

PRE LAMBING NUTRITION OF EWES

The fertility rate and lambing percentage of NZ ewes has risen rapidly over the past one to two decades and the value of lambs resulting has also increased to the extent that maximising survival rates from birth to market has significant economic implications.

Feeding ewes well before lambing improves lamb survival. 80% of foetal growth takes place in the last third (6 weeks) of pregnancy and the ewes energy and total nutrient requirement is 50 to 100% over maintenance, depending on the number of embryos being carried. Under nutrition of the ewe can lead to pregnancy toxemia, depressed lamb birth weights, lack of vigour in the new born lambs and consequently slower lamb growth rates.

Following lambing, ewes suckling twins' produce up to 50% more milk than those suckling singles and those carrying triplets may produce a further 20% milk. The feed requirements follow a similar trend.

The increased energy demands of high fecundity ewes is accompanied by increased requirement of all nutrients to the ewe and on to the lamb via placental transfer before birth and via the milk after birth.

Unfortunately winter and early spring feeding regimes can result in severely depressed intake or utilization of a number of trace minerals and vitamins. Goitrogens in brassica crops reduce thyroid hormone production and utilization thereby increasing dietary Iodine requirement and the bulb of Swedes and stems of Kale are low in vitamins A and E. These same vitamins, whilst high in actively growing pasture are lower in fresh silage and hay and continue to decline during storage. Both vitamins are important in the development of the foetus and in enhancement of immunity.

In southern regions the winter sun is low on the horizon and in many areas the skies are cloudy for long periods both of which result in reduced exposure to Ultra Violet sunlight that is necessary for vitamin D synthesis in the ewe. Vitamin D is required for calcium metabolism.

Iodine deficiency in the ewe can reduce gestation length, foetal body size, foetal brain size and brain development. These effects in turn reduce survivability through poor body temperature regulation. Ewe oestrous cycling and fertility may also be depressed.

Soil and plant Selenium deficiency is widespread in New Zealand and deficiency prevented in a number of ways utilizing inorganic sodium selenite or selenate. Feed supplementation with organic forms of selenium such as selenium yeast or selenomethionine will improve the level of selenium transferred into the ewes milk which in turn improves lamb selenium status.

In order to balance the deficiencies in winter feed and raise overall nutrient status of ewes in the last third of pregnancy and early lactation many sheep farmers are now turning to formulated sheep nuts which contain elevated energy levels, major minerals such as magnesium and trace minerals and vitamins at booster levels or in highly bioavailable form.

Research conducted overseas has demonstrated quite clearly the beneficial effects of feeding elevated levels of vitamin E and organic selenium as a means to maximising lamb survival and growth rate. This combination has been shown to activate the mechanism that allows the lamb to use brown fat, the first source of energy and heat in newborn lambs and to trigger the shivering effect, which helps maintain warmth.

Many ewes are only fed a supplement for a very short time. Feeding a comprehensive formulation that provides selenium in its most available form plus a booster level of 100iu vitamin E per day provides insurance for lamb survivability, maximum lamb growth rate and ewe fertility.