



# BEEF NEW ENGLAND & NORTH WEST SLOPES news

WINTER 2008

NSW Department of Primary Industries, [www.dpi.nsw.gov.au/beefnews](http://www.dpi.nsw.gov.au/beefnews)

A quarterly newsletter for beef producers of the New England and North West Slopes areas of NSW.

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NSW DEPARTMENT OF  
PRIMARY INDUSTRIES

## Driving Profitability in Your Beef Herd

*Alastair Rayner, Livestock Officer (Beef Products) Tamworth*

**I**mproved profitability is a major goal for all producers, not just those with beef enterprises. In order to improve profitability producers often do one of two things; that is they attempt to reduce costs or to increase income.

Recent work conducted by the consultants Holmes and Sackett suggests focussing only on one strategy is not necessarily guaranteed to lead to improved profitability.

For instance some costs which are associated with an enterprise are essential if levels of production are to be achieved and the full value of livestock are to be realised.

Producers who are serious about improving enterprise profitability should be monitoring their enterprises. Many producers have considered assessing their cost of production. However a much better indicator to monitor is the Operating margin of the enterprise.

In simple terms the operating margin is the difference between

the income received per kilogram of beef and the cost of production of a kilogram of beef.

Data presented by Holmes & Sackett suggest that the operating margin explains around 80% of the difference in profit between herds. Their work also suggests that the cost of production is the most important factor in determining the operating margin of an enterprise. Cost of Production can account for 75% of the difference where as the income received per kilogram of beef only accounts for 25% of the difference.

Cost of Production is a measure many producers are now measuring. Cost of Production is the measure of the total cost of producing beef divided by the number of kilograms of beef produced. Beef produced should include all kilograms produced and sold as well as any kilograms that result in inventory changes.

In practical terms, knowing both the Cost of Production and Operating margin of an enterprise can give producers some clear ideas for improvement.

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The biggest variability and therefore the biggest influence on cost of production is the number of kilograms of beef produced. Rather than focussing on reducing costs, which may not make a huge difference to the overall Cost of Production, producers should instead focus on improvements in production.

Essential areas to focus on include reproductive rate, stocking rate and weight at turnoff which combine to produce the total kilograms of beef sold. Other key areas can also include meeting specifications, which will also improve the price received per kilogram of beef, which in turn improves the overall operating margin.

Even slight improvements in production can make significant differences to the kilograms of beef produced. Increasing herd fertility by 5% can result in a dramatic lift in kilograms at turnoff time. These increases can be achieved through more effective management of fat scores at calving, better grazing management and a sound health program. These techniques don't actually require investment in new technologies or an increase in costs, and can lead to definite improvements in overall enterprise profitability.

For producers determined to lift productivity, there is assistance available from NSW DPI Livestock Officers (Beef Products). Opportunities to learn how to measure your Cost of Production and determine Operating Margins are available through a one day workshop. In addition there are frequent workshops, field days and other opportunities to develop a program to improve your production and begin the process of increasing your operating margin and driving your profitability higher.

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## Coping with Climate Change – A long term plan

*Greg Reid Project Officer, NSW DPI, Wollongbar*

**S**oil moisture is the key to understanding why some parts of a property degrade under the impacts of climate change while other parts do not. Soil moisture availability varies according to soil properties and landscape influences such as slope, aspect and exposure to westerly winds. Areas most vulnerable to dry conditions suffer erosion and invasion by weeds such as love grass and whisky grass. Other areas are forced to carry the weight of grazing pressure and as a result thistles, fire weed and other opportunity weeds invade, soils degrade and pastures are slow to recover from dry periods.

In a subsidised course run by the NSW Department of Primary Industries landowners were shown how to map “Drying Order” on their property. Managers can use this tool to control uneven grazing pressures that degrade pastures and to plan rotation strategies that help avoid the long term damaging effects of dry conditions.

The landowners were also shown how to interpret soil test results and to measure critical data such as infiltration rate, compaction, ground cover, root depth, slaking etc. This information was used to classify soils in a simple grading. Combining soil grading with drying order makes it possible to recognise which areas need to be managed to minimise harm, which areas need means to build moisture retention and which areas need management to build soil fertility.

Even in good years, pasture growth will be limited several times by available soil moisture. By addressing problems such as poor infiltration, limited moisture storage, shallow roots or high evaporation rates it is

possible to get more pasture in dryer periods.

Of course there is no magic bullet. Effective strategies to improve available moisture have to be matched to the soil and the landscape. Building soil organic carbon is one way to improve available moisture storage. There are a number of ways to achieve this but it is important to know where it is practical and which measures will be most effective.

