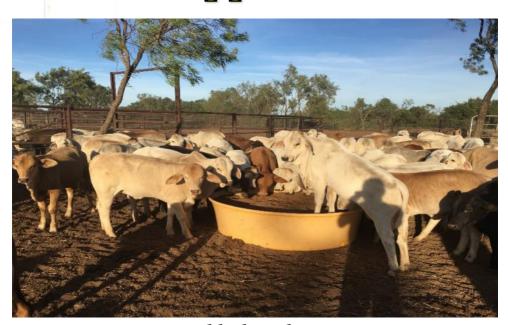
# STOCKLICK TRADING

Custom Made Livestock Supplements



# Guide to Feeding Supplements



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#### ABOUT STOCKLICK TRADING

Stocklick Trading Mt Garnet was formed in 2000 by Bill Mc Guinness. Bill identified a need in the market for a state of the art production facility producing reliable, high quality livestock supplements customised to individual requirements in a timely fashion and at an economical price. Bill also believed that customers required quality advice based on experience which was not readily available at the time. Within the first three years demand exceeded the supply capability of the Mt Garnet plant and a second plant was opened in Charters Towers. A third branch in Roma was opened in July 2010. Today Stocklick Trading leads the way in supplement requirements across Queensland, the Northern Territory and into Western Australia.

Stocklick manufactures both wet and dry season maintenance and production loose licks, as well as molasses blends for all classes of cattle, sheep, goats and horses. We now do feeds for laying hens and grower pigs also. Our advantage over our competitors can be attributed to three main factors, firstly 95% of supplements are custom blended to suit individual customers unique needs, dedicated sales representatives and quality raw materials sourced at competitive prices.

Managing a supplement program properly is essential to achieving satisfactory results and therefore Stocklick is committed to providing sound, practical advice to our customers when establishment of a program is required. We achieve this by employing suitably qualified sales representatives and nutritionists in our three mills to ensure our customers have the best access to practical and technical assistance. Stocklick employs up to 45 staff during the dry season to enable the timely production and supply of products at the busiest times.

The future of beef and wool production in North Australia is continually being challenged by economic, environmental and quality demands. Stocklick is committed to ensuring the grazing industries have access to leading edge supplement products which continually meet these challenges, while actively striving to lead the way in developing new products and systems that will provide a competitive edge for our clients. Stocklick's future growth is entirely related to the prosperity of the North Australian grazing industry and as such our business revolves around trust-based relationships with our customers. Future expansion of Stocklick operations will be designed to further extend this partnership to provide both financial and lifestyle benefits to all concerned.

This booklet outlines some handy tips on the feeding of dry licks, production feed and molasses mixes as well as some important points to consider when feeding our products.

## **Feeding Loose Licks**

## Why Use Loose Licks?

Dry lick feeding can be a very safe and cost effective way to give animals the desired amount of protein, Phosphorus and other minerals they require. Listed below is a few points to highlight the advantages and disadvantages of loose licks.

#### **Advantages:**

- Cheaper per tonne to buy than other products such as lick blocks
- Cheaper per unit of Protein and Phosphorus



- Can regulate daily intakes (control of cost/head/day)
- Cattle spend less time at trough getting their daily intakes (and so less bullying effects)
- Custom blended to suit specific

requirements, country, etc

- Can deliver crude protein in weaner mixes
- Daily intakes easily monitored
- Several different packaging options to suit management and facilities (i.e. bag sizes)

#### **Disadvantages:**

- Need to be managed correctly to minimise risk of urea poisoning
- Can be labour intensive (when in smaller pack sizes)

## Monitoring Intakes.

As with any supplement source, daily intake is extremely important and needs to be closely monitored as feed intake determine how effective the supplement is and ultimately the cost of supplementation.

A supplement is ineffective when intakes are lower than recommended as the animal is not receiving sufficient nutrients to be effective. When intakes are too high, supplements become less cost effective as animals are receiving excess nutrient which ends up being excreted.

This is where custom blending of loose licks to animal requirements, country and water types, and changing seasonal conditions is the most advantageous as you can easily monitor daily intakes. If needed the supplement can simply be adjusted to ensure daily intakes are regulated to the recommended levels. This ensures supplement use is effective, economical and safe.

Daily intakes and costs can be monitored by keeping a few basic records and some quick calculations.

