Making money in good seasons
Dunblane field day
Tuesday 11th October 2011
Stocking rate is a critical profit driver
Stocking rate is a critical profit driver

It is more important than

- genetics
- breed
- animal type

The ability to adjust stocking rates to match the season – especially increasing stock numbers in the good seasons depends on:

- Land condition
- Feed on offer
- Confidence in the season holding
- Desire to improve land condition/recover from drought
- Attitude to risk (e.g. caution over the next drought)
- Availability of stock
Good seasons provide the opportunity to:

- Increase stocking rates
- Improve land condition
- Prepare for the next drought through land condition and finances i.e. build business resilience

- Paddocks in good to fair (A to B) condition can carry extra stock safely, due to the extra feed on offer

- Paddocks in poor (C) condition can be improved, to take advantage of future good seasons
To recap from this morning, land in good condition:

- Is dominated by 3P (palatable, productive and perennial) grasses
- In Downs country, there is a high density of vigorous Mitchell grass tussocks (a tussock every 1-2 paces)
- Has a range of other plants
- Directs rain into the soil
- Most efficiently converts rainfall into pasture
- Will grow 80-100% of the potential feed in response to rain
- Will carry the most stock in the long and short term

- Is more likely to recover from severe drought
- Provides more options
- Is a key profit driver in both the short and long-term through stocking rates
The Mitchell grass may be tall, or have carry over feed.
Or it might be shorter but still vigorous
In other land types, the 3P grasses may be different

- They will still be perennial, palatable and productive
- And still occur at high density and contribute to the bulk of the feed on offer
Land in good condition grows more feed because there is a good density of healthy 3P grasses able to use the rain and seek out soil nutrients – rain is used most efficiently.

Mitchell grass

Black spear grass
Stocking rate strategies for good condition paddocks

- Increase stocking rates to take advantage of good seasons
- Decrease stocking rates in poor seasons to maintain land condition
- Infrequent early wet season spelling to improve the mix of species, especially in sheep paddocks
- Occasional winter rain spelling to encourage herbage, especially in sheep paddocks
- Follow heavy grazing with early to full wet season spelling to prevent loss of land condition e.g.
  - When Mitchell grass grazed down too low (10 cm or less)
  - When Mitchell grass grazed heavily in previous wet season
  - After pugging
  - Following fire
  - Following baling
To recap from this morning, land in poor (C) condition:

- Has few 3P (palatable, productive and perennial) grasses
- A low density of Mitchell grass tussocks (one every 20-30 paces)
- Other plants dominate, often unpalatable ones
- More rain runs off over the surface, less into the soil
- Converts a limited amount of rainfall into pasture
- Will grow about 45% of the potential feed
- Often can’t carry stock for 12 months and has low potential numbers in the long-term

- Is less likely to recover from severe drought
- Provides few options for livestock
- Leads to reduced profits – due to reduced stocking rates
The main point is that poor condition country is not able to respond as well to rainfall or grow feed that will last
Or may be dominated by unpalatable plants
Poor land condition = poor productivity and poor returns on your non-renewable asset (your land)
e.g. estimated impact on profit before tax, because of reduced carrying capacity in the early 2000s:

<table>
<thead>
<tr>
<th>Carrying capacity (head)</th>
<th>Profit before tax ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good condition</td>
<td>503</td>
</tr>
<tr>
<td>Poor condition</td>
<td>227</td>
</tr>
</tbody>
</table>
Stocking rate strategies for poor condition paddocks

- Conservative stocking rates in good seasons
- **Plus** frequent full wet season spelling to improve land condition
- Rapidly reduce stock numbers during drought to prevent further degradation

- Wet season spelling is followed by dry season grazing
  - to stimulate the Mitchell grass plants to respond and to keep the business profitable
  - ‘wet season grazing rest’
Phase 1:
mobilising reserves
very sensitive to grazing
Phase 2:
rapid growth
sensitive to grazing
Phase 3: tussocks seeding less sensitive to grazing
How long to spell for? With poor condition country, the full wet season - through to the fourth, dormant, phase

Phase 4:
seed returned to the soil
tussocks dormant and insensitive to grazing
Tools to assist with adjusting stock numbers

• Benchmarking:
  – land condition
  – current stocking rate against historical stocking rate or long-term carrying capacity

• Feed budgeting – know your animal intake and feed on offer

• Monitoring – land condition, residual yield, forage quality, Mitchell grass vigour, Mitchell grass seed production, seedling establishment

• Climate and pasture growth information, probabilities and forecasts
Benchmarking stocking rate against historical averages or long-term carrying capacity

- Know how you are travelling compared with your recent and longer history
- Know how you are travelling compared with your potential
- Be prepared and ready to exceed your historical average or your long-term carrying capacity
- Long-term carrying capacity can be exceeded in good years – so long as prepared to quickly reduce stock numbers in poor seasons
- Economic studies for the Mitchell grasslands estimate that being responsive to the feed on offer can improve whole property Gross Margin by up to 25% in the long-term
- This is not promoting overgrazing – it is about making sensible use of the feed on offer and still protecting your land condition
Historical stocking rates
Historical stocking rates

