



# Over The Fence Newsletter

## MERRY CHRISTMAS



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### FEATURE STORY

Comparisons between five premium liquid feed supplements.

### Peter Andrews WOWS CQld again .....

A crowd of more than 60 people participated in a field day with Peter Andrews of NSF "Natural Sequence Farming" on the 7th December, at Esher and Montevideo, west of Rockhampton.



Peter Andrews at 'Westwood' in December

### Other Articles

#### Early Weaning a good option

New Horizons in soil management.

#### SOS for Dung beetles

#### GM driven by nutrients

#### Healthy Soil, grass and cattle photos.

In early December, Peter worked with 6 grazing families in the region to develop future plans for rehydrating the land and increasing biodiversity of the landscape (More water infiltration, more pasture and more production). On the 6th December, he presented his experiences to the large crowd at "Esher", Peter and Simone Lawrie's property and then demonstrated the basics of NSF using a garden hose and shovel to move soil and water. Although, this is a highly controversial concept, it will revolutionise natural resource management, once it has been accepted by state government agencies.

Peter visited Theodore, Thangool, Biloela, Gogango and St Lawrence. During the week. If you would like a consultation with Peter in February, please call 0749 383919

### Editors Desk....

#### Become effective in 2010

Christmas — Tis' the time to be thankful for all the benefits we receive from living in a free country with clean air, clean water, an abundance of fresh food and free speech. In fact, farmers and graziers are the primary producers of both clean air, fresh food and the majority of clean water.

In the past year or two, the farming community have been blamed for the state of our atmosphere, increasing greenhouse effect and any other problem known to man. To some degree, we must take responsibility along with governments, for the state of our soils and natural resources.

It is in fact that our actions in managing the land, increasing technology, driving vehicles, spraying chemicals and using fertilizers has had an effect on the soil health. We have reportedly moved our soils from 4, 5 or 6% carbon to maybe 1 or 2% carbon in the past 40—50 years. That's a very serious loss of fertility and water storage capacity across the country.

Today, Australian farmers are known as the most efficient farmers in the world. Maybe our efficiency has been riding on the back of reducing soil carbon. In the past, we are told that every new technology will solve the problems. Conservation farming, controlled traffic, chemical fallows, genetic engineering, GPS auto steering and the list continues. But every problem is seen from on top of the ground without looking at the effect on the living soil. Not one of these solutions looked at the microbial changes due to the new practice.

It's time to change the paradigm — we can only solve today's problems by using a new model for farming and grazing. We need to become effective at managing the soil — ensure the soil is healthy and improving. Then we can become efficient.

In 2010, GBP will be establishing BestPrac groups around Queensland and New South Wales, with the aim of working closely with individuals and families to implement effective change—managing the soil. We will have more information in the next newsletter. If you wish to know more, about the new groups or to form a group, call the office on 0749 383 919 or going to [www.grazingbestprac.com.au](http://www.grazingbestprac.com.au). Blessings to all for Christmas and the new year. Mick and Noela Alexander and Shane Kraaft.

# Supplementation is priority for most beef producers - A simple comparison between five Commercial Liquid Feeds available



Feeding stock can be a big expense for any business, but even more so when we do not understand the feed requirements of stock and the capabilities of our pastures. It is a matter of matching the requirements of our stock (protein and energy) to the pasture (protein and energy) and supplementing the protein or energy which is missing.

In most dry seasons, we are more concerned with replacing the protein (nitrogen) component of our pastures, and a small amount of energy (carbon). Usually, we only need to replace protein if the crude protein in the grass falls below 9%. Then we

will use a urea based supplement. In most dry seasons, if we have enough dry grass pasture, the energy is generally adequate. However, it seems the long dry season of 2009 has led to a low protein and low energy situation and many more producers are looking to use supplementation to manage the season. Therefore, it is important to be able to make good sound decisions as to the supplementation or production strategy we are undertaking.

In the last newsletter we compared four types of Urea based supplements including molasses products. As the current season continues to deteriorate, energy has become the limiting factor in the diet of our stock. Molasses is one energy source available to use in a supplement program.

