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Getting the Detail Right with Red Clover



It is noticeable how some red clover leys just work and some just don't. It is common practice to treat all red clovers in the same way but there is quite a variation between the different types and a little understanding of them goes a long way. Here Ian Wilkinson of Cotswold Seeds explains what the differences are and also some recent findings in these forage clovers that farmers can benefit from.

Nearly all plant species have a wide range of variation in them. Red clovers are no exception. Over many decades our plant breeders have been able to identify individual traits that can be exploited by livestock farmers. Take tetraploid red clover for example. What is a tetraploid? Well it's a variety with twice as many chromosomes as a diploid. But what does that actually mean to a farmer? Well, there are some big differences and with red clover for example it makes quite a big difference to how they grow and what they are grown with. Tetraploid red clover varieties such as 'Pawera' have larger leaves than diploids and can smother many aggressive grasses including hybrid and perennial ryegrasses. That summer dominance of red clover that is commonly seen can be due to an unbalanced relationship between the red clover and grass. So whilst tetraploid red clovers will catch the attention of growers who want to smother weeds they will need to be grown with competitive grasses that match the tetraploid leafiness. That means Italian ryegrass. These are available in the tetraploid and diploid form too, but both types are strong enough to live with the smothering tetraploid red clover. However, this immediately categorizes these leys for 2 years only. Leave them down for longer and the Italian based red clover ley runs out of steam and the red clover dominates. Farmers should resist the temptation to leave this ley down for a further year, a pure stand of red clover is around a third lower yielding than one with grass and so is a mistake.

Longer Lasting.

So, will a diploid red clover last longer? Some do, but the persistence of a red clover results from the selection of a persistent parent by plant breeders. Ploidy (tetraploid or diploid) is not really the deciding factor. Swiss plant breeders have used the Matenklee or mountain type as a parent and have obtained one or two very persistent red clovers. One of these varieties is 'Milvus'. It has strong parentage from a Matenklee type. This variety was and still remains a powerful force in red clover plant breeding. It is persistent and high yielding, a combination that eluded plant breeders. 'Milvus' is a diploid variety and does not have the dominance associated with tetraploids. It can therefore be sown with more persistent grasses. This is where the breakthrough really lay when it was first introduced, because red clover varieties until the turn of the millennium had really only been capable of producing a two year ley. Suddenly, with a more persistent red clover these leys could be sown with hybrid and perennial ryegrass capable of going on an extra year or two with very little loss of yield. A similar variety, 'Merula', is fast becoming another example with superior yield and persistence. One further advantage of this combination is that they also graze better and this makes them more suitable for sheep grazing after one or two cuts for silage are taken.

Ewe Fertility

But when it comes to sheep grazing red clover leys there is one question that keeps coming up. Will the oestrogen in red clover affect ewe fertility? Red clovers contain varying amounts of this compound and some sheep farmers are concerned that it may lower conception rates. This is possible, but with

the right management it is unlikely that red clover will be of much concern to breeders. To be clear, oestrogen in red clover has no known detrimental effects on fattening lambs. It is when it is fed to breeding ewes that some farmers have concern. If leys contained only red clover, as referred to earlier in this article, then it is possible that ewe fertility could be reduced. But there are relatively few confirmed cases and it is commonly accepted that it is best to flush and tup ewes on leys that contain low levels or no red clover. This is safe. Oestrogen from red clover leys is very mobile and does not remain long or accumulate in the blood. Also once ewes are in lamb it may be considered safe to graze or feed red clover silage. It is worth noting that red clover in silage also contains oestrogen. Plant breeders are possibly able to offer a solution. Back to the variation in plants. Just as there is variation in yield and persistence there is also variation in oestrogen content. Varieties such as 'Formica' have been identified as containing low levels of oestrogen. Now this might sound like a great solution to a potential problem but whilst 'Formica' contains less, it is significantly lower yielding than top rated varieties such as 'Milvus'. This presents a problem when choosing a variety. However there will be instances where yield is less important. For example low input and organic farmers often have more acreage under red clover. They rely on them more than conventional farmers and there may be a case to use low oestrogen red clovers so that ewes can be tupped on red clover leys on these farms. Plant breeders including those at Aberystwyth are currently working in this area and so it is possible that given time, seed of higher yielding, low oestrogen red clover varieties may become more widely used.

Early or Late

A final and fundamental question relating to the selection of red clover is to do with it's time of growth. There are two main types of red clover, early and late flowering. Most seed mixtures contain early flowering types. Although there is little difference in price it is worth checking when buying seed as seed merchants are rarely questioned on which type they are supplying. Early flowering varieties have two main growth flushes during the growing season and start growth in spring earlier than late flowering varieties. Early's coincide nicely with Italian, hybrid and early perennial ryegrasses flowering 10 days before late varieties such as 'Altaswede'. The late types provide the biggest part of their annual yield at the main first growth flush and are best mixed with later heading perennial ryegrasses and this would be better for farmers wishing to take one large mid summer cut for hay or silage. Variety Choice this Autumn Whilst there is the desire to seek out new varieties the reality is that the seed available currently is of known, proven material. Older, early flowering varieties such as 'Merviot' will certainly be offered in the market place, and whilst these may seem good value for money they will not be in the long run as more persistent and higher yielding varieties such as 'Milvus' and 'Merula' offer superior performance.

New Developments

Plant breeders at the moment, are trying to produce varieties of red clover that will provide more flexibility for farmers and are looking at plants with a less erect growth habit, not creeping growth as such but plants that will tolerate more grazing than current varieties and also make easier mixture combinations that will provide a better balance between otherwise competing species. The most obvious application for this type of red clover will be to grow red and white clovers together to provide more flexible grazing and cutting leys. But that's for the future. For now, it is necessary to use what is available to its greatest effect. Red clover leys may need a little extra thought when planning but they are superior to grass only leys in terms of their protein content, their ability to fix free 'N' into the soil, and are easily grown and reliably produce forage on dry or wet soil types. The net effect of all this, is cheap and healthy lamb production.

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