



Recommended Grass and Clover Lists for England and Wales



2016/17



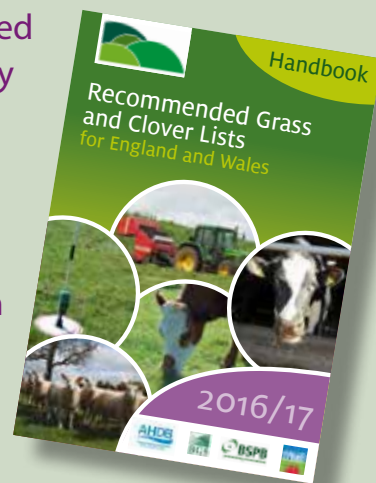
Introduction

Welcome to the full Recommended Grass and Clover List (RGCL). This version of the RGCL is specifically for industry specialists to aid producers in their variety selections for mixtures.

Well-managed grassland provides the most economic feed throughout the year, either as grazing or conserved forage. However, with input costs increasing, selecting the right seed mixture to suit the system is essential for efficient performance.

This booklet has the complete dataset including performance measures for seasonal growth and Agronomic characters including ground cover and Winter hardiness. The tables also provide information on the number of trials carried out.

The scheme has changed – it is no longer partially funded by merchants, which means the data are available to all. The testing is funded by plant breeders through the British Society of Plant Breeders and the ruminant levy boards, (AHDB Beef & Lamb, AHDB Dairy and Hybu Cig Cymru).



Both the full list and Handbook are available at www.britishgrassland.com/RGCL



An excel spreadsheet with the full dataset is available to download as well.

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How To Use This Guide

Varieties are ranked by heading date

Simulated grazing performance
What's the difference between this and conserved forage?
More regular cuts?

Conserved forage performance eg silage
When are cuts taken?

Agronomic characteristics, such as ground cover and hardiness

Disease resistance

The number of trials used to gather yield data
The higher the number the more data behind the results

	Mean of G varieties	Late Diploid Mean	AberAvon	Toddington	Glanarm	Romark	Pastour
Recommended List Status			G	G	PG	G	G
Heading date			2 Jun	2 Jun	3 Jun	3 Jun	4 Jun
Grazing: Management							
Grazing yield (% of 10.40 t/ha)	100	100	100	98	100	100	99
Grazing D-value	76.5	76.6	77.3	75.9	76.7	76.6	76.5
ME Yield (% of 128,000 mj/ha)	100	100	101	97	100	100	99
Grazing: Seasonal Growth							
Early grazing yield (% of 1.24 t/ha)	100	92	101	87	104	92	92
Spring (% of 2.11 t/ha)	100	90	96	89	100	91	91
Early Summer (% of 4.12 t/ha)	100	104	101	104	100	104	104
Late Summer (% of 2.78 t/ha)	100	103	103	100	102	103	103
Autumn (% of 1.49 t/ha)	100	99	100	94	100	99	99
Conservation: Management							
Total yield year 1 (% of 17.74 t/ha)	100	93	94	95	100	92	92
1st and 2nd cut ME yield, first harvest year (% of 132,000 mj/ha)	100	94	96	96	104	90	90
Total yield year 3 (% of 13.03 t/ha)	100	97	98	98	104	99	99

- G** General Use
- S** Recommended for Specific Use
- PG** Provisional General Use Recommendation
- PS** Provisional Specific Use Recommendation

	Me var	Lat Me	Ab	Toc
Agronomic Characters				
Ground Cover % (2nd Harvest year)	60	63	65	63
Ground Cover % (3rd Harvest year)	57	58	63	57
Autumn Ground Cover (1-9, 1=poor 9=good)	6.3	6.6	7.1	6.6
Winter Hardiness (1-9, 1=poor 9=good)	6.8	6.6	6.9	6.7
Disease Resistance				
Crown Rust (1-9, 1=poor 9=good)	6.5	6.4	7.3	8.1
Drechslera (1-9, 1=poor 9=good)	6.3	5.3	4.1	6.4
Mildew (1-9, 1=poor 9=good)	6.9	6.4	6.0	6.4
Year First Listed			2001	2001
Breeder			IBERS, Aberystwyth	
UK Agent			Geminal	
Number of Trials for Yields				
1st Harvest Year				
2nd Harvest Year				
3rd Harvest Year				

White Clover

White clover varieties include additional or alternative measures including:

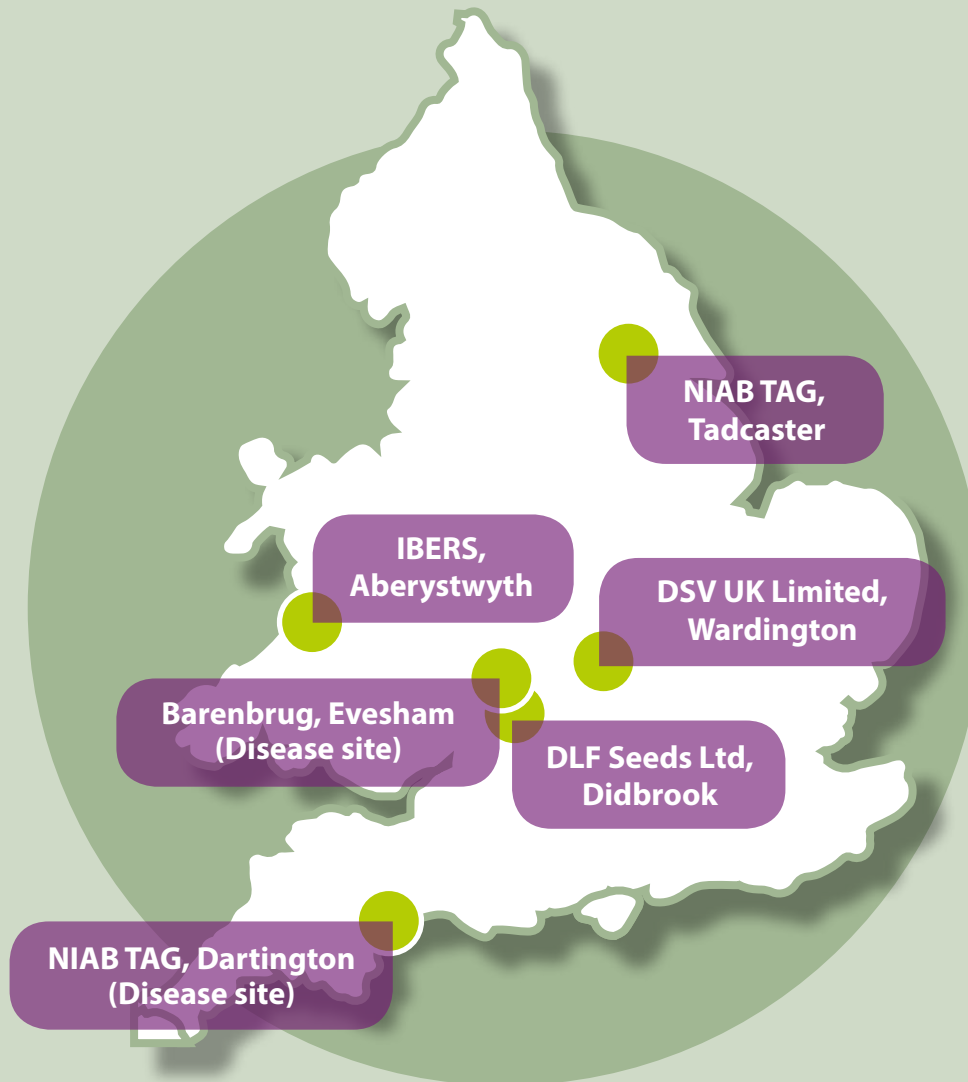
- Specific clover yields within a grass mix sward and overall crop yields
- Measures of clover content in the sward and measures for ground cover

Performance is also measured under two separate systems.

3rd Harvest Year	
Yield of clover (% of 3.94 t/ha) #	100
Yield of Grass + Clover (% of 12.01 t/ha) #	100
% Clover	33
Clover yield: First cut (% of 0.49 t/ha) #	100
Clover yield: Last cut (% of 0.38 t/ha) #	100

Autumn Ground Cover		
Light Defoliation	% Cover 1st Harvest Year	4
	% Cover 2nd Harvest Year	4
	% Cover 3rd Harvest Year	4
	Overall (1-9, 1=poor 9=good)	6.3
Hard Defoliation	% Cover 1st Harvest Year	4
	% Cover 2nd Harvest Year	4
	% Cover 3rd Harvest Year	4

Frequently Asked Questions



How and where is this information gathered?

Trial plots for each variety are grown across four locations in England and Wales. The performance of these plots is then compared to each other under different cutting regimes. The location of trial sites can be seen on the adjacent map. The Barenbrug and Dartington sites are only collecting disease data.

Are the results representative of a commercial situation?

All plots are grown outdoors in areas of grassland production. Plots receive nitrogen inputs to represent well fertilised grassland including returns of animal manures.

What seed rates are they applied at?

Trial plot seed rates vary depending on species.

Species		Seed Rate
Perennial ryegrass	Diploid	25kg/ha
	Tetraploid	37kg/ha
Italian and Hybrid ryegrasses, plus Festulolium	Diploid	33kg/ha
	Tetraploid	50kg/ha
Timothy		16kg/ha
White clover (along with 18kg/ha of companion ryegrass)		3.5kg/ha
Red clover		13kg/ha

What is the difference between conservation and grazing management?

Conservation management applies to perennial ryegrass and timothy in their first and third year after sowing. The aim is to simulate silage cutting with the first cut at early ear emergence and then cuts are taken at six week intervals thereafter. This usually results in up to five cuts per year.

Grazing management applies to perennial ryegrass and timothy in their second year after sowing. The aim is to simulate grazing with the first cut taken at a yield of approximately 1.5t DM/ha and then cuts are taken at three to four week intervals thereafter.

Conservation/rotational grazing management applies to Italian and Hybrid ryegrasses and consists of an early cut followed by two conservation cuts and monthly simulated grazing cuts thereafter. White clover is cut on a monthly basis to assess yields and more frequently in separate plots to assess persistence under stimulated grazing.

How much difference is there between trial sites in terms of variety performance?

There is currently no analysis of changes in performance between the same varieties on different trial sites.

How is Disease resistance measured?

All perennial and Italian ryegrass variety trials are monitored regularly for the presence of foliar diseases. Usually, plots are inspected just before a cut is due, so that disease will have increased and effective discrimination between varieties can be made. The plot area is assessed visually and the percentage of total Leaf area affected by different diseases is estimated. Records are collated at the end of the season and combined with previous years' data to give a robust estimate of the relative differences in resistance to disease. This is then expressed on a 1 to 9 scale, where 9 indicates a mean score of close to zero percent Leaf area infected.

At the NIAB-TAG site at Dartington in Devon and the Barenbrug site near Evesham in Worcestershire, natural infection of disease is encouraged through late season management. This information is recorded and used to increase the accuracy of Disease resistance values.

What if I want to know the ME value?

Metabolisable energy (ME) is the amount of energy in the sample that is available for the animal (this is calculated from the D-value), whereas D-value is a measure of the digestible organic matter of the variety. So one is a measure of what is available to the animal and the other a measure of what will be digested by the animal.

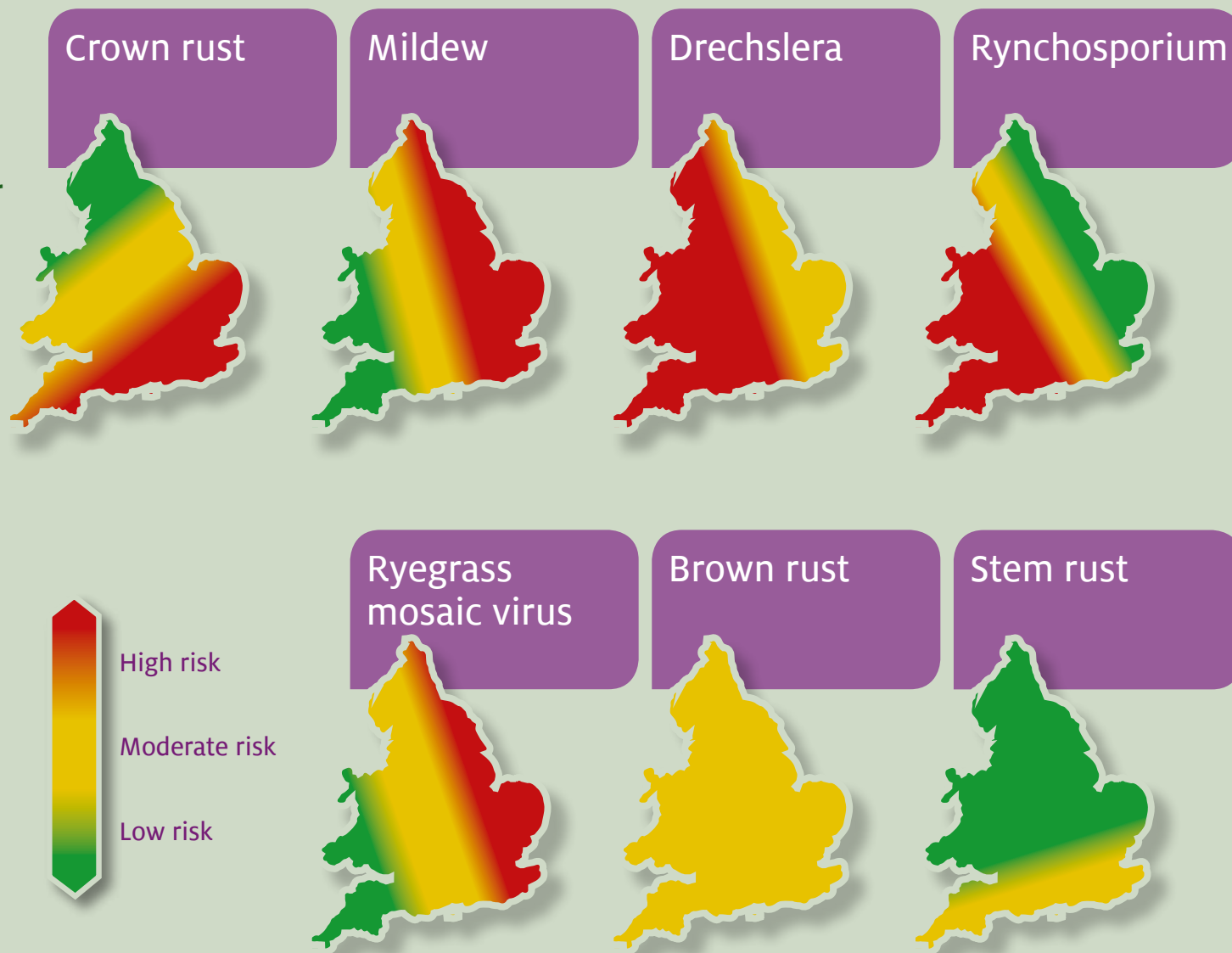
Rule of thumb
1 D-value unit = ME of 0.16

So for example a D-value of 70 would equate to an ME of **11.2 megajoules.**

Regional Disease Information

Records taken since the early 1980s show that the diseases illustrated on the right are the main ones to affect grasses in England and Wales. Though some fungicides are effective against grass diseases, their use is very limited, as is the product range available. Using resistant grass or clover varieties in seed mixtures for high risk areas provides a cost effective and reliable way to minimise the effects of disease.

Regional disease risks are shown in the maps. Disease severity is very dependent on overall climate in different areas of the country. Some diseases are more prevalent in the generally wetter and warmer west and south west, while others are more common in the drier east. In some areas, multiple diseases can be high risk. In these areas selecting varieties with a good combination of moderate (ratings 6 or 7) and preferably high (8 or 9) Disease resistance is essential.



Major diseases

Crown rust usually occurs in the Late summer and autumn, when there are warm days with dew at night. Once largely confined to the south and south west of England, it has recently been recorded at high levels as far north as Yorkshire.

Mildew is an issue with warm and relatively dry conditions and is usually seen between spring and summer along eastern England. It generally does not reach high levels in wet areas.

Drechslera is often most severe at the start and the end of the growing season and is encouraged by cool, wet and humid conditions, although it can occur during wet summers. It can occur throughout England and Wales.

Rhynchosporium is a wet weather disease and is usually confined to the west and south west of England, and Wales. It occurs in the spring and normally dies away during the summer months.

Ryegrass mosaic virus (RMV) is the most important virus disease affecting ryegrass and the symptoms are more common in Italian than perennial ryegrass. It is transmitted by a mite that prefers dry conditions, so RMV largely appears in the drier eastern half of England.

Less prevalent diseases

A number of other pathogens infect perennial and Italian ryegrasses. These are more sporadic than the major diseases described, but can be significant in some years.

Brown rust occurs early in the season, during April and May and throughout England and Wales. It only affects ryegrasses and is a different species to the brown rusts that infects wheat and barley. It can reach moderate levels in some varieties, but most have good resistance.

Stem rust is common in grass seed crops, but can occasionally infect leys in the far south of the country during warm autumn conditions.

Barley yellow dwarf virus (BYDV) may be quite widespread on leys where aphid vector species are present. However, symptoms are quite rare and the significance of the virus is difficult to establish.

Cocksfoot and timothy can be infected by several diseases. **Cocksfoot yellow rust** is