Molasses supplements are most effective with some dry feed available in the paddock. The two major elements we are requiring from molasses based supplements are Protein and Energy. Minerals and vitamins are also added to many of these supplements

Table 1 demonstrates the energy and protein requirements of each animal weight class and table 2 compares the price per litre or kg of each product .

In table 3, we compare the level of protein energy and minerals available in five supplements and comparing the cost price of each unit or percent of protein and each megajoule of energy. There are many variables with each product eg full service with paddock delivery vs delivery to your bulk storage and you distribute to the stock .

For specific supplementing advice contact your preferred supplier or nutritionist or you may call Shane Krafft on 0409 189256 at Grazing Bestprac to source more information

Live weight	Growth rate	Max LW dry matter (DM) intake		Metabolisable energy (ME)	Minimum ME of diet	Crude Protein percent of dietary dry matter
(kg)	(kg/day)	% liveweight	(kg)	Mj/ Day	(MJ/kg DM)	(%)
150	0	2.9	4.3	22	5.2*	8
	0.5	2.9	4.3	37	8.7	12
	1.0	2.9	4.3	50	11.6	13
200	0	2.2.8	5.5	26	4.8*	8
	0.5	2.8	5.5	44	8.0	11
	1.0	2.8	5.5	59	10.7	13
300	0	2.5	7.6	35	4.6*	8
	0.5	2.5	7.6	57	7.5	10
	1.0	2.5	7.6	76	10	13
400	0	2.4	9.4	45	4.8*	8
	0.5	2.4	9.4	71	7.6	9
	1.0	2.4	9.4	93	9.9	13
500	0	2.1	10.7	55	5.1*	7
	0.5	2.1	10.7	82	7.7	10
	1.0	2.1	10.7	108	10.1	12

\*Note Cattle on these diets may not eat to full appetite, because of very poor quality (low ME) diet.

Table 1. Steer and heifer energy and protein requirements (after weaning)  
Source Dpt Natural Resources and Environment Victoria.

Product	Molafos 15	Trugraz	Anipro (Sour)	Stock Plus	Quicklick Topline
Cost/ litre	\$0.38/kg	\$0.41/kg	\$0.73/litre	\$0.69/litre	\$0.27/litre

Table 2. Cost per litre or kg for the five best known liquid supplement products. Pricing is based on delivery to Biloela, central Qld on 7th December 2009.



Product	Molafos 15	Trugraz	Anipro (Sour)	Stock Plus	Quicklick Topline
Supplier	Champion Liquid Feeds	Riverina	Performance Feeds	Bio Nutrient Solutions	Cattle King
<b>Nutrient Content</b>					
Dry Matter app	68%	65%	N/A	app 50%	27%
<b>Urea %</b>	<b>3.5</b>	<b>6</b>	<b>10.45</b>	<b>8</b>	<b>4</b>
Crude Protein %	12	20	30	22	12
Natural Protein %	3	3	2	2	5
Total Protein %	<b>15</b>	<b>23</b>	<b>32</b>	<b>24.24</b>	<b>17</b>
Approx Cost per % of Total Protein per KG	<b>2.5 cents</b>	<b>1.78 cents</b>	<b>1.84 cents</b>	<b>2.26 cents</b>	<b>1.39 cents</b>
<b>Energy (MJ ME / kg ( as fed to stock)</b>	<b>7.14</b>	<b>5.46</b>	<b>appr 2 **</b>	<b>appr 5.5</b>	<b>4</b>
Approx Cost per Megajoule of Energy per KG	<b>5.3 cents</b>	<b>7.5 cents</b>	<b>29.5 cents</b>	<b>10 cents</b>	<b>6 cents</b>
Phosphorous %	0.55	0.8	0.25	0.83	0.185
Calcium %	0.65	1.2	0	1.52	0.66
Sulphur %	1	0.6	0.4	0.29	0.28
Magnesium %	0	0.3	0	0.24	0.42
Salt %	2.5	11	3	3.16	0.3
Copper mg / kg	25	30	150	200	31.9
Cobalt mg/kg	1.5	5	6	5	2.6
Iodine mg/kg	5	5	13	10	1.78
Zinc mg/kg	300	400	450	300	128.5
Selenium mg/kg	2.25	1	1	2	2.2
Manganese mg/kg	300	400	410	0	161
Iron mg/kg	0	500	0	0	161
Vitamin A	60mg/kg	67000 IU/kg	30000 IU/kg	40000 IU/kg	50000 IU/kg
Vitamin D	0	8000 IU/kg	0		4000 IU/kg
Vitamin E	0	250 mg/kg	150 IU/kg	300mg/kg	125 IU/kg
<b>Recommended Daily Intake</b>					
<b>Weaners</b>	0.5 to 1.0kg	0.3 to 0.6kg	125ml per100kg liveweight	0.4 to 0.6 litre	0.5 to 1.0 litre
<b>Adult Cattle</b>	1.0to 2.0kg	0.6 to 0.85kg	125ml per100kg liveweight	0.5 to 1 litre	0.5 to 1.0 litre
<b>Wet cows</b>	1.5 to 3.0 kg	0.6 to1.1kg	125ml per100kg LW of com. cow and calf weight.	.5 to 1 litre	0.5 to 1.0 litre
<b>Weight/Volume</b>	1 litre =1.33kg	1 litre = 1.3kg	1 litre =1.24kg	1 litre = 1.25kg	1 litre = 1.14kg