#### Records to keep:

- The number of livestock in the paddock (eg 500 steers)
- The amount of loose lick put into troughs (eg 15 x 30kg bags = 450kg)
- The number of days taken to consume the lick (eg Put lick out Monday and had to refill on Saturday = 5 days)

#### Calculations to make:

- 1.Daily Intake = kg of lick/number of days/number of head x 1000 (eg.  $450/5/500 \times 1000 = 180 \text{grams/head/day}$ )
- 2.Cost per head = Cost of lick/1000/1000x Daily Intake (eg. \$700/1000/1000x180=12cents/head/day)

Always remember it is the cost per head that is important when feeding supplement, not the cost per tonne of the supplement.

## **Dry Season Supplements**

During the dry months (typically June to December) in Northern Australia, the pastures have reached maturity and stopped growing, and this means they seldom sustain any type of young, growing or lactating animal. This is because protein and energy levels in the pasture drop well below the animal's maintenance requirements, and the above classes of animals have much higher requirements for nutrients than do older or dry animals.

To correct this protein deficiency, and to encourage increased dry matter (pasture) intake and maintain a healthy rumen microbial population, a protein -based supplement must be fed to maintain animals during this dry period. Urea is often used for this reason.

N.B. Loose licks are generally used to maintain the condition of cattle during the dry season. By preventing major weight losses, loose licks enable the animal to enter the wet season in better condition thereby encouraging better performance then in terms of conception etc. There are occasions and products that do promote live weight gain which are more often applied in a production or weaner feeding program.

#### **Urea and Dry Season Supplements.**

The majority of dry season supplements are based on urea as it is the cheapest form of protein available. Urea also helps to increase pasture intake and improve the utilisation of dry matter in the rumen, which increases the amount of energy and protein available to the animal.

Urea is a source of non-protein Nitrogen, which is that nitrogen not derived from protein meals (eg Canola meal, Soya bean meal or PKE etc), hence they are purely a nitrogen source. In the rumen, urea is broken down into ammonia and carbon dioxide, and this ammonia is utilised by rumen micro-organisms to build their own bodies and reproduce creating microbial crude protein. These microbes pass out of the rumen and are digested in the abomasum (true stomach) with the resultant amino acids being absorbed in the small intestines.

As a rough guide, cattle require approximately 10gm of urea per 100kg of body weight (roughly 60gm urea/hd/day for an adult breeder). Sheep require approximately 8-10gm urea/hd/day.

Urea intakes higher than those recommended and/or incorrect use of urea based supplements, can lead to excess ammonia in the animal's system, which can result in urea poisoning. Urea intakes as low as 0.25g/kg (so 125gm for a 500kg cow) can be toxic to cattle not adapted to it. This reinforces the point that daily intakes need to be closely monitored and urea supplements carefully managed.

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## **Dry Lick Feeding Guidelines**

- **DO NOT** feed to starving stock. Unlimited access to ample dry matter (in the form of pasture or hay) is required.
- If feeding dry lick for the first time, apply a layer of 12 to 25mm of salt over the dry lick to reduce gorge eating.
- Never let troughs go empty, especially later in the season. This
  is <u>very</u> important with high urea content licks. If troughs do run
  empty salt the lick as above.
- When storms are about, cattle tend to go walkabout for a week or two and when they come back onto lick can have cravings, so put a layer of salt on lick when first storms occur.
- Start feeding earlier in the season rather than at the end of the season, before they have already lost weight and have a craving for lick.
- Provide adequate trough space to avoid "bullying".
- <u>Don't</u> put troughs too close to water, especially when feeding sheep. A distance of at least 300m is a safe distance from watering points.
- Don't start off feeding a very palatable lick and then switch to a high urea mix. Always salt lick if changing mixes. Similarly, if changing from lick blocks to loose lick.
- If paddocks are boxed up during the dry season, or new animals are introduced into paddocks, salt the mix as above until a pecking order is established.
- Visually check the consistency of your lick. Some ingredients can separate during transport. It doesn't hurt to lightly rake the top of the lick in the trough if needed.
- Most mixes, in particular weaner mixes, contain Monensin Sodium (Rumensin™/Monensin™) as a Coccidiostat. This is toxic to horses and dogs and can kill them. So, ensure access to lick is restricted to non-target species, and check bag labels for ingredients.
- Do not feed dry licks and molasses urea mixes in the same paddocks.

