

A study trip to Ireland in 2011 brought home some fresh ideas on choosing grass varieties - by looking at what's eaten rather than just what's grown...

All grasses are not the same!

at Clive Hall Farm, Winsford



Grassland specialist Dr George Fisher explains why Cheshire dairy monitor farmer Phil Asbury is choosing grass varieties on palitability and leaf production to improve milk from grass.



In the UK, grass varieties are tested by cutting to simulate grazing, which doesn't tell the whole story. The Irish researchers wanted to see if cows performed differently on different varieties in a 'real' grazing situation; in this work, the yields were recorded with cows grazing from spring to late summer over two years.

Tetraploids promote intake and yield

Mary McEvoy explained to the group, "The differences in yield of milk and milk solids were down to the cows on the tetraploids having a higher intake. Our data shows that this was due to a combination of factors – compared to the diploids, the tetraploids varieties had a higher leaf to stem ratio, the pseudostem was generally lower in the sward and they had higher digestibilities."

The diploid swards were denser and had greater herbage mass (see the tetraploids vs diploids graph across the page).

However, as Mary found out, "The combination of small differences in digestibility and leaf proportion made the tetraploids more palatable, leading to the yield effects. It was also easier to get to the required residual grazing condition with the tetraploids."

Choice of grass varieties can impact on milk production – so next time you are reseeding, it's worth considering what a tetraploid or a diploid perennial ryegrass can give you. Research from Ireland and practice from the Cheshire Dairy Monitor farm provides some pointers.

It's easy to make the assumption that all grass varieties are pretty much alike and that milk from grass is governed by management more than grass type. But when you have a target of utilising 12 tonnes of dry matter (tonnes DM) grass per ha, and doing that mostly by grazing, then you have to get the variety choice and management right. This is the experience at Clive Hall Farm, the Cheshire Dairy Monitor Farm.

Farm Manager Phil Asbury explains: "Achieving 12 tonnes of dry matter per hectare of utilised grass is not easy, but it pays dividends for the business. If you get your soil and nutrient management in place, and can graze down to a residual of 1,500 kg DM (4 to 5 cm / 2 inches) at each rotation, then you actually have to grow just over 14 tonnes DM/ha to account for a utilisation rate of about 85%. So we need a grass variety that will grow sufficiently and be palatable to promote grazing intakes."

In terms of variety choice, Phil has made some changes. "We have tried

the Matrix type varieties, but found these difficult to maintain and graze efficiently. Then in 2011 we went across to Ireland with the Livestock Programme, to the Teagasc Dairy Research Centre at Moorepark, and saw some work there that reaffirmed our current approach."

Grazing research on different varieties points the way

The research that Phil and the Dairy Monitor Farm discussion group experienced was conducted by Mary McEvoy. Mary and her team have now carried out two years of grazing experiments where they have measured the sward characteristics and milk yield performance of cows on four different varieties of perennial ryegrass, sown as monocultures; two tetraploids and two diploids. *The milk yield results are shown in the table below:*

Milk performance on different grass varieties (average of 2010 and 2011)

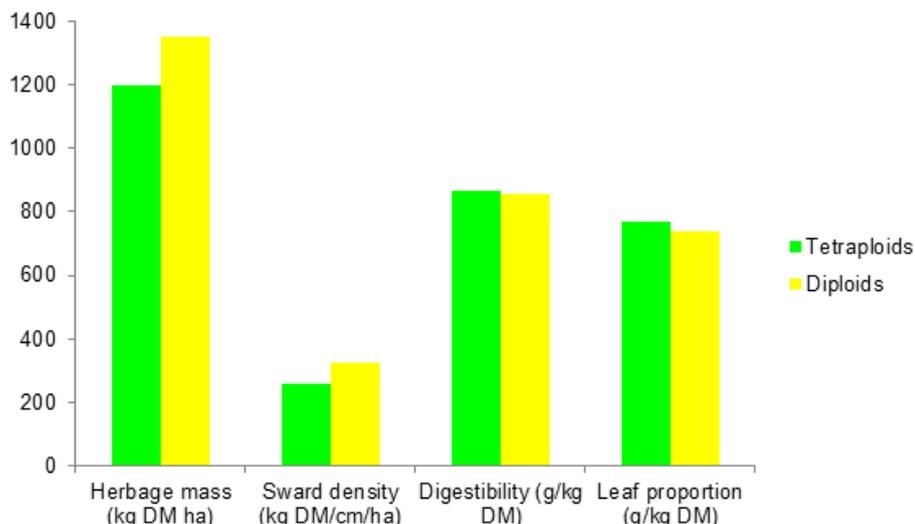
	Cows on tetraploids	Cows on diploids
Milk yield per day (litres)	25.80	24.75
Milk fat (g/kg)	42.6	42.6
Milk protein (g/kg)	34.1	34.0
Total milk solids yield (kg/cow/day)	1.97	1.88

Final Open Day

Wednesday May 8th

Leaf production and digestibility give tetraploids the nod at Clive Hall

Pre-grazing sward conditions for tetraploids vs diploids



It is clear from the results above that getting most milk from grazed grass is not just about pre-grazing herbage mass and sward density. As long as herbage allowance is sufficient and grazing management is optimal, then using tetraploids can improve intakes and yield.

Compared to the diploids, tetraploid perennial ryegrasses have larger cell walls, so they have more digestible cell content in proportion to the relatively less digestible cell wall. It all adds up to a production advantage if you can manage grazing effectively.



Tetraploids: Can improve intake and yield under the right grazing management

'Minimise Costs, Maximise Profits'
Dairy Monitor Farm Open Day

Where: Clive Hall Farm, Clive Lane, Winsford, Cheshire, CW7 3NX

Start: 10.30am

Finish: 2.30pm including lunch

The Cheshire Dairy Monitor Farm's overall objective was to reduce costs. Come and see the results at Clive Hall Farm.

Over four years many changes have been made leading to improvements in farm business net margins. Achieved through the implementation of lean management, all areas of the business have been monitored and recorded.

A farm walk led by Phil Asbury and the specialists that have been involved will outline KPI's set and how they were achieved. This will allow you the opportunity to discuss the changes, benefits seen and future plans to continue improving profits. The challenges of the 2012 season will also be discussed.

Focus Areas

- 'More milk from grazed grass' - less concentrates used.
- 'Robust healthy herd for improved productivity' - fertility, youngstock health, reduced lameness, more milk per cow.
- 'Continuous improvement, building capacity' - More time for management, training and mentoring.

Putting research into practice - what this means to Phil Asbury

For Cheshire dairy monitor farmer Phil Asbury, altering reseeding policy to use tetraploids varieties should have a positive impact on his bottom line.

He said: "At Clive Hall, we reseed 10% of the grazing fields every year and we are now using tetraploids varieties. If the research data can be replicated in practice, then we should be getting about a one litre per cow, per day advantage from this policy. Over a spring and summer grazing period, that means an extra £60 per day in milk sales on our 210 cows, with no extra outlay - that's around £11K if we keep the advantage going through all our grazing."

The approach at Clive Hall is to maximise milk from grazed grass. This means that much attention is paid to achieving the target of 12 t DM/ha utilised grass. The entire grazing platform is measured for cover and growth on a weekly basis and care is taken to graze

as much as possible to a residual of 1,500 kg DM/ha; this ensures that grass is kept at optimal grazing condition with around 12 MJ ME/kg DM energy throughout the season.

Phil added: "When so much effort goes into milk from grass on the farm, taking a yield advantage from choosing the best grass varieties is a must to make sure that the system is meeting our objectives."



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Phil Asbury