\*\* note Anipro is marketed as a protein supplement. Molasses is 1.4 kg per litre Table 3. Price comparison between 5 commercial liquid supplements (7<sup>th</sup> December 2009 at Biloela, central Qld).

*"It is a matter of matching the requirements of your stock (protein and energy) to the pasture (protein and energy) and supplementing the protein or energy which is missing."*

## Early Weaning a good option..

**Decision time for feeding cows and calves to ensure cows get back in calf.**

The most important issue right now is to find the most cost effective method to keep the cow in a score 3 condition and give the calf a good start. In the past months, it has been possible to get away with feeding dry lick or liquid supplement, but with calves on the ground it is very tough.

The option which some graziers in Central Queensland, have taken is to wean their calves at six weeks of age, and feed at 20% protein pellet and hay, at a cost at approximately \$1.00 - \$1.50 per day per head. This allows the cows to dry off, get condition back on them and back in calf for the next calving season.

The calves are fed calf pellet until they reach 80kg live weight, and they are then put on 18% protein pellet and hay diet, at approximately \$1.50 - \$2.00 per day, until they reach 120 - 130 kg live weight. After this if there is still no feed they are put on a weaning pellet which is 14% protein at a cost of approximately \$1.50 - \$2.50 per day. By the time the calves are on the weaning pellet, the cows have put on condition and back in calf.

A lot of farmers are opting to choose this way, as the cost of feeding their calves is a lot cheaper than feeding their full grown cows. Cows will eat approximately 3 % of their body weight on a grain diet, and this can cost up to \$4.00 per head per day.

The costings will vary depending on grain and supplement prices. Contact your nutritionist for a plan to feed your stock correctly, or for more information about a personalised feeding program, contact John Lee at Rocky Custom Stockfeeds Ph: (07) 4931 9111/ Mob: 0438 638 307

## 300 PARTICIPATE IN HEALTHY SOILS GRASS AND CATTLE WORKSHOPS IN 2009.

We wish to thank the more than 300 graziers and extension officers from around Queensland and northern New South Wales attended the 18 “Technology of Growing Grass” workshops held in a 6 month period up until November 2009. The high numbers have demonstrated, there is a big need for education in carbon and grazing management. This is a record for both attendances and for numbers of workshops being run by a private or government training provider. Workshop attendees varied from 10 to 30 people per workshop and included farmers and graziers, staff from NRM groups and staff from the Namoi CMA.

We would especially like to thank all of the more than 18 families who have been so generous in hosting on-farm visits, donating their time and opening their properties for inspections. The training activities would not be as successful if not for the on-farm visit, which put many of the topics into context. Merry Christmas and Happy New Year..

Some of the hundreds of comments included:

The course showed us how exciting agriculture really is.

It brought all of the ideas and concepts together with the science and practical application. Thankyou.

Lots of passion, fun and knowledge. A thoroughly enjoyable 2 days. Keep up the good work.

Our future will be exciting in the grazing industry.

Great workshop with new information, I hadn't seen about soils.

We can now solve weed and plant problems with a new way of looking at it.