#### **Urea Poisoning**

Excess ammonia from the rumen is absorbed into the blood stream and converted back to urea in the liver. Some of this urea is recycled into the digestive system via saliva and excess is excreted in the urine. If the ammonia level in the blood is above that which can be converted back to urea in the liver, ammonia toxicity will occur. This will happen when the urea intake is faster or at a higher level than the animal and rumen micro-organisms are adjusted to.

Symptoms of urea poisoning can be:

- Severe stomach pain
- Proppy gait
- Muscle tremors
- Slow, deep and laboured breathing
- Weakness and collapse
- Bloating
- Frothing at the mouth
- Regurgitation of rumen contents
- Violent struggling/seizures, usually just before death.\



Urea poisoning normally affects animals quite rapidly, and they usually die very close to the source of the urea.

**Treatment** 

As poisoning occurs very quickly, treatment is often too late and therefore ineffective. If you do come across an animal in the early stages of urea poisoning, it is recommended to :

# Drench immediately with 4 to 8 litres of cold water and vinegar in equal parts.

Treated animals should be kept under observation as a relapse can occur one, to several hours after initial symptoms appeared, so a repeated dose of vinegar-water may be required.

#### **Wet Season Supplements**



It is well known that large areas of Australia, and in particular the North, are Phosphorus deficient, hence animals in these areas are not as productive as they could otherwise be. Phosphorus is involved in many body functions such as bone formation, protein synthesis and is important for a lot of biochemical reactions including energy storage and transport, and amino acid metabolism. Rumen microbes also have their own requirement for Phosphorus at a minimum rate of 1g P per kg of Dry Matter. It therefore affects every activity in the body including feed intake, growth/weight gain and especially reproductive performance.

The idea behind high Phosphorus wet season licks is to increase Dry Matter intake and replace between 5 to 7g/d of stored Phosphorus in the body as stored levels can be depleted up to 30% during the dry season, especially when breeders are pregnant/lactating. On green feed, pasture is high in energy and protein, and so Phosphorus becomes the most limiting nutrient in the diet. Supplementing with Phosphorus under these situations will aid in improving animal production both in terms of growth and reproduction/lactation etc.

Signs of Phosphorus deficiency result primarily from a reduction in feed intake, which can result in animals eating up to 40% less than Phosphorus adequate cattle. If prolonged deficiency persists, this alone can lead to death from emaciation.

Other signs seen can include:

- Reduced milk production during lactation, as Phosphorus deficient breeders can produce up to 2.5 Litres less milk.
- As a result of the above point, weaner weights are often lower, as 1 extra Litre of milk equates to 15kg extra liveweight in weaners
- Lowered weaning percentages
- Poor growth rates can be up to a 10-20% reduction
- Low reproductive rates 10-40% in severely deficient soils
- Rough, coarse coats and cattle in poor condition, especially lactating breeders.
- Peg leg-stiff, proppy gait
- Soft, weak bones that will fracture spontaneously
- Depraved appetite-in some instance's cattle will start chewing bones, twigs etc. Bone chewing can be a habit which is present even if Phosphorus is adequate.

Therefore, during the wet season animals require additional sources of Phosphorus, such as Phosphorus-based wet licks. These supplements should provide between 6-14grams of Phosphorus/head/day, depending on the country. Sheep have a lower requirement for Phosphorus as they efficiently recycle a large proportion of their bodies Phosphorus, and so signs of deficiency are not as commonly seen.

Phosphorus supplementation can make a big impact on a production system and for the best tailored advice, please speak to your local Stocklick representative for the most appropriate information for your situation.

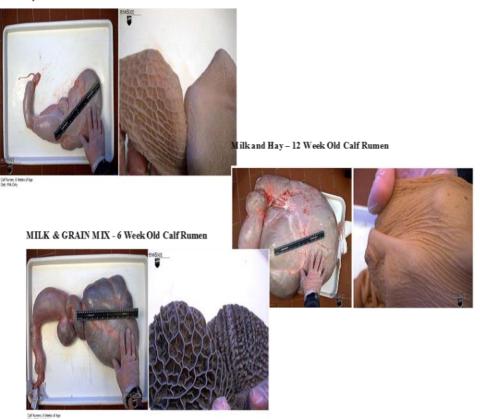


## **Production Feeding**

At times it is necessary to gain weight on cattle and sheep quickly, and this usually involves intense feeding like feed-lotting, or grain supplementation in the paddock. This sort of feed regime can also be used for weaners either to prepare them for sale or in a survival situation, when feed is limited for the cows. Most production feeds are high in grain with some protein meal content and often very little to no urea depending on the situation.

