Irish Grass Mineral Analysis Report – December/January 2020

December/January grass mineral values and the best products to use for out-grazing ewes.

Uniblock's latest grass testing is to help inform farmers' decisions on supplementing grazing pregnant ewes with trace elements and minerals this winter to protect flock productivity, fertility and health and to ensure the viability of their unborn lambs.

It can be difficult to graze sheep during the winter because of weather challenges therefore it is important to be aware of the mineral and trace element levels in grass to allow accurate supplementation at pasture, advises Dr Amanda Dunn of Uniblock.

Correct supplementation with minerals and vitamins is very beneficial to both the ewe and her unborn lambs, she says.

"It is important to remember that 75% of lamb growth, ewe udder development and colostrum production occurs during the last trimester of pregnancy therefore correct management of the ewe during this time is critical."

Poor production and ill thrift are often signs of inadequate mineral and vitamin supply; both these symptoms will impact on profitability and can also lead to poor welfare.

The study was carried out on nine individual fresh grass samples collected between early and mid-December, to establish mineral levels.

The results, comparative to samples analysed during October and November, showed potassium levels to be relatively high whilst magnesium levels were low. This situation can be a precursor to grass tetany, warns Dr Dunn.

The simplest method of preventing grass tetany in ewes is to supplement with a 10-15% magnesium bucket, she says.

"Uniblock's Economag bucket is a safe way of supplementing magnesium because, with 2g of sugar for every 1g magnesium, it's sweet so it ensures protection whilst the product is hard enough to control intakes."

Assuming an intake of 36g/head/day, a single bucket should be sufficient for 50 sheep for 10 days.

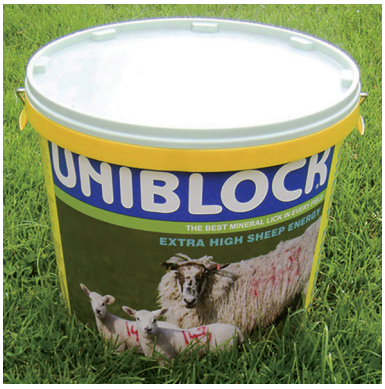
Copper is an important trace element associated with various different enzymes which are involved with bodily function but sheep are very susceptible to copper toxicity so this must be borne in mind when supplementing.

Some breeds are more likely to absorb too much copper to the point of toxic levels – for instance it is known that the Texel breed has a higher risk of toxicity as they are less efficient at absorbing copper.

Dr Dunn says Bonanza's sampling indicates that copper levels in Irish pastures are relatively low whilst and molybdenum levels are extremely high.

Molybdenum is an antagonist to copper and can interfere with copper metabolism in a ruminant, reducing absorption and availability, and this can result in deficiencies.

Swayback in lambs is the main result of copper deficiency in ewes as a lack of copper in the diet can cause damage to the spinal cord.



The average levels of cobalt in the Irish pasture samples were relatively high.

Cobalt, in conjunction with vitamin B12, has a role in energy metabolism, says Dr Dunn. Vitamin B12 is secreted in milk and this provides an early source to suckling lambs.

"Ill thrift and poor appetite can often be a sign of cobalt deficiency in sheep, and this is most common in weaned lambs," Dr Dunn explains.

"Consequently, if sheep aren't thriving as they should be as a result of deficiency, they are more vulnerable to clostridial disease and pasteurellosis.

"It is also important to note that if sheep are not dosed for worms and there is an infestation, this will reduce the ability of vitamin B12 to be absorbed from the gut. Therefore, even if the dietary cobalt is available but worms are an issue, this can still result in a cobalt deficiency."

Selenium levels in the grass samples were in line with dietary recommendations and therefore, using these average figures, there shouldn't be any need to supplement, Dr Dunn advises.

"Individual pastures will differ however and excess selenium is toxic to sheep, although cases of this are somewhat rare."

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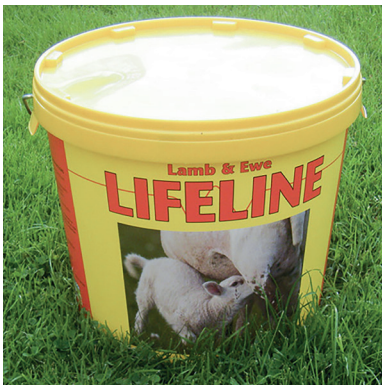

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Maxx Energy is an ideal supplement for pregnant ewes at grass, it can help prevent twin lamb disease. Its concentrated sugar energy optimises grass utilisation and is fortified with minerals, and essential trace elements to include selenium, cobalt, zinc and vitamin E. Maxx energy is manufactured in a way in which moisture is removed to leave a dehydrated product which helps control intakes. Maxx energy supplementation plus forage is an efficient way to manage a successful sheep flock. One bucket should last 50 sheep approximately 11 days, assuming an intake of 40g/head/day. Uniblock's extra high energy is also a suitable supplement for ewes during mid pregnancy.

Lifeline lamb and ewe pre-lambing bucket is recommended to be fed six to eight weeks prior to lambing. It is the only bucket for both the ewe and the lamb, it provides protected energy and protein along with a patented blend of ingredients shown to boost colostrum antibody levels by 25%. One bucket of lifeline lamb & ewe should last 25 sheep approximately 8 days, assuming intakes of 90g/head/day.

Met Eireann historical weather: www.met.ie/climate/available-data/monthly-data

Table 1: Grass analysis July to December

Parameter	July	October /November	December
Nitrogen (%)	2.58	3.44	3.10
Calcium (%)	0.6	0.4	0.41
Phosphorus (%)	0.28	0.37	0.41
Potassium (%)	2.6	3.1	2.9
Magnesium (%)	1.8	1.65	1.67
Sodium (%)	1.8	1.8	2.2
Sulphur (%)	2.5	2.7	2.5
Copper (mg/kg)	7.38	8.89	7.89
Zinc (mg/kg)	27.63	30.22	36.56
Manganese (mg/kg)	89.62	87.03	88.56
Molybdenum (mg/kg)	1.47	2.73	2.15
Cobalt (mg/kg)	0.09	0.30	0.35
Selenium (mg/kg)	0.13	0.10	0.13
Iodine (mg/kg)	0.40	0.34	0.37
Iron (mg/kg)	185.21	399.78	442.67
Aluminium (mg/kg)	151.80	440.79	496.22
Sulphur (%)	2.5	2.7	2.5
Copper (mg/kg)	7.38	8.89	7.89
Zinc (mg/kg)	27.63	30.22	36.56
Manganese (mg/kg)	89.62	87.03	88.56

Table 2: details the important trace elements in pasture for grazing sheep and shows how Bonanza's findings compare to recommendations taken from a report by AHDB.

Trace Element	Typical levels in pasture	Average Irish levels in December 2019	Recommended pasture levels to prevent deficiency	Recommended total diet levels
	Mg/kg	Mg/kg	Mg/kg	Mg/kg
Copper	2-15	7.9	5	10
Cobalt	0.05-0.25	0.35	0.11	0.12
Selenium	0.02-0.15	0.13	0.05	0.1
Iodine	0.1-0.5	0.37	0.2	0.5
Manganese	25-250	88.6	25	50
Zinc	20-60	36.6	25	50