Great content, great speakers and breaking new ground.

Wonderful workshop—we need follow up workshop in 2010.

We will have a full summary online in 2010.



# The Importance of pH and Water Analysis

(the following section is adapted from Ian Gundrill pers com and Bore Water Solutions 2009)

Water analysis is extremely important particularly when bore water is being used. All water sources have potential hazards for livestock consumption. They may be: pH, Salinity, Total Hardness, Bacteria, Iron, Algae or Low Dissolved Oxygen etc. Most water sources are suitable or can be made so with a few adjustments, which can be made by specialists such as Gundrill Trading.

## **pH, what should I look for?**

Firstly you are likely to ask, "what is pH? To avoid taking up valuable space I'll simply put it like this. "pH (potential of Hydrogen): A measure of the degree of the acidity or the alkalinity of a solution as measured on a scale of 0 to 14. The midpoint of 7.0 on the pH scale

NEUTRAL								
← ACID ←				→ ALKALINE →				
Very strong	Strong	Moderate	Slight	Slight	Moderate	Strong	Very strong	
3	4	5	6	7	8	9	10	11

represents neutrality--that is, a "neutral" solution is neither acid nor alkaline. It is important to understand that pH is a measure of intensity, not of capacity. The pH of 8 indicates alkaline water not how much alkalinity it contains.



The pH of natural waters normally falls between the range of pH 4.0 to pH 9.0. Soils generally are highly buffered systems and the pH of the soil would not be significantly affected by the application of irrigation water within this range. Waters having pH values greater than 8.0 would be expected to contain sodium carbonate and bicarbonate and the waters usefulness would depend on the amount of these salts present. Corrosion is more rapid in acid than in neutral or alkaline waters. Irrigation with strongly acid water may dissolve iron, aluminium and magnesium from the soil in amounts that could be toxic to plant growth.

So why is this so important to me? It's very important when your pH is high (Alkaline) The rumen functions at about 6.2 – 6.5 pH (slightly Acidic), when water is offered with a pH exceeding 8.0 it's likely that consumption rates will be down or are about to go down, even when supplement is not added. Add Urea and sulphate of ammonia and it is very likely that you will experience an ammonia blowout at some point. It is a good idea to get your water tested for pH and any other contaminant which may reduce stock intake.

take. Call 1300 888008 or 0755 800306

## **Best Practice Groups—managing change.**

We realize how difficult it is to do something different to the norm, when information is scarce and when the majority of the community do not understand the new ideas. This is why you are in the top 10% of innovators in the country. Since completing the TOGG workshop, you now know more about how your soils and plants operate than most other farmers and graziers and extension staff.

At the workshop, you were given a list of the best resources and contacts for water testing and soil testing etc, and we will give you a more detailed list and even better resources in the new year. Our contacts and networks are continuing to grow.

The group process will help you to learn more about getting the most from your soils and pastures as well as methods of increasing carbon levels and drought resistance. It will be a source of learning from each other and will have access to a bio-agronomist who understands your area, soils and issues.

The group process will also have access to other workshops being delivered and supported by Grazing BestPrac, Bio-Nutrient Solutions, Natural Sequence farming, Maarten Stapper and many other programs. We will be working to establish a number of groups around Queensland and New south Wales in coming months. The groups will consist of:

- ⇒ 10—12 families
  - ⇒ Self managed
  - ⇒ Meeting 3 times per year.
  - ⇒ Working with a bio-agronomist.
  - ⇒ Autonomous and based locally
  - ⇒ Working on improving soil health
  - ⇒ Exciting passionate people and the best possible support
- Please ring 0749 383919 or  
Shane on 0749 958330 for more information..

