

Mix and match

Pick and mix the best grass species for your farm and your system

We round up the latest news and thinking on grass varieties and take a look at the reasons behind a recent resurgence in interest in mixed species swards. Herbs, 'secondary' grass species and clovers are proving to be successful ingredients for grazing leys at one unit.

Research and development of grass varieties across much of Europe for the past 40 years has focused on perennial rye grass (PRG), predominantly because it responds so much better to nitrogen application than other species. But these 'other' species, that include timothy, fescue and cocksfoot, are making a come back, partly driven by the threat of climate change and also nitrogen directives, according to Field Option's Francis Dunne.

"And such species don't have to be the poor relation – if managed well they can be extremely efficient and sometimes perform better than PRG."

Francis first began to look at 'broader' mixtures about 10 years ago and says that they could well be the answer for units struggling to grow and graze PRG, such as on dry sites and fields with a high

water table in winter. "Timothy, cocksfoot and meadow fescue can all tolerate extremes much better than PRG. So far, these varieties have only been in the sward through natural selection – they survive in less favourable conditions.

"So we're trying to put some science behind it so these 'secondary' species and mixtures can be managed more effectively on farm."

As a base for a grazing ley Francis says that PRG is great: "But it has a limited mineral profile and a distinct growth pattern. So, again, if it's mixed – even if it's just with clover for example – you can broaden the growth profile and level out the grazing production curve."

Drought tolerance

All species have advantages and disadvantages and it is possible to have

High-sugar variety added to list

Five years of data from IGER's (now IBERS) long term trial confirms that the latest Aber high-sugar grass variety to become available to UK producers in 2009 offers another significant step forward in yield and herbage quality. AberMagic, new onto the HVG/NIAB Recommended Lists in 2008 and now available from British Seed Houses, has the highest grazing yield at 114% and the highest conservation yield at 105%. It also has outstanding D-value, and – according to IBERS' water soluble carbohydrate measurements – the highest sugar levels of any perennial ryegrass variety.

An intermediate diploid variety, it also

offers good disease resistance, including a rating of 7 for crown rust. The variety also offers extended seasonal production, yielding well against control varieties when producers need it most during mid summer (113%), late summer (120%) and autumn (126%). Aber high sugar grasses are the result of a 30-year breeding programme geared to improving nutritional quality alongside increasing yields and other desirable agronomic characteristics. Since the first variety AberDart became available in 2000, the Recommended Lists have been dominated by further varieties including AberAvon, AberStar and AberEcho.



Francis Dunne: "Mix with care to get the best of everything"

the best of everything if mixtures are formulated carefully with individual units in mind, according to Francis.

"Chicory, for example, won't persist for as long as some of the secondary grasses. But it can last for up to three years, which may be long enough to be useful in the medium term or for those reseeding shorter-term leys." Chicory has benefits including drought tolerance and anthelmintic properties, and it's also higher in mineral content compared to PRG. Plantain's plus points are similar too and it is a rich source of selenium.

The other species respond well to nitrogen applications and are certainly something that conventional producers could consider.

"I find that many producers experiment at first, changing management to encourage clover and other species, and then, once they can see the benefits for themselves, they broaden their view of grazing swards, broaden their species mixture and broaden their grazing growth profile."

One producer who has broadened his approach to grass species mixes is Tim Downes. He has been using these mixtures for the past four years on his



Mixed ley: many producers experiment at first, changing management to encourage clover species

Shropshire-based organic unit. Today a fifth of his unit's 200 hectares of grassland are sown to mixed species swards, which contain chicory, plantain, cocksfoot, timothy and red and white clover, and he cites three main reasons for the shift away from rye grass alone – drought resistance, anthelmintic properties and increased plant mineral content and its associated benefits.

Rigorous reseeding

Tim's 170-cow New Zealand and British Friesian herd, plus Aberdeen Angus beef crosses from the dairy herd, which are finished for Waitrose, will graze the sward this coming summer. Previously it's only been grazed by young stock.

But a rigorous reseeding programme using Field Option's Endurance mixture, across some of the farm's three-and five-year leys, means that there's now sufficient area established for the milking herd to take a bite too.

"And I'm really looking forward to seeing how they do," says Tim, who grazes the herd using a New-Zealand style paddock system.

"I'm expecting a similar effect to that seen in the young stock. The additional minerals that are available should give their coats a shine – I think it acts as a tonic. And I'm hoping it will have a knock-on effect on fertility."

He'll also be keeping a watchful eye on the pasture itself, since dairy cows will graze it harder than the young stock: "So I also want to see how the grassland copes with that. It doesn't like poaching and excessively wet conditions, so I'll have to take care."

Another possible draw back, if appearance is a priority, is that the sward looks untidy compared to a traditional rye grass ley. "It will have blue and pink flowers though. So it's pretty, even if it is a little messy," says Tim.

For him, how the sward performs is

what matters. "And I know from past experience that stock do well on it – and that's what's really important at the end of the day."

Grazing yields

Grazing yields in 2008 from the mixed leys were around 7.5 tonnes of dry matter per hectare and the leys containing chicory and plantain did well in the silage clamp too. Tim was pleased with 2008's first cut taken from the leys, which analysed out at a respectable 33.4% dry matter, with a crude protein of 16%, a D value of 67.4, and ME of 10.8MJ/kgDM and 38.4% sugar.

"Not bad for an organic system. I'm certainly pleased with the results and by the end of 2009 an additional 15 hectares will have been reseeded with the mixture."

Rachael Porter