APAL PASTURE TEST - REPORT NOTES

NITROGEN:

Multiplied by 6.25 equals the protein reading.

High nitrogen shows that the pasture is very fresh and growing at the time of testing. This indicates a high protein level. The ideal level of protein for stock is 18 to 22%. But 35% (5.5% N) is ideal for maximum pasture growth. High protein increases the animal's requirement for minerals and roughage. Scouring and loss of body weight can occur if roughage is not available. As the weather warms and sunlight hours increase the pasture protein (nitrogen) level will decrease. The problem is that what is ideal is not often practicable. Hay, straw, maize silage or well-wilted silage should be fed as roughage. Stock mineral levels also need to be maintained at a high level when grazing high protein pasture. This means the top end of the scale for readings on blood tests. So even though pasture mineral levels may be all right, stock can still be deficient when grazing on fresh pasture.

High Protein Nitrogen does indicate that the pasture is growing vigorously.

Low Nitrogen equals poor pasture growth.

POTASSIUM:

Ideal for pasture growth 3.5 to 4.5%. For stock 2.0 to 3.0%. Potassium is generally high in rye grass pasture so there is little we can do to lower it. If it falls too low then pasture growth is poor. Magnesium supplements should be fed when pasture is fresh.

A higher levels of K increase stock requirements for other elements, eg calcium, magnesium, sodium and phosphorus. Again these are not normally a problem except when stock are grazing very fresh pasture.

PHOSPHORUS:

Ideal 0.4 to 0.5% Important both for plant growth and for stock performance.

CALCIUM:

Ideal 0.7 to 0.8%. A good level of calcium is important for healthy pasture, pasture palatability and stock performance. If calcium is high in the pasture and low in the soil, it may indicate a high clover percentage, as clover contains a higher calcium percentage.

MAGNESIUM:

Ideal 0.25 to 0.35%. Important for chlorophyll production in the plant and for stock performance. If low then causmag should be fed to milking cows and breeding cattle, both before and after calving, at 50gms per cow per day.

SODIUM*:*

Ideal 0.2 to 0.3%. If low, salt should be available to stock at all times. Add salt directly to the water for milking cows, at 15g per cow per day, or it can be added to the daily drench. Have salt blocks available for dry young stock. If sodium is in excess, pastures can be unpalatable, especially if it is also high in the drinking water.

SULPHUR:

Ideal 0.25 to 0.35% Low sulphur can mean poor growth and will result in an accumulation of nitrogen in the plants. This will make pastures unpalatable and result in poorer stock performance. Plants use sulphur to process nitrogen into available protein to produce meat, milk and wool. Higher sulphur levels will have a minor suppression on copper. This is another case of what is ideal for plants may not be ideal for stock. Copper in the stock needs to be maintained at good levels for optimum production.

BORON:

Ideal 25 ppm. Essential for healthy clover production, pasture palatability and nitrogen utilisation while also increasing energy production. Good levels also help suppress bloat. Plants low in boron have terminating growth so they have a bushy appearance. Flowering in legumes can be reduced and seed production is adversely affected.

IRON:

Ideal 40 to 60ppm. Results are often very high. This can be a result of soil contamination, pastures growing on lower calcium soils or plants growing on high iron soils. High iron will suppress the zinc in stock, whether it comes from soil on the pasture or from within the plant. Zinc sulphate can be added to the water supply at 5mg per head per day for cattle.

MANGANESE:

Ideal 40ppm. On low calcium soils manganese will often be high in the pasture. As calcium (lime) increases plant manganese deficiency shows as deformed front legs in new born animals. High calcium (lime) soils will suppress plant manganese. Essential for long term establishment of pastures.

COPPER:

Ideal for cattle 20ppm, for sheep 10ppm. If low, copper supplementation must be considered. Your vet will advise you on this. Blood or liver tests will confirm stock levels. Tests should be taken at least three times a year until a pattern has been established.

High plant molybdenum will suppress animal copper and is a major cause of copper deficiency in stock.

ZINC:

Ideal 50ppm for cattle, 150 ppm for sheep, 50 ppm for hinds, 150ppm for stags. The high iron can affect animal intake. Add 5g of zinc sulphate per cow per day to the water supply or daily drench.

MOLYBDENUM:

Ideal for plants 1.2 ppm. For stock 0.8 ppm. Molybdenum is essential for nodulation on legumes so low levels will inhibit pasture production. High levels will suppress copper in the stock. Excess molybdenum is now a major stock problem because as soil fertility has increased, so has the availability of molybdenum.

SELENIUM:

Desired 0.1 to 0.2ppm. Low levels will affect conception, stock performance, and increase problems when lambing, or calving. If low, all stock should be treated regularly. Milking cows can have Selivet 5 added to their water supply or drench at 1ml per cow per day. Add to all drenches for young stock. As well add to all fertilisers. Ewes should be treated both before mating and again before lambing. On very deficient soils two forms of treatment may be required, eg selenium in the fertiliser plus injections or drench.

COBALT:

Desired 0.10 to 0.12 ppm. Cobalt is essential for the micro-organism activity in the animal's rumen. If low, stock performance is reduced. Especially in young stock. Grazing on lush pasture will increase a deficiency. Can be added to fertilisers, to the daily drench for dairy cows (add cobalt sulphate at 13g per 100 cows per day). Young stock should receive Vitamin B12 injections at weaning and again before the winter. Dry stock would also benefit from cobalt supplementation or Vitamin B12 injections during stress times. Lambs should receive Vitamin B12 injections, in higher rainfall areas.