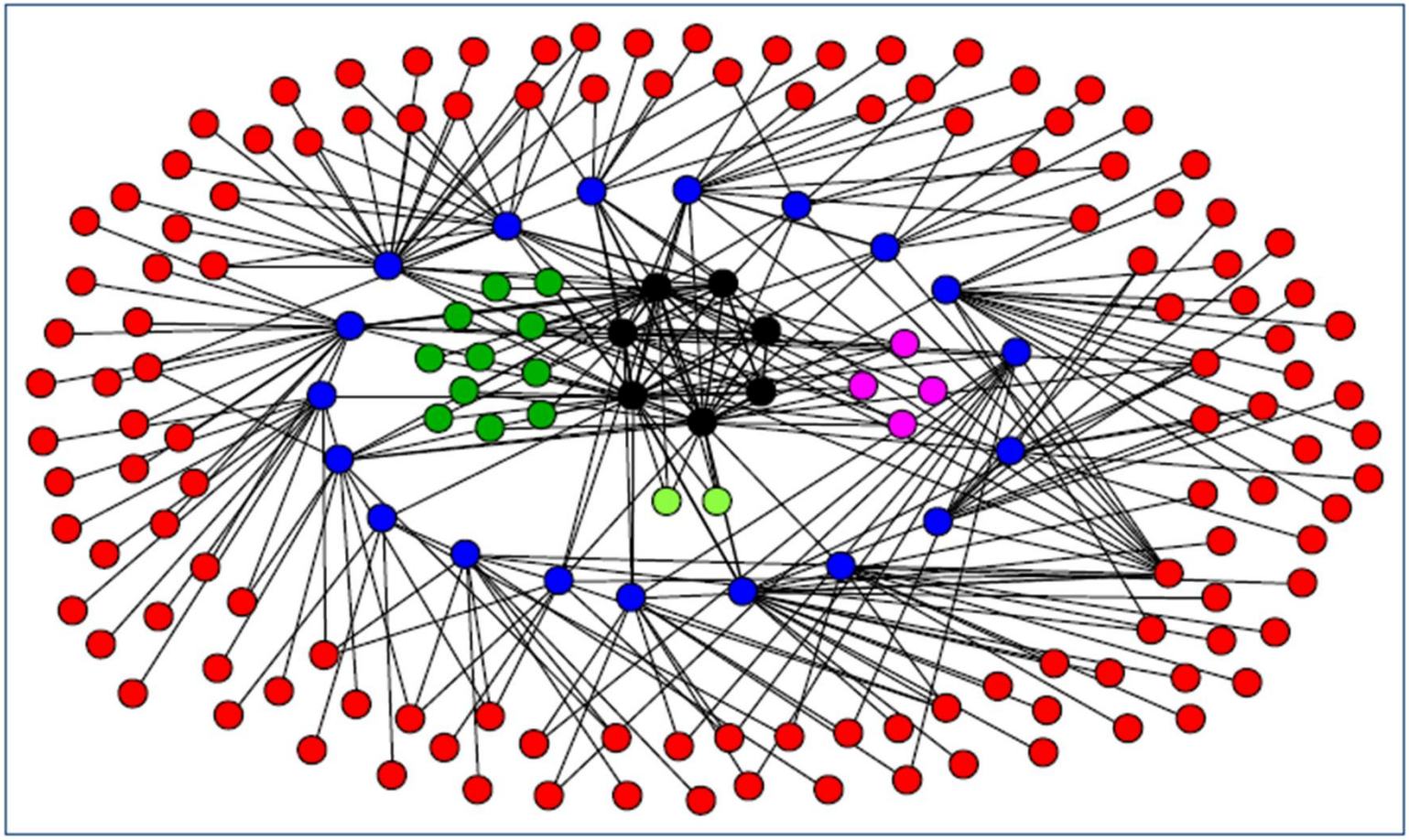
An expanding network



19 farmers ➔ 223 people ➔ 1200+??

Farmer learning and technology transfer

- Recently we received survey results from 1000 New Zealand sheep farmers that identified
  - what research *they* would like undertaken
  - where *they* currently get information from and in what form and from who so that it is most useful *to them*
  - what management tools they *are* using *or not* using

Our current focus

- Increasing ewe longevity and productivity

- Improving milk production

Conclusion

- Feeding of mature ewes in pregnancy and lactation should be based on demand (i.e. single or multiple) and body condition of the ewe
  - priority should be given to those most at risk

- Breeding ewe lambs can increase flock performance but does require *high level* of feeding