## **Maarten Stapper and biological farming.**

*Dr Maarten Stapper – was a farming systems agronomist with CSIRO Plant Industry. He left 2 years ago and is now working closely with many graziers and farmers to improve soil health and yields. Maarten's story was on Australian Story in 2009 and can be seen at this link <http://www.abc.net.au/austory/specials/stapper/default.htm> The following article is an introduction and was written by Maarten.*

**In a nutshell:** Soil fertility is the capacity to receive, store and transmit energy to support plant growth. These processes require healthy soils – living, self-organising systems with physical, chemical and biological components all functioning and in balance. Continuous use of acidic or salty synthetic fertilisers, insecticides, fungicides and herbicides disrupts this delicate balance. Organic Farming has recognised this, but needs to follow its leaders to active soil fertility management. Carbon, in particular, is of critical importance and needs to be maximised through capture with solar energy through photosynthesis by green plants, and optimum storage and use in the soil. Before we can hope to improve systems, however, we need to understand (1) why they are the way they are, and then (2) how science and practice can help to actively manage soil biology to improve and maintain soil fertility, and achieve more sustainable, healthy and productive farming systems – even on our fragile Australian soils in a highly variable and changing climate.(Source Dr Maarten Stapper)  
More story = next edition.

## Gross Margin (\$) driven by nutrients.

Stuart Gall, is one of a new breed of primary producer who is managing both his biology and nutrients for increased yield and quality. Stuart operates a farming operation at "Tycannah Station", Moree, where he planted 835 hectares (2060 acres) with a Sorghum summer crop in September 08. He planted direct into a long fallow out of wheat with no starter fertiliser or Nitrogen.

After a wet start including some hail, he carried out some sap tests to assess nutrient levels. The tests showed up high nitrate Nitrogen levels and low Ammonium Nitrogen. The Potassium, Calcium and Zinc levels were all lower than desired. This result is fairly common in rapidly growing sorghum in which nitrate is pushing more leaf production and other nutrients are struggling to keep up in the plant.

Calcium, Boron and Sulphur are very slow to translocate through the plant which is why they are often at less than desirable levels during rapid vegetative growth and leaf production, they simply can't keep up to the plants demand for nutrients based on the high Nitrogen supply. At its worst this is the cause of crops collapsing at the end of the season when there isn't sufficient plant structure in place due to early rapid vegetative growth from the high Nitrogen.

Getting some Calcium and Zinc into the crop was highlighted to be important so that structure would not be compromised and to increase nitrate conversion to protein in the sap. Normally Stuart would not use a foliar but late November – early December, approximately prior to flowering he decided to apply CalPac. The recommended rate was 12L/ha. The CalPac was applied as a foliar by ground rig and nil strips were left as a control to see if there was any marked change in the crop yield at harvest. As Stuart wanted to stretch out to a slightly larger area he lowered the rate to 11L/ha.

Following the foliar application there was a very hot and dry January with rain only in February after the harvest had started. At harvest there was no statistically *significant* difference between the yields of the separate treatment strips. However the big difference was in the quality of the Sorghum produced.

The control strip without CalPac was graded as Sorghum 2 due to pinched grain. Where CalPac was applied the Sorghum went up a grade to Sorghum 1. At the time the market value on Sorghum prices meant the higher grade was paying an extra \$39/T. Even based on the similar yields this is resulted in a phenomenal increase in profit (~ \$185/ha). Expenses totalled \$24.50/ha comprised of \$17/ha for CalPac and \$7.50/ha application cost (table 1).

Foliar rate Litres/ ha	CalPac Cost/ ha	Application Cost/ ha	Benefit	Returns/ ha
11 litres	\$17.00	\$7.50	Grade 1 Sorghum	\$185.00

Table 1. Cost and returns for CalPac on Sorghum.

Granted this astounding outcome was buoyed by a higher premium for the grade 1 sorghum but the fact remains that the CalPac alone attributed to the improved quality and hence higher grade. The quality of the Sorghum 1 grade totally blew Stuart away and he will certainly be looking to use the foliar CalPac again in his summer crop.

For more information about CalPac, and about the Bio-Nutrient services, call Helen Crossley on (07) 4671 5811 or Bart Davidson on 0428 740 337

## "Healthy Grass, Cattle & Soil Workshop"



### Workshop Date Claimers

Don't forget to book into the

GBP course early in 2010. Full farm ready Subsidy for all eligible primary producers.

