

I can meet the energy requirements of my stock by growing quality grass silage or growing homegrown grain; how do I grow the protein they need?

Cereals like oats or barley, forage crops like fodder beet or maize and good quality grass silage can meet the energy requirements of stock but good quality red clover leys grazed or ensiled are the key to meeting the protein requirements of your stock. It's the heifers and calves that will require the extra protein compared to bulls and cows- really the growing animal rather than stock maintaining growth or finishing. In addition the quality of the protein is important and its here that red clover fits in. If silage from red clover leys is cut, ensiled and made well then protein needs can be met. Aftermaths will also be available for finishing lambs and will potentially be able to support 300 grammes plus of daily live-weight gain. Those looking for alternatives have used mixtures of red clover, chicory and high sugar hybrid ryegrasses to achieve the growth they need from high quality forage. Dry matter intake is obviously important: forage crops like swift (a rape kale hybrid) contain high levels of protein (up to 22%) but intakes tend to be lower because dry matter content is around 7-10%. Red clover silage on the other hand with 18-22% protein, has an average dry matter content between 30-35%. However, it has to be said that there may be years when making high quality red clover silage is difficult and the farmer may have to rely on purchased concentrates in the form of balancers or straights in the ration....

What are IBERS plant breeders doing to mitigate climate change ?

Working with the Animal scientists at IBERS, the plant breeders are looking at developing further improvements in digestibility through high sugars in the grass varieties. In a mixed sward, these varieties will build on achievements to date to improve the utilisation of N in the rumen to efficiently produce microbial protein for use by the animal. There is work in progress that suggests that this can result in good reductions in methane produced by sheep. The breeders are also developing varieties of both grass and clover that are better able to both take up and use nitrogen and phosphorus in the soil. This will mean reduced losses to the water courses via leaching. In future, less fertiliser will be needed for the same level of production and with reduced levels of pollution to the air and to the water. It is not just grass and clover breeding that is done at IBERS, the oat breeding programme is also looking at improving the efficiency of digestion in the rumen and also in pigs and poultry. However plant breeding is a time consuming process and efficient farming with careful use of inputs be it feed, seed or fertiliser by farmers will enable emissions to begin to be reduced from agriculture.

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