Grazing Bestprac

In The Paddock

YOUR COMMUNITY NEWSLETTER UNITING ALL SEGMENTS OF THE RURAL INDUSTRY.

February 2011

Pastures - need rest to recover

The floods in Queensland and New South Wales have have caused a great deal of immediate damage to pastures and crops which need to be managed for fast recovery. And there is a huge variation in the severity of damage to plants across paddocks and across species. In some paddocks, there is little damage and pastures are recovering fast as they were either not inundated for long or the plants had their leaves above the water level. These pastures require sound grazing management including rest and rotational grazing to regrow throughout the year.

Many paddocks along water courses and on flood plains have had pasture submerged for up to two weeks with up to three metres of water and then covered in a layer of silt, have killed many pasture species. Mature plants which we would expect to handle the flooding such as Bambatsi and many legumes have also been killed. The flooding and overland flow has given the plants a tripple wammy in that the plants are now dead and it is difficult for new plants to germinate through the silt layer. To add to the dilemma, nitrogen, iron and zinc have been lost from paddocks via leaching and denitrification.

These areas covered in silt may be slow to recover at first, and will require rain to settle the crust, but may be the most productive paddocks in coming seasons as the silt is similar to a layer of nutrients (top dressing). The damaged pastures will require careful management to enable recovery this year. The outcome of this flood is very similar to a raging hot fire where plants are destroyed and must regrow from either seed in the soil (seed bank) or from new pasture seed. Some grass plants have survived and are pushing up new tillers, seen as a green tinge across much of this country. If stock are allowed to graze those young struggling plants, they will slow the chance for recovery and maybe kill the plants (similar to burnt country).

In some paddocks, the native pasture plants (Bluegrass, kangaroo Grass) are responding ahead of the introduced species, such as Buffel grass and Rhodes grass. And many paddocks also have large numbers of broadleaf weeds beginning to shoot with some annual grass plants including Urochloa being the first to create ground cover. The biggest hurdle to overcome is the patchiness of the damage, with small areas of big paddocks surviving and the temptation is always to graze that paddock.

Now is a good time to conduct a full property audit of the damage to pastures and cropping paddocks, to enable a full year plan to be developed. This plan will help farming families to have confidence moving forward as pastures which are summer dominant will have a lower than average chance of recovering this summer. Most graziers have several options to work through including:

- Sowing pastures
- Resting country (destocking)
- Rotational grazing
- Pasture Cropping (direct drill oats, legumes, pasture in winter)

Since the summer season is coming to an end, it is more important to plan out the way forward for the winter feed gap. Maybe a sound option in both central Qld and northern NSW would be to consider an area of pasture cropping across the decimated pastures.

BE QUICK TO BOOK IN TO THE Rotational Grazing Field Day being held at "Albeni" Springsure on the 21st February. For more information, on the field days and workshops or for more grazing management information, contact Cathe or Mick at Grazing BestPrac on 0749 383919 or 0438 395255.

Stubble Management Options

One of the most exciting breakthroughs in farming systems in the past decade is the establishment of microbial treatments & foliar sprays to aid in the breakdown of stubble in the paddock. In the past, many of us burned the stubble so we could plant a second crop straight after harvest. Now we let the microbes do the job for us.

CSIRO research has shown the best way to breakdown stubble is by

1 maximising soil contact with the trash (stubble),

2 increasing oxygen supply with minimum cultivation,

3 a small nitrogen application and

4 starting the process as soon after harvest as possible.

Well known bio-agronomist, Bart Davidson explained, often, the fungi are already in the paddock and simply need feeding a nutrient brew (FungalFuel) to get them working and the stubble will disapear. Sometimes it may be necesary to add some Fungi to the paddock (Enviro-Pro BreakDown) to start the process going. Which ever brew we recommend, it is very important to begin immediately after harvest to make sure the stubble has good soil contact and enough time to break down before planting. If you would like to know what the fungi look like in the paddock, or for more information, call 1800 915191 (Bio-Nutrient Solutions)

Conventional spray tank set up to apply microbial food (FungalFuel) source and decomposing microbes (Enviro-Pro Breakdown) for digesting stubble.

Kelly Chains used to incorporate spray brew and reduce the size of stubble prior to planting.

Flood Affect on Pasture

It is important to understand what level of waterlogging has occurred and look at some opportunities for recovery.

There are generally two types of floods. The first is often described as a “flash flood” which usually covers pastures from one to four days. The second is a”prolonged” flood which extends for five or more days of flood waters covering a pasture. If plants are covered for more than a few days, they will die.

In a normal year, soils are generally friable and open with millions of air pores that supply oxygen to plant roots, soil microbes and insects. However, once pastures have been waterlogged for any period, the air pores in the soil reduce until eventually the microbes cannot source oxygen and the soil becomes anaerobic. Low levels of oxygen in the root zone trigger the adverse effects of waterlogging on plant growth. Waterlogging of the seedbed and inundation, most affect germinating seeds and young seedlings. Established plants are most affected when they are growing rapidly as root tips begin to die within a few days of waterlogging. The shallow root systems that then develop limit the uptake of nutrients (particularly nitrogen) and water.

Nitrogen, zinc and iron are lost from waterlogged soils by leaching and denitrification (degassing). These losses, together with the lowered ability of plants to absorb nutrients from waterlogged soil, cause the older leaves to yellow. Waterlogging also directly reduces nitrogen fixation by the nodules of legume crops and pastures. Therefore, it may take several months for plants to recover or to be re-established.

The 7 Step Plan to manage pasture recovery -

- Mob the cattle up into as few mobs as possible
- Lock them into one or two paddocks.
- Rest as many paddocks as possible
- Impact one paddock at a time with as many stock as possible
- Supplement if necessary as protein will be low
- It may be better to source agistment in the short term
- This may be a good time to re-seed some paddocks if necessary

Grass increases OM levels

Recent on-farm trials in CQ have demonstrated the potential for carbon sequestration under well managed grazing programs and especially using perennial pastures as the base. In the past three months, we have conducted some simple research of soil under pasture plants and in an area only two metres away with no active growing plants. It was astonishing to see the bare soil (C) with no plants was 1.4% (OM)organic matter (0.8% SOC) and the soil under the plant (B) was 5.0% organic matter (2.9% SOC). The difference was nearly a 260% increase in organic matter. This site (above) was a highly degraded ridge which had few trees and some grass plants, mainly Indian Couch, Black Speargrass and some native annuals. This area had low ground cover of less than 30% on average. Sample B was much darker in colour than C, highlighting the darker colour of humus. Our only explanation for the difference is that the grass plants were able to sequester carbon via the liquid carbon pathway (photosynthesis) and it was stored as various forms of carbon around the plant root rhizosphere. And that's just one plant in a small area. Just imagine the potential for this landscape, if we can increase the number of plants operating in this system. An article in the February Australian Farm Journal "Soil health stands out on pasture cropping founder's farm" discusses the success of pasture cropping as a tool to increase the number of perennial plants in a grazing system. It explains the most recent research conducted to assess the work of Colin Seis, Winona (Gulgong) in NSW and how he increased the ground cover using perennial pastures, pasture cropping and rotational grazing. In the trial, the pasture cropped paddock had 18 times more perennial plant basal ground cover than a comparison paddock which was conventionally grazed and intermittently farmed. It seems that any program that can improve the number of plants and basal cover of perennials must sequester more carbon. Sometimes, I think if only the scientists could think like farmers, we would really get this country on track.

Soil Biologist supporting the farming community in central Qld.

Dr Ashley Martin (CIAFF) a specialist microbiologist from Adelaide will be visiting central Queensland to explain the role of microbes and the best method of helping microbes to re-establish (Grazing BMP) in waterlogged soils. Mr Martin runs a laboratory and analysis business called Creation Innovation Agriculture and Forestry (CIAAF) with the aim of empowering farmers, agronomists, natural resource managers, fertiliser manufacturers and Government to make informed decisions about the use and management of microbiology in soil, water, compost, fertilisers and other media. Mr Martin will be visiting the Biloela and Springsure districts in late March/ April as part of the Best Practice Groups program and the CQ BestPrac project. Please check the dates and times in the calendar of events and on the GBP website. (Don't miss this?)

Flood support in Queensland and NSW.

The Federal and State Governments are supporting farmers and graziers with $5000 grants (requiring no receipts) and $25,000 grants (requiring all receipts) available. For further information go to http://www.qraa.qld.gov.au/. There are also fodder drop freight subsidies of up to $5,000 and concessional loans of up to $250,000. The grants are available until 30 September 2011.

• The Department of Employment, Economic Development and Innovation (DEEDI) are still coordinating
Fodder drops for those in need, if you need any Fodder or If you have any fodder avaiable, contact the Brisbane office on 132523 to register your details.

The Australian Taxation Office (ATO) has released some details on its Emergency Assistance program:
• Deferment of due payments up to 3 months.
• Lodgments are deferred until 21ts of March.
• The ATO is currently working through postcode by postcode to install automatic deferments.
For further information please call the ATO Emergency Assistance number: 1800806218

CALENDAR OF EVENTS

SOIL & PLANT NUTRITION (One Day) Workshops

Wagga Wagga	Feb 22
Culcairn	Feb 24
Coonamble	March 4
Moree	March 10
Mt Gambier	March 15
Geelong	March 17
Tamworth	March 25
Chinchilla	March 29
Biloela	March 31

SOIL AND PLANT NUTRITION is now ONE DAY

Bart Davidson (SPN Agronomist) will present a combination of the latest cutting edge science and demonstrated practical hands on application for both cropping and grazing enterprises. As a switched on farmer/ grazier, this will be the most enlightening day you have had for many years. You will learn the impact of balancing nutrients and improving microbial activity for productivity and profitability. Call Cathe for more information and to book. 0749383919

TECHNOLOGY OF GROWING GASS (ONE DAY) Workshop

Moura	March 8/9
Rockhampton	March 16
Emerald	April 14/15
Mundubbera	April 18/19
Charters Towers	May 9
Hughenden	May 11
Clermont	May 31
Nebo	June 2

The TOGG is now ONE DAY

Mick Alexander and Shane Krafft deliver the most stimulating and complete workshop on the science of growing pastures in Australia. You will learn about the importance of your management in managing plant nutrition, soil microbes, water holding caspacity, vegetation and carbon. Gross margins can be increased - come and learn how? Call Cathe for more information and to book. 0749383919

ROTATIONAL GRAZING FIELD DAY

Monday - 21st February

Book fast to attend the highly anticipated Rotational Grazing Field Day to be held at "Albeni", Springsure.

Key topics include:

Development planning, fencing, stock management, blade ploughing, water design, funding projects, training and much more.
For more info, book at 0749 383919 or 0749 822996.

CQ BESTPRAC

BESTPRAC GROUP MEETING (CQ) April 1st

Dr Ashley Martin (CIAFF - Soil microbiologist) and Bart Davidson (SPN Agronomist) will present a mix of science and practical hands on application for both cropping and grazing enterprises.Please call 0749 383919 for more info..

Plants Improve Soil Health

By Shane Krafft

We continue to learn more exciting information from leaders in agricultural science such as Dr Christine Jones, Peter Andrews, Bart Davidson and Dr Maarten Stapper about how plants manage the environment. Often we can see it in our own backyard, but don't know what it means. Getting a soil test carried out is only the first step as often the numbers are just a jumble. Some recent soil tests we have collected at Jambin near Biloela in central Queensland, highlighted the importance of plants managing the system. Soil samples collected from a cultivation paddock and a grass paddock that are side by side with the same soil type, but different numbers due to management.

While collecting the soil samples the visual differences noticed were.

Visual differences	Grass Paddock	Cultivation
Texture of soil	Coarser	Finer
Organic matter	Darker colour	Lighter colour
Earthworms	Many	Not sighted
Roots in soil	Many	Few
Visible Fungi	Lots	None

The pH of the grass paddock was 6.75 and the cultivation was 7.54 and after a complete EAL analysis the key nutrient differences in the soil test included:

The grass paddock has

- 62% more available Potassium
- 172% more available Phosphorous
- 160% more available Sulphur
- 14% more Calcium as CEC %
- 11% less Magnesium as CEC %
- 60% less Salt
- Most available trace minerals are significantly higher in the grass paddock

The big number is Total Carbon.

- Cultivation paddock 1.63%
- Grass paddock 3.05%

Outcome - The soil in the grass paddock can effectively store double the amount of water as the cultivation. Therefore, the challenge to us as producers (farmers and graziers) is to maximize the length of time an actively growing plant is present in our soils. If you would like to learn more about your pastures, soils, plant nutrition and strategies to improve the bottom line, check out the dates for the coming "Technology of Growing Grass" (TOGG) and "Soil and Plant Nutrition" (SPN) workshops.