### "Technology of Growing Grass"

February	1/2	Middlemount
February	6/7	Calliope
February	15/19	Far North Queensland
February	22/23	Ayr
March	11/12	Gin Gin
March	15/16	Kingaroy
March	22/23	Clermont
March	25/26	Rockhampton
March	29/30	Monto
April	12/13	Moura
April	15/16	Injune
April	19/20	Surat
April	22/23	Goondiwindi
April	29/30	Jericho



### "Peter Andrews NSF in central Qld"

February 8—14 Rockhampton region

### "Property Management Planning"

March 19 Miles/ Wandoan

Grazing Bestprac has 6 other courses approved by Farm Ready including:

- Benchmarking
- Strategic Planning
- Communications in Business
- Feed budgeting
- GPS/ GIS Training
- Computerised Property Planning

If you have a group of 15 people or more in a district, we will run on request courses for you. Please call Noela on 0749383919 for more info.

## Landcare in Action.....

### New Horizons in soil management.

Sustainability, production and profitability are far more than simply adding more NPK. This new section of our newsletter will focus on producers from around the country who are thinking outside the square and making a real difference to their bottom line in their business. Greg & Sally Chappell, "Shannonvale Station", Glenn Innes, operate a 1200 ha commercial and stud beef enterprise. They are a new breed of grazier who are combining the three parameters of soil (structure, biology and nutrients).

In the past three years, they have aimed to:

- ⇒ Raise the cation exchange capacity of their soils;
- ⇒ Gradually raise the pH away from the acidic range;
- ⇒ Make their soils and pastures more drought resistant and
- ⇒ Build the health and weight of their cattle.

The first step was to implement a soil testing program and analyse the three levels of soil health. One of the major changes in their management practices has been the use of compost as a replacement to the usual fertilisers. They use a custom blend with added gypsum to try and address the sulphur deficiencies present in their soils. Under their current grazing system they "top dressed" the compost at the rate of 300kg/ha with 200kg of Gypsum incorporated into this mix.

In October 2008 they top dressed 530ha:  
150 ha @ 300kg compost plus 200kg Gypsum  
425 ha @ 300kg/ha



Greg and Sally Chappell

The spreading costs worked out at **\$12/T** with the standard pasture mix at \$230/T delivered. As a comparison it cost **\$4/ha less to apply the compost** than it did to apply 125kg/ha Single Super.

The results on total carbon have been interesting. Soil tests from 2002 – 2006 showed the total carbon content averaging 1.0% with a range from 0.74% to 1.40%. In 2008 the total carbon content averaged 1.46% ranging from 1.0% to 1.82%.

Carbon levels	min	max	average
2002 - 2006	0.74	1.4	1.0
2008	1.0	1.82	1.46

**In one of the compost treated paddocks the total carbon content increased from 0.76% in 2006 to 1.60% in 2008. This is a measured carbon increase of 0.84% which will enable the paddock to store an additional 115,000 litres of water/ha.**

While there isn't data available to illustrate improvements in dry matter production there are sample bull weights available. During their first graze for 3 weeks in October 08 they averaged 1.5kg/day and their second graze for 3 weeks duration in December 08 averaged 1.2kg/day. The stocking density was 85 bulls per 35 ha.

Phosphorous was limiting in 2002. When tested in 2008 using the Colwell test the paddocks now averaged 34.5 ppm with a range from 24 – 61 ppm. Composting is a very effective form of waste recovery and recycling of organic by-products. The process enables raw organic material to be converted into a stable, carbon, nutrient and humus complex. Greg's first move was to ensure that the micro-biological component of the soil was healthy the nutrient cycling, soil structure and water infiltration improved.

In combination with composting Greg and Sally have made other management changes as part of their biological methods. They have reduced cultivation to the extent that they haven't cultivated on Shannonvale for at least 18 months. As a consequence of this they now identify and promote grass species that can regenerate from their own seed set with no cultivation. Examples include clovers, lotus, prairie grass and plantain. Seeds of these plants are broadcast onto paddocks with compost whilst ensuring there is sufficient standing stubble and litter on the ground to offer protection. The use of chemicals has been greatly reduced to encourage and promote the microbial populations beginning to thrive in their soils. Helen Crossley Bio-Nutrient Solutions (07) 4671 5811

### 2010 TOGG Workshops—

If you would like to know more about the 2010 "Technology of Growing Grass" workshops, please call the GBP office on 0749 383919 or email [noela@grazingbestprac.com.au](mailto:noela@grazingbestprac.com.au) or call Mick on 0438 395255 or Shane on 0409 189256. Merry Christmas and Happy New Year from Mick, Noela, Shane and the team. (right—Murray Bullock, Mick and Noela Alexander, holding Lachlan and Mathew and Shane Kraaft)