Gradually a paddock by paddock plan can be built to make each property more resilient to hot/dry conditions.

It is hoped this training program will be rolled out more widely in NSW later this year. To be notified when these workshops come to a location near you please contact Greg Reid on 66261213 or by email [greg.reid@dpi.nsw.gov.au](mailto:greg.reid@dpi.nsw.gov.au).



## Editorial

*Alastair Rayner, Livestock Officer (Beef Products) Tamworth*

Welcome to the 2008 Winter edition of the New England North West Beef News. Winter is often a challenging time for producers attempting to manage cattle with limited feed reserves, and this year looks to be as challenging as the past few years. If you do need some advice or input in designing a program to manage your cattle, don't hesitate to contact your Beef Cattle Officer, either myself in Tamworth or Matt McKiernan at Glen Innes.

An exciting development outlined in this edition by Matt McKiernan is the development of a prediction model to calculate fatness in cattle. This tool will be very valuable for producers aiming to meet specifications more effectively and achieve maximum value for their stock.

## Coming Events

### Beef-n-omics

Beef-n-omics continues to attract new producers who wish to undertake a specific beef oriented course. If you are interested in Beef-n-omics two courses are planned for later this year, which depending on demand will be around Tamworth and Inverell. If you are interested please contact the Tamworth office of NSW DPI on 02-6763 1100



The Grasslands Society will be holding their annual conference in Tamworth on the 21<sup>st</sup>, 22<sup>nd</sup> and 23<sup>rd</sup> of July. Loretta Serafin has outlined the conference details in an article in this newsletter, but for more details on the conference, including registration details contact NSW DPI, Tamworth on (02) 6763 1100, email [grassland.conference@dpi.nsw.gov.au](mailto:grassland.conference@dpi.nsw.gov.au) or check the Grassland Society of NSW web site: <http://www.grasslandnsw.com.au>

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## 2008 Grasslands Society of NSW Annual Conference “Pastures at the cutting edge Tamworth 21-23 July

Loretta Serafin, District Agronomist, Tamworth, NSW Department of Primary Industries

This year's Annual Conference will be held at the Tamworth Regional Entertainment & Conference Centre (TRECC), Tamworth on 21-23 July 2008.

This year local farmers have provided suggestions on the key challenging and relevant themes' to be covered in the conference. The organising committee consists of a mix of growers, agribusiness and seed company representatives, grazing industry and NSW DPI staff.

The theme for this year's conference is '**Pastures at the Cutting Edge**'. Presentations by scientific experts, industry consultants and local producers will focus on the latest pasture technology for profitable grazing in an era of challenging market conditions, climate variability, and environmental awareness.

The 4 sub-themes to be addressed during the conference are:

1. '*Making pastures pay – the profit drivers*'. Speakers will discuss contemporary and future influences, opportunities and practices that make producers more profitable and better able to manage variability.
2. '*Taking control of soil health*' which targets the use of biochar, soil organic matter, soil microbes and nutrient cycling and their roles in sequestering carbon, increasing yield and improving the efficiency of fertiliser use. First hand experience of rehabilitating degraded

country by a local producer will be a highlight.

3. '*Pastures on the horizon*' will explore future directions with conventional and molecular breeding for locally adapted varieties, the latest research into tropical grass agronomy and incorporating these into optimising animal nutrition. Producer experience with integrating temperate and tropical species for improved animal production will effectively pull the pieces of this puzzle together.

4. '*Balancing pastures, livestock and climate*' will focus on managing the feed year with producer talks on management strategies. Specialists will also reveal what pastures can do for climate change, defining the feed-year and management for improved grazing production.

Trade displays by sponsors will be a major feature of the conference and will showcase their latest products and information during the entire conference. Company representatives will be on hand for discussion.

Conference registration will commence Monday afternoon on 21 July and be followed by a tour of the Tamworth Agricultural Institute, the Annual General Meeting of the Grassland Society and a BBQ.

The conference will open on Tuesday 22 July with bus tours to 3 local areas and be followed by an afternoon of conference sessions. The conference dinner will be held that evening at the West Leagues Club.

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## Beef Growth and Fat Calculator

*Matt McKiernan, Livestock Officer (Beef Products), NSW DPI Glen Innes*

Being able to calculate how fat your cattle will become to help determine when they will be suitable for sale might become a widely accessible skill in the near future.

Beef producers throughout NSW have played a vital role in trialling the new 'beef growth and fat calculator' which is designed to take much of the guesswork out of finishing stock.

The growth calculator is the culmination of 14 years of research undertaken by the Beef CRC investigating how cattle grow, and is aimed at assisting producers to better meet market specifications.

