The cost of reseeding must provide a reasonable return on investment

How does your sward grow?

What's your reseeding policy, what grass varieties should you be looking to use, and what are plant breeders doing to ensure they develop varieties to meet the nutritional – and management – demands of modern dairy units?

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Ley lines: grass silage quality can be significantly improved by reseeding

In recent years, the reseeding policy of many producers has fallen short. With a financial output of £388 per hectare it can be difficult to focus on the potential return on investment accrued by having more productive grass.

In some more favourable areas of the country, producers have successfully improved production by growing forage maize or whole crop cereals. However, maximising production from grassland is widely recognised as the most cost effective way of improving profitability.

For some dairy units, increasing costs may make them consider producing more feed on the farm, reducing overheads or producing more milk per cow or per hectare. David Johnston, a plant breeding specialist from the Agri-Food & Biosciences Institute in Northern Ireland explains how the efficacy of grass is a topic that is under constant research and review.

"With the objective of producing new forage grasses, which are high yielding and offer improved nutritional quality, the AFBI has made considerable investment in its grass breeding programme at Loughgall, Co Armagh. This programme, which is jointly funded by the Department of Agriculture (DARD) and Dutch seed specialists Barenbrug, has very extensive research facilities. AFBI-bred grasses such as Portstewart, Navan, Donard and Dromore are already very widely used on farms throughout the UK and Ireland as producers increasingly appreciate varieties which have been selected and thoroughly tested under local conditions."

Thompsons' nutritionist Stephen Agnew explains the relevance of this research at a practical level. "An additional two

David Johnston: "Grass must now have a more positive effect on production"

Stephen Agnew: "Reseeding can increase silage digestibility by up to three units"

to three tonne of dry matter per hectare per year can be attained from new pastures compared to old.

"And in conjunction with increased yield, new swards also enhance the palatability and nutritional characteristics of grass. This is often evident with the digestibility value of silage seen at between two and three units higher in reseeded swards.

"This increased nutrient availability to the cow helps to drive up herd performance and overall profitability, and with the current level of production costs it is essential that producers optimise grassland management in order to maximise production efficiency."

Market-driven standards

Every element of milk production is being put under a microscope. Grass is no exception and the elements that are expected of grass by producers have impacted on the research route taken by the specialists, such as Mr Johnston.

"There has been an increasing pressure to ensure that grass has a more positive effect on production. This has forced our breeders to pay more attention to early spring growth, disease resistance, digestibility and winter hardiness.

"Using laboratory techniques, grass has been tested for improved digestibility at every stage in the breeding programme and there has been a strong selection in favour of grasses that produce lower levels of re-heading in mid-season.

Table 1: The costs of re-seeding

re-seeding	costs per ha (£)
spray off	49.25
spraying	13.34
plough	50.64
power harrow and sow	56.81
rolling	21.24
grass seed	111.15
lime (1 tonne assumed)	49.40
fertiliser required	37.67
total	**389.49**

"As a result, a portfolio of new varieties from the our programme, such as Dunluce, Dunloy and the even newer variety Drumbo, all produce massive yields with improved digestibility throughout the grazing season."

"The benefits of reseeds are visible with excellent re-growth potential in April and the retention of quality in midsummer – a time when the grazing quality in old pastures tends to deteriorate. Nitrogen efficiency is also greater in new swards with the increased potential to convert nitrogen to grass dry matter. This is realised with nitrogen uptake and demand by new swards, which is significantly greater than old swards," adds Mr Agnew.

New technologies

"The seed industry has also shown a strong demand for late-heading varieties that have improved spring production, so as to allow earlier turnout to grazing, but without the drawback of being excessively stemmy, which was associated with traditional varieties.

"To fulfil this requirement, AFBI breeders crossed early producing grasses with late heading ones, ultimately selecting late heading varieties with better spring growth. The result of this work is the variety Tyrella, a late heading diploid variety with up to 30% more spring production than varieties with similar heading dates."

Research in the more fundamental aspects of plant breeding is being undertaken by AFBI, including the introduction of new technologies including near infra red spectroscopy, which is being effectively used to breed for improved nutritional quality and image analysis that is assisting with the work on better disease resistance.

"Continued investment in the programme will ensure a steady supply of new grasses that can meet the ever changing demands of the dairy industry."|