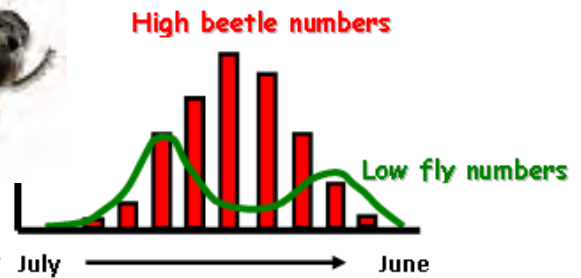
## S.O.S. For Dung Beetles - Chemicals are DEADLY.

**Right now, do the right thing by your little environmental helpers. Look after your humble 24/ 7 dung beetles and they will look after your land. And all you have to do is manage the drenches and chemical products (parasiticides) you treat your cattle, sheep and horses with.**

The next five month period of spring and summer is the most important period of the year for ensuring your dungbeetles remain healthy and actively burying dung adding to the carbon cycle, increasing production and reducing pollution. Yes, it is up to you to know which chemicals (parasiticides) are safest to use on your livestock and when to use them to reduce impact.

### Some of the important issues to think about are:

- What parasite is the problem? Ticks, worms, buffalo fly?
- Which animals (a few or whole herd)
- What dung beetle activity is happening?
- Which products can we use?
- Is it excreted from the urine or dung?



The spring to Summer period is critical to maximizing dung beetle populations and minimizing the damage caused by Buffalo Fly (*Haematobia irritans exigua*). Now is the time to be planning any chemical treatments, fly control, and strategic management of cattle, to minimize the damage to dung beetles on farm, and to maximize parasite control. Buffalo fly may cause up to \$30/ head damage in a few short months from irritation to stock and even causing stock to rub their hide and lead to open lesions. (We've all seen extreme damage)

“Looking after your dung beetles is obviously the most appropriate method of controlling parasites as they will interfere with the life cycle of Buffalo Fly and destroy breeding sites (dung pads), once established. The most critical period is a couple of weeks after we receive our first major spring rain, and the beetles activity begins. Then they are at the most critical period, as the local population may be decimated in a few short weeks, by mis-using a harmful product. On the flipside, the high dung beetle populations will bury the cattle dung in less than 24 hours and in many cases in less than 8 hours. Thereby reducing fly populations”

The following is a list of methods to reduce impact on dung beetles -

- Culling animals which are susceptible.
- Breeding for resistance.
- Using a Buffalo Fly Trap/ backrubbers
- Choosing lower risk chemicals
- Timing the application of use (use when safest)
- Using as little as possible (only use when last choice)
- Selective use of chemicals (only those that need treating)
- Application method (ear tag vs pour on)

### *Back-Rubbers*

*If you are looking for natural solutions to buffalo fly—ring us for some new exciting ideas.*

*Or go to [www.acbackrubs.aom.au](http://www.acbackrubs.aom.au)*

*[www.dungbeetle.com.au](http://www.dungbeetle.com.au)*

### Use recommended rates.

If you need to treat stock with chemicals, then, there is the issue of which method of application most appropriate. The Queensland dung beetle project developed a model in 2003, demonstrating the various application methods. Table 1. below, shows the dosage of chemical absorbed from the “Strategic Use of Parasiticides can help your dung beetles—available on the Australian dung beetle website— [www.dungbeetle.com.au](http://www.dungbeetle.com.au).

**As soon as the first summer rains fall, we have entered the most critical period of the year for managing the dung beetle populations around Qld and NSW. Now is the time when the introduced dung beetles will begin**

*Most parasiticides that are high-risk to dung beetles are applied using methods in the right half of the diagram. If possible, choose a product with an application technique from the left half.*

Ear Tags
Back rubbers & Dustbags
Oversprays
Dips, pour ons & injectables

**Lowest dose absorbed**



**Highest dose absorbed**

to come out of hibernation and complete the pupation stages, into adults. So please look after them PLEASE.....