- Your own historical SR should be the simplest to calculate based on your own stock records

- You need to ensure that you compare apples with apples by bringing all stock types back to a standard such as:
  - DSE (dry sheep equivalent) – a dry 50 kg sheep
  - AE (Animal Equivalent) – a dry 450 kg beast
  - LSU (Livestock Unit) – a dry 400 kg beast

- AE tables have been provided in your handouts
Calculating long-term carrying capacity

• The long-term carrying capacity is based on the average pasture growth for the land types within a paddock accounting for:
  – Land condition
  – Tree cover
  – Safe utilisation rate
  – Demand of different types of animal
  – Evenness of grazing within the paddock e.g. excluding inaccessible areas within a paddock and discounting for distance from water

• Can be done within the Stocktake software, in spreadsheets or manually
  – Training is available e.g. GLM workshop
  – Fact sheets and possibly YouTube guides will be available within six months
Long-term carrying capacity can be exceeded

• Long-term carrying capacity can be exceeded in good years in paddocks that are in good condition;
  – our research suggests up to 40-50% above the long-term average is still safe

• Long-term carrying capacity is based on average pasture growth, and average rainfall (and other factors e.g. humidity)
  – if the year has 50% above average pasture growth, then can safely go above the long-term carrying capacity

• What can be achieved in any year depends on the feed present, on land condition and drought recovery
  – e.g. allow one full summer for drought recovery before increasing stock numbers
Long-term carrying capacity can be exceeded
e.g. stocking rates at moderate utilisation at Toorak
Forage budgeting

- Existing forage supply
  - Depends on rain and land condition
- Anticipated forage supply
- Forage quality
  - Too many stock reduce the amount available to individual animals
  - Eating into stalk e.g. below 15-20 cm height reduces quality
Residual yields/tussock height targets for Mitchell grass

- Aim for a minimum of 15-20 cm at the end of the grazing period

- Grazing to 10 cm or lower will damage Mitchell grass tussocks

- If grazed lower, then spell in the next wet season
Residual yield during a run of good seasons

Aim for 1,500kg/ha or more
Factor in the effect of supplements when doing a feed budget

• Urea or protein supplements in the dry season:
  – Allow for 15–30% increase in intake

• Phosphorus supplements:
  – No adjustment necessary

• Energy supplements:
  – May reduce intake of pasture
Stocktake is a handy forage budget tool
Monitoring

- Monitoring – land condition, residual yield, forage quality, Mitchell grass vigour, Mitchell grass seed production, seedling establishment

- A range of information out there – including the fact sheets and booklets provided today
Climate and pasture growth information, probabilities and forecasts

- Open Downs in fair to good condition grows an estimated 2300-3100 kg/ha of pasture in a year at Barcaldine
Probability of pasture growth at Barcaldine

- In the top 30% of years, fair to good condition country can grow 3200-4200 kg/ha

- In the lower 30% of years, expect 1300-1700 kg/ha
Forecasting and modelling tools

- Temper with common sense
  - e.g. at the moment, there are still high pasture yields and moisture in the soil
  - Barcaldine received 1001 mm for the 12 months ending in May 2011, which grew an estimated 3600 kg/ha of feed, about 1000 kg/ha more than the average

- The risks of a forecast of a good summer being wrong are not too severe – even average rain will produce good growth
- During drought, the risks of a forecast of a good summer being wrong are drastic
Latest Southern Oscillation Index values

- Date: 05 October 2011
- Average SOI for last 30 days: 11.7
- Average SOI for last 90 days: 8.0
- Monthly average SOI values:
  - July 9.1
  - August 2.6
  - September 11.1
Odds firm for a La Niña in 2011

- World meteorology organisation, BOM and QCCE all agree

- “The continuing cooling trend in the central Pacific Ocean since early winter is consistent with a developing La Niña event.”
For that area of WA within the thick line, October to December rainfall is commonly low and contributes only a small fraction of the annual total.
Chance of Exceeding Median Growth
October to December 2011

www.LongPaddock.qld.gov.au
Have effective systems in place

• Plan strategically and implement tactically e.g.
  – plan to spell, but be responsive to conditions across the property and perhaps alter the order of spelling
  – be ready to increase stock numbers during improved summers; this might include having cash reserves ready for buying stock
• Be responsive to the feed on offer
• Use adaptive management – it’s proactive not reactive
• Monitor, learn and adapt
• Make sensible use of the forecasting tools

• Destock more aggressively than restock – e.g. after drought, give a summer with no to little increase over drought numbers to allow the pasture to respond
Decisions for 2011/12 wet season

- Taken in isolation, the current SOI and promise of a weak La Nina may not be too exciting – but coupled with high carry over pasture yields and good soil moisture – the prospect of a good season is high

- How to do it?

- Every business is different, but today we have seen one example of a property using the guides, tools and systems that available

- We hope this will stimulate your own planning over the 2011/12 wet season, and beyond