Grain feeding also accelerates the development of a functioning rumen and is extremely valuable in early weaning mixes. See the below series of photos which show how the rumen develops differently on different types of diets.

Milk Only- 6 Week Old Calf Rumen.





Grain feeding is a safe way in which to put weight on quickly, but care must be taken to start gradually and monitor intakes so that cattle do not develop 'acidosis'. This condition results from the rapid fermentation of starches in grain which results in lactic acid build up in the rumen.

Acute cases, where

acidosis develops within a few hours, are usually the result of cattle gorge eating large quantities of grain and these animals can develop signs within an hour. Signs include:

- Drooling, rapid breathing and noticeably distended abdomen (especially in the left flank)
- Animals lying on their side struggling and in pain
- Regurgitation of ruminal contents, usually with lots of grain.
- Death

Acidosis can also occur over a longer time period where the feeding program is poorly managed, or animals are not adjusted to changes in their rations properly. Signs of chronic acidosis can include:

- 'Shy feeders' cattle holding off feeders when others are eating
- Grey to pale faeces that is often covered in a layer of mucous
- Several poor doing animals in the group
- Regurgitated material in feeders
- Few cattle 'loafing' (ie sitting around chewing their cud). There should be at least 40% of the mob ruminating.
- Several animals showing signs of bloating and discomfort.

Chronic acidosis can lead to large losses in terms of animal production as affected animals do not perform in terms of expected weight gains and turn off times.

This condition is usually more a factor of lack of fibre in the ruminant's diet, as ruminants still need long fibre (being at or over 2.5cm long) in their diet to maintain the fibre mat in the rumen which is vital for normal digestive processes to continue.

When feeding cattle higher grain diets, important considerations include:

- Ensuring animals have access to dry matter either in the form of hay or pasture grass when first starting on feed.
- Introduce to animals steadily, ideally using self-feeders to limit intakes and gradually increase to recommended levels over 2 weeks.
- If changing to increased grain rations, increase feeding levels every fourth day over a 2-3week period
- Ensure adequate trough/feeder space for the size of animal being fed. Need more space per head in an open tub situation than in a self-feeder situation. Work on 10cm (4 inches) per head on self-feeders.
- Daily monitoring of feeders/troughs to ensure intakes are at expected rates and staying steady. Rapid increases in feed intake can lead to acute acidosis
- Clean water supply away from feeders as grain will quickly foul water.
- Monitoring animals for signs of bloating, discomfort or diarrhoea which may indicate a chronic problem.



#### **Feeding Molasses**

Molasses is an energy supplement ideal for situations that require increased growth rates, spike feeding or survival rations in the hardest of dry seasons and any country type.

#### **Maintenance Molasses Mixes**

Maintenance molasses mixes are used to accelerate weight gain or reduce weight loss as energy and protein levels in pasture deteriorate beyond acceptable levels. Mixes such as M8U and M4U are examples of these types of mixes.



#### **Production Molasses Mixes**

Production molasses mixes are designed for maximum growth and/ or weight gain over a shorter time frame. This is a viable alternative for finishing animals prior to market or ensuring maximum growth rates at weaning and post weaning.

Mixes such as M3U Production and M8U + Protein are examples of these type of mixes. Consult your local representative to find out what molasses mix suits you best.

