## DoloZest® News

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## Summer performance

Recent visits to three long-term clients' properties have been invigorating. Even though conditions were dry at the time and pastures were browning off there was a strong base of clover rich pasture that animals were producing and growing well on.

The operators were keen to discuss the fact that they were able to fully feed their animals for another six weeks, even with little or no rain arriving.

The reason for their strong position was the decision to increase their rotation length to a genuine 30-day interval, in one case a 42-day interval, by the end of December.

30 days is an arbitrary figure based on years of experience and it means that over January, February, and March pastures are grazed only once each month.

During any 30-day period there is nearly always some rain to aid regrowth and although the pasture may be quite short at the time of grazing there's nearly always a surprising amount of feed.

Pasture cuts from monitor properties over summer give dry matter readings of up to 36%, double that of rapidly growing spring feed, so appearances can be deceptive.

To put that in perspective silage/balage often ranges from 30 - 50% dry matter, with top quality hay around 85%.

Observing dung from animals grazing summer dry pastures provides a useful idea of digestibility and where dung is still pasty with little obvious long fibre the feed is still suitable for milk production and rapid weight gains.

Energy levels of pasture during summer is nearly always 50% higher than that during spring, and with a plentiful supply of clean fresh drinking water animal performance is often surprisingly strong.

## The importance of phosphorus

Phosphorus is an essential element both for optimum growth and the formation of sugars. Discussion often takes place around the amount of phosphorus required to maintain or build plant available levels, and what the optimum Olsen P is.

It's important to note that phosphorus is not the driver of growth in a Functional Fertiliser system, however unless soil levels are high as is the case in many effluent areas, phosphorus is always a component of our programmes.

Long-term research shows that an Olsen P level of 10 is considered necessary for strong clover growth, however strong clover can be grown with lower Olsen P figures where there is excellent soil crumb and strong mycorrhizal activity.

At an Olsen P of 10 the same research shows that 75% of maximum site yield is achievable and with an Olsen P of 15, 90% yield is available.

Olsen P figures vary depending on sampling, site, and lab testing. At best it's only a rough guide and historic soil test figures and past phosphorus inputs are required for a more accurate assessment.

Typically, our programmes recommend 40–45kgP/ha for intensive dairy operations, which may vary depending on the amount and analysis of bought in feed.

Sheep and beef inputs are often around 15–20kgP/ha annually. The higher figure for intensive finishing area and a slighter lesser input for more extensive areas.

Work by Tim Jenkins at Lincoln some years ago indicates that the actual losses of phosphorus from intensive dairy is 10-16kg P/ha annually, with losses from well managed sheep and beef properties as low as 4–8kgP/ha. A copy of that article is available if wanted. Soil testing every third year is a recommended means of tracking plant available phosphorus, and, given that there is around 500kgP/ha from natural material within the root zone of plants it's highly unlikely that a lack of phosphorus will limit growth at any time.

## **Grazing intervals**

We prefer that term to rotation length. The grazing interval is the actual days between grazing. When accurate records are not kept these intervals can get closer without anyone realising. Discipline and a good diary are required. Vaughan Jones used to say that "a blunt pencil was better than a good memory" and may have a point.

Andre Voisin in his book Grass Productivity states that pastures with long enough rest periods between grazing is the secret to maximising pasture yields.

The optimum time to graze pastures is after it has passed through its rapid growth phase, and this is best gauged by regular observation.

For good observers it is obvious when pastures are no longer in a growth phase, and when visiting properties there is always agreement on whether leaving pastures longer will result in significantly more growth.

It is at this point when plant sugars are highest, there is sufficient length of digestible fibre for good rumen function, and plant roots are sufficiently strong for rapid re-growth.



It is also the time that energy, in the form of sugars, is returned to the roots that in turn feed the mycorrhizal fungi that extend the root zone by up to 9-fold, increasing plant uptake of phosphorus and moisture.

A common query is whether there will be any loss of palatability by grazing longer feed, a genuine concern under a conventional nitrogen, and soluble phosphorus programme.

Feed of 3,500+ kgDM/ha normally remains highly palatable and with the advantage of extra energy, and full protein, is near ideal feed at any time particularly over late autumn and winter.

The onset of rapid autumn growth provides the perfect opportunity to increase the intervals between grazings and build a substantial wedge of feed for winter.

Below are photographs taken recently from the same river flat area on the Fox property as featured in the last DoloZest News.

Of particular interest to us is the amount and uniformity of regrowth that's taken place since the January grazing. Utilisation of the feed was not high and there was significant trampled material on the surface of the soil.

For regrowth to be impressively strong, as it is, requires degradation by soil fungi and bacteria.

Both CalciZest and DoloZest contain a wide range of fungi and bacteria selected specifically for this task.



In the last DoloZest News the term humus was mentioned. We've recently come across a definition in the 1944 published book **Good Soil** which is as follows.

Humus is a natural, complex, colloidal aggregate of dark-coloured amorphous substances, originating from decomposition of animal and plant residues by micro-organisms.

Among the range of benefits listed are; It provides nitrogenous food for plant uptake, it provides food for fungi and bacteria, it changes the texture of soil, it holds moisture and so conserves water for the use of plants.

With increased humus comes improved resilience, and the knowledge that each year there's an increased potential for growth.

Functional Fertiliser – The power of microbes