

Nitrogen Use on Beef Farms

Now is the time to consider applying nitrogen (N) to grassland. The average spring response to nitrogen application is a yield of 10kg grass DM per 1 kg of fertilizer nitrogen applied on good quality swards. It is recommended to apply 28 kg/ha for the first application in spring depending on date, location and soil type etc. This is equivalent to slightly less than one bag of CAN per acre. This early nitrogen application can be halved and applied in two applications if weather conditions are poor. Urea is more cost-effective than CAN in spring. At present prices urea nitrogen is costing 74cents/kg compared to 93cents/kg for CAN nitrogen. For 10kg of grass dry matter produced the costs per kg are 7.4 cents and 9.3 cents respectively. This compares with a cost of concentrate dry matter of 34 cents/kg. In May the response to nitrogen increases to 40kg grass dry matter per kg of fertilizer nitrogen applied. Grass is cheap compared to concentrates!

If ground conditions are suitable the first application of N fertiliser can be replaced by an application of slurry. Aim to apply slurry on two-thirds of the farm in the spring. Umbilical systems, if available, can reduce machinery compaction when applying slurry. Bandspreading/trailing shoe/injection systems reduce herbage contamination and will suit GLAS farmers who elected for low emission slurry spreading. Aim to apply the second application of N fertiliser four to six weeks after the first as at this stage very little of the first application will still be available for plant uptake due to plant use, losses etc. Ideally the third nitrogen application of the year should roughly coincide with closing up for silage in April.

Again, some of the N fertiliser for first-cut silage can be replaced with slurry. The slurry should be applied at least six weeks before the expected silage harvest date. Allow approximately one week between slurry and N fertiliser application. Make as much silage as possible at first-cut. First work out how much silage is required. Depending on requirements, aim to maximise stocking rate on the grazing area during April and May. This makes as large an area as possible available for first-cut silage and takes advantage of the very high response to N fertiliser during April and May. In good growing conditions first-cut silage yields will be at least 25% higher than second-cut for lower input costs. Blanket spreading of N fertiliser simplifies record-keeping and this helps to keep N fertiliser use on the farm under control.

The status of other soil nutrients such as phosphorous, potassium and lime status should be considered when applying fertilisers. Lime should be the first item to be addressed but keep in mind that urea should not be applied after lime application. If soil tests indicate low phosphorous then compound fertilizers may be more appropriate especially if early grass is required.

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