#### **Molasses Feeding Guidelines**

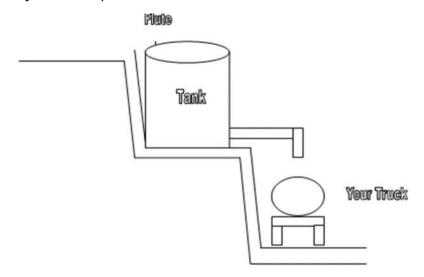
- Do not feed to starving stock. Unlimited access to ample dry pasture is required
- If feeding a molasses urea mix for the first time, apply a thin layer of approximately 12mm of salt on top of the product
- Do not feed animals straight molasses and then a molasses urea mix. Salt the molasses if changing between mixes.
- Position troughs at least 300m away from watering points
- Once you start feeding molasses mixes, never let troughs go empty and avoid 'breaks' in feeding as animals may gorge the product when it is reintroduced. If this does happen, salt the mix as above.
- Provide adequate trough space to avoid bullying. A rough guide is maximum of 50 head to 350-450L troughs.
   Maximum of 80 head to 500-750L troughs.
- If mixed properly molasses urea mixes are rain fast and water lying on top of the product will not be a problem. Do not mix the water into the product.
- Should showers occur, and animals go off the molasses mix chasing green feed, over consumption may occur when animals come back onto the molasses. In this instance, apply a layer of salt.
- Molasses mixes containing Monensin Sodium (Rumensin<sup>TM</sup>,) should not be stored for more than 3-4 months. After this period the Monensin will start to separate out and can lead to toxicity.
- Molasses mixes containing protein meals and production mixes cannot be stored in tanks as the ingredients will settle out
- Monensin is toxic to horses, dogs and other species, so do not feed molasses mixes containing it to non-target species.

## **Setting Up for Molasses Feeding**

Unlike feeding loose licks where you only require troughs, molasses feeding requires a bit more investment in storage infrastructure and equipment. Below are some different systems available for molasses feeding programs.

#### **Gravity Systems**

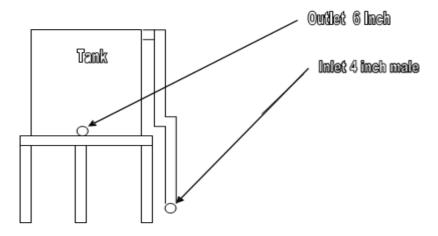
A gravity set up is always going to be the most ideal, as long as the area is suitable. This system is not reliant on pumps as you rely on gravity feeding into your storage and then gravity flow into your mixer/truck.



Ideally, the delivery truck will be able to park alongside the storage tank with the outlet on the driver's side. Molasses will then be unloaded down a flute into the tank. For a 25t order, unload time would usually be between 15-30 minutes per trailer. Steel diesel tanks are suitable for this system, as the tanks will be partially covered in earth.

**Important Note:** The earth walls must be able to hold the weight of the molasses and the equipment.

#### **Pump to Gravity Systems**



If your country or equipment does not lend itself to gravity fed systems, then a pump to gravity system is best. This system requires the storage tank to be on an above ground stand, high enough for your truck/mixer to load out from underneath via gravity. If the stand can be approx. 1.5 metres off the ground, pumping will be fairly quick. Higher than 3 metres off the ground, pumping becomes quite slow.

This system also requires a separate 4-inch line and tap going into the tank for filling purposes. This needs to be accessed from the

ground and equipped with a 4-inch male cam lock fitting to connect onto the delivery trucks pump. The gravity outflow from your tank should be a large as possible. 6 inches is a good size to allow for fast gravity feed into your tank.

Poly molasses tanks are suitable for this system. If you only require a small amount of storage, a 5,800-gallon tanks will hold approximately 36t of molasses. The stand, therefore, needs

to be built strong enough to accommodate this weight.

## **Pump Systems**

If you would prefer to place your storage tanks on the ground, then you will require a pump that is either petrol/diesel driven, electric or driven by a PTO. This pump will have to transfer the molasses from the delivery truck into your tanks, and then from the tank to your truck. Poly tanks are once



again suitable, it is important to have valves in the line to stop back flow, and outlets greater than 3 inches for faster pumping.

## Paddock Drops

Paddock drops are an alternative if you do not require storage on station or you are feeding molasses mixes that do not store well in

tanks (such as molasses production mixes). The only equipment required is troughs, as the delivery truck drives around the paddock and empties the molasses directly into troughs sited around the paddock. However, paddock drops are only suitable where the country is easily accessible to trucks with trailers



#### **Guide to Trouble Free Paddock Drop:**

- Ø Have a well graded path for the truck to drive on with ample turning room, no sharp roots or rocks, no sharp gullies or corners. Any vegetation which could scratch the truck must be cleared (above and to the sides).
- Ø Troughs are to be set up as close as possible to all weather roads, preferably on the driver's side, and strategically placed so unloading times are kept reasonable.
- Ø Ensure there is a sufficient number of troughs to handle 10% more product than the truck carries. This enables us to deliver follow up loads before the product runs out.
- Ø Calculate intakes before-hand so realistic turn around times can be determined.
- Ø Monitor trough levels and order next load 7 to 10 days prior to running out.
- Ø If truck is to deliver somewhere other than the homestead, provide clear and precise directions. Preferably someone should accompany driver, or at least a good mud map.
- Ø Must have someone allocated to help unload every load.