The beef growth calculator uses a number of inputs such as the animals frame score, live weight, fat score and the quality of feed available to determine how much fat and weight will be put on by the time it is ready for sale. Alternatively the calculator allows producers to calculate the quality of feed needed, and time needed on this feed, before the animal reaches a certain weight and fatness.

This information can be used to make critical management decisions. For example, forage crops or supplementary feeding may be used to make animals grow faster, or producers may opt to grow cattle out gradually so they don't get over fat.

Markets currently revolve around weight and fat specifications, with producers receiving significant penalties for cattle not meeting the required weight or fat level. If producers are able to consistently meet

market specifications they are then able to maximise their returns.

The beef growth calculator will be of particular benefit in the feedlot sector and will eventually include descriptors such as breed, body dimensions, EBV's and genetic information from DNA markers to improve accuracy.

The calculator is now in an extensive trialling phase, where producers such as Trevor and Colleen Jorgensen (pictured) from Delungra and other groups across the state are assisting DPI staff to fine tune some of the live animal descriptors, and provide critical feedback for the future commercial development of the tool.



Producers will soon be able to access the calculator through the MLA website which will also include a comprehensive guideline to help producers use the tool at home with their own cattle.

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## Frequently asked questions about liver fluke

### 1. What is liver fluke?

Liver fluke is an internal parasite that can infect and damage the livers and reduce the overall productivity of sheep, cattle, horses, pigs, goats, alpacas and deer; even humans can be infected by liver fluke.

### 2. Where is liver fluke most prevalent?

Nationally, up to 40 million sheep and 6 million cattle graze pastures where liver fluke commonly occurs, predominantly across south-eastern Australia around shallow, slow moving water courses, marshy areas, springs, irrigation channels and soaks where the parasite's intermediate host snail breeds.

These areas are typically found where annual mean rainfall is about 600 millimetres or where irrigation supplements annual rainfall of around 400mm. Importantly, Western Australia proactively manages its fluke-free status.

### 3. How does liver fluke infect animals?

The liver fluke's lifecycle (see diagram) is dependent on a specific aquatic lymnaeid snail that breeds in waterways. During the warmer months, when mean temperatures increase to above 10 degrees Celsius, liver fluke eggs hatch when separated from faecal material in wet areas. The released larvae invades the snail, multiplying and developing into a tadpole-like form that leaves the snail and swims until it attaches to vegetation where it takes the form of an infective cyst. Depending on conditions, this process can take between two and three months.

Animals are at most risk of ingesting the infective cyst when grazing around waterways. At this stage immature fluke parasites hatch in the small intestine and then penetrate the abdominal cavity. The

flukes travel to the animal's liver where they burrow through the tissue before entering the bile ducts, a process which takes about 12 to 14 weeks in cattle, and between eight and 10 weeks in sheep. Here they become adult fluke where they lay eggs that are expelled through faeces to restart the life cycle. Each adult fluke can lay up to 50,000 eggs per day, rapidly contaminating pastures. Adult fluke have a long life and can remain in the liver, laying eggs, until the animal dies or has been successfully treated.

### 4. What damage does liver fluke cause?

During early stage infection, when fluke are classified as early immature and are burrowing through the liver, affected animals may not display obvious symptoms, but production losses can be severe. When fluke reach adulthood in the bile ducts production losses can be manifested by symptoms including bottle jaw, anaemia and weakness. In unvaccinated stock black disease, which is associated with liver damage resulting from fluke, can cause sudden death.

The level of damage caused to an animal depends on the fluke burden in its liver and the stage of infection. In **beef cattle**, chronic, longer term disease is common, with the main effects being low weight gain in young cattle, decreased milk production and finally the condemnation of infected livers at slaughter.

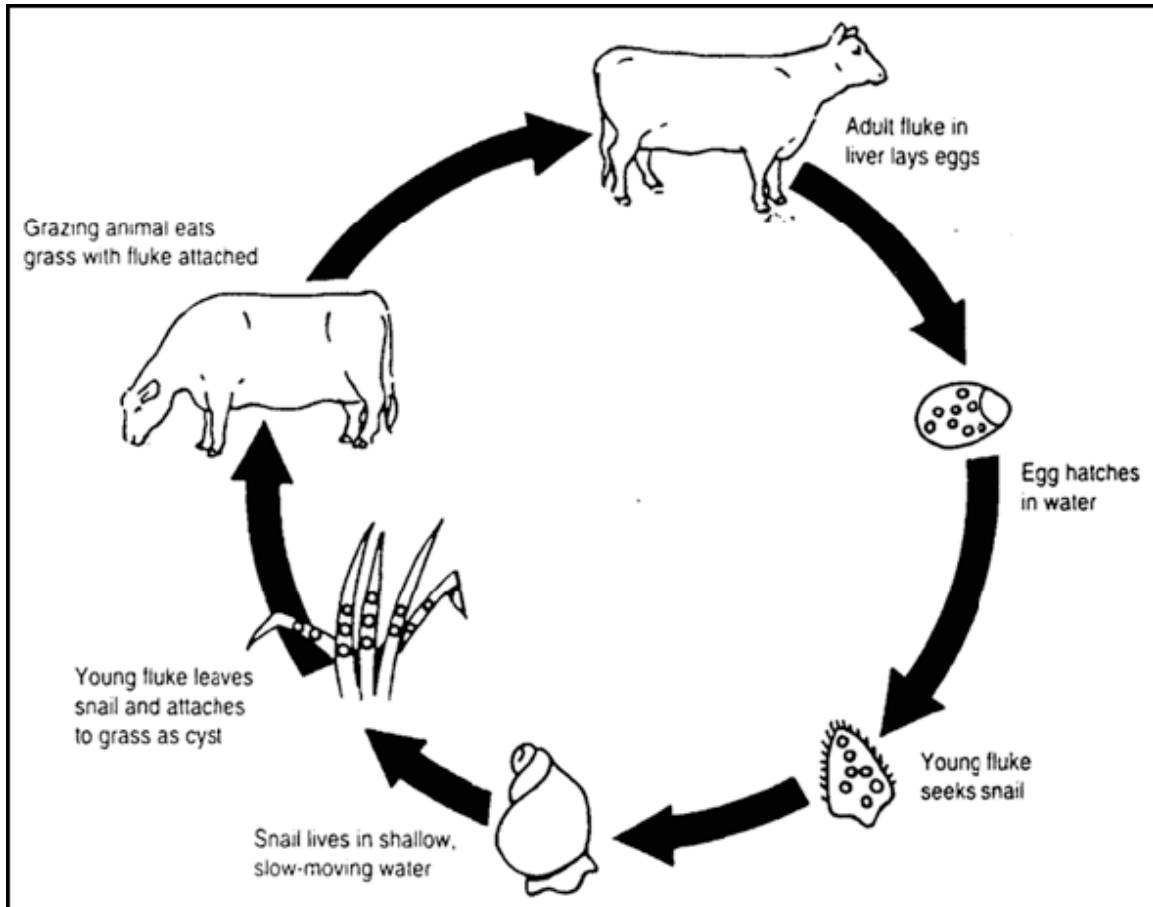
According to Meat and Livestock Australia, liver fluke can reduce cattle weight gains by 0.7 to 1.2 kilograms per week depending on the size of the fluke burden.

In **dairy cattle**, a heavy fluke burden can cause a loss of up to 300 litres of milk per cow per lactation.

In comparison to control strategies for other internal parasites, it is recommended a zero tolerance approach be taken once results prove positive for liver fluke, because even light burdens cause significant damage,

particularly in younger stock, which are more vulnerable to the parasite.

It is also important to test purchased stock to mitigate the risk of contaminating fluke-free areas.



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## New Resource for Understanding Variation in Soil Types

*Lachlan Rowling, Salinity Advisory Officer NSW DPI – Tamworth*

Staff from NSW DPI have compiled a new visual resource to help enhance our understanding of soil type variation on the slopes and tablelands of Northern NSW.

Local SOIL MONOLITHS – are a new and practical learning tool designed to enhance producers understanding of soil type variation across their farm and district.

These monoliths are large soil cores that have been preserved and cased to represent the exact soil type taken from the chosen paddock ‘in situation.’ The real asset to this resource is our ability to observe subsoil features that are not always obvious at the land surface and soil variation based on parent rock type.



As an example, Soil Monoliths for the Northern Tablelands have been taken from a number of sites. These include a coarse granite from the Bendemeer

district, a fine granite from the Wollun district and a Sedimentary Trap soil north-east of Armidale.

Each monolith is also backed up with additional resources including soil test results, unique / distinguishing features, variation in profile layers (including topsoil and subsoil), and constraints or limitations to production.

Each monolith is vastly different to the next and is indicative of the immense variation in our soil types and their land use capability in the region. This variation may be based on features that are natural or inherent for that soil type eg. texture, depth, natural fertility or features may be more indicative of land-use / management change including physical structure, fertility and organic matter.

Stay tuned for local soils field days based on the theme of these soil resources in the near future.

