Nitrogen use after a dry summer (7-17)

Key Points
- Nitrogen after summer dry is likely to provide cost effective feed
- Nitrogen helps pastures recover after a dry period by encouraging ryegrass to tiller
- Apply N soon after significant rain at 30-40 kg N/ha

Application of Nitrogen after Significant Rain
Nitrogen fertiliser is important to not only help increase pasture cover after summer or autumn dry but also to encourage ryegrasses to tiller. Nitrogen is a low risk option as it has been proven to increase dry matter yields although the responses are variable from 4:1 to 10:1.

Nitrogen is a cost effective method of increasing feed supply when used effectively in the autumn. At a 6:1 or 8:1 response and a cost of urea of $700/tonne the cost per kg DM is 25 to 19 cents respectively.

Nitrogen can be applied as soon as there is significant rain (> 25mm). It is more important to get nitrogen on the farm to improve the feed supply than worry about the specific amount of rain needed for optimising the response. Research has shown that the dry matter responses were similar regardless of whether the nitrogen was applied after the first rain or following subsequent rain.

Nitrogen should be applied at 30-40 kg N/ha. If the drought breaks in April a second round of nitrogen can be applied in May if soil temperatures remain above 7 degrees.

After a drought there is a considerable pool of N already in the soil. Despite this, responses to fertiliser N still occur, especially after a significant downpour event which washes some of the available soil N below the plant root zone. Fertiliser N gives pasture plants immediate access to some N, while the soil processes recover with improved moisture levels.

Nitrate Poisoning
A down side of this large pool of soil N is a high risk of nitrate poisoning in the autumn, especially when grazing new grass and annuals. Cool, cloudy days and fast rotations are conditions that favour nitrate poisoning and often occur after severe drought conditions. If concerned about grazing a high risk pasture or crop it can be tested with kits available from your vet.

The risk of nitrate poisoning can be reduced by:
- Grazing pasture that is older than 21 days - long rotation
- Ensuring that the cows are not hungry when put onto high risk pastures
- Feeding forage supplement first and
- Restricting the time on high risk pastures.

Stock also need to have access to fresh and clean water. Contrary to popular belief the nitrate content of pasture or crop is not reduced by using glyphosate, chopping or a frost.