**Please Note:** A delivery truck will not leave a depot unless station owner/manager has been contacted and can guarantee truck will not have problems with access, manoeuvring around the paddock or getting bogged.

If there is any doubt about any of these points, maybe get your rep to have a look to make sure these requirements can be met.

## **Troughs**

Troughs are a very important aspect of feeding which can make the task an everyday job or a once a week job. Sufficient storage in

the paddock, whether it is for molasses or dry lick, should last at least a week. This frees up labour, but also provides a safeguard in case you can't get back out to fill up the troughs for several reasons.

Troughs should be placed at least 300m from watering points. Once animals are on the lick,



encourage them to other areas of a paddock by moving the troughs to less grazed areas of your paddocks, this will encourage better utilisation of your paddocks.

## **Troughs for Loose Licks.**

The most important consideration with troughs for loose lick is drainage to ensure water does not sit in the container. A lot of available poly troughs come with covers to reduce water getting into them, but if not covered, cutting slits in the sides or bottom of containers reduces the risk of water pooling which can lead to urea poisoning. Keeping troughs full will also help minimise the chance of water pooling.

Other than commercial versions, loose lick can also be put in half 44-gallon drums, super single or tractor tyres with the side walls cut out, tonne bags, old concrete culverts and hollow logs.



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## **Troughs for Molasses Mixes**

The most common troughs for molasses are plastic round or rectangular troughs. With molasses troughs it is important that they have grip on the bottom, so that any animal that may fall in can get traction to get out. Some troughs come with grip moulded into the bottom, for those



that don't, you can just lay weldmesh in the bottom. As a guide a 750 litre trough will hold approximately 1 tonne of molasses.



The idea behind these is that they float on top of the molasses and the cattle have to actually push down on them to get access to the molasses.

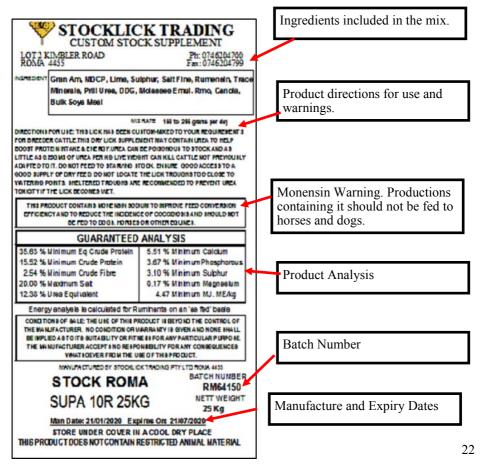
Some people also insert intake controllers in the trough when feeding molasses to regulate intake. These can range from manufactured Ezi-Lickers, to home made floating lids out of weldmesh and PVC plastic pipes.



#### **Feed Labels**

All our loose lick products are supplied with a label either sewn into the seam of the small bags or inserted in a clear pocket on bulk bags. These labels contain important information about the product, including the ingredients, the analysis and the RAM (Restricted Animal Material) statement. The date of manufacture and the batch number also appear on the label which is important information if you have any queries about the product you are using.

Under the new Biosecurity requirements for producers, it is important to keep at least one label from each load of product to fulfil your obligations under this Act



#### **Conditions of Sale**

The use of dry lick supplements is beyond the control of the manufacturer. No conditions or warranties are given and none shall be implied as to its suitability or fitness for any particular purpose. The manufacturer accepts no responsibility for any consequences whatsoever from the use of these products.

Store licks under cover in a cool and dry place. These products have been custom mixed to your requirements for cattle. Do not feed to starving stock. Ensure access to a good supply of dry feed. Sheltered troughs are recommended to prevent water contamination and spoilage.

Do not locate lick troughs too close to watering points.

#### Conclusion

We hope this "Guide to Feeding Supplements" was a source of some useful information for you.

Loose licks and molasses mixes are a safe and economical way of supplementing stock when used correctly. Any risks can be minimised by following the points laid out in this guide, and if you are unsure about anything, please don't hesitate to contact the sales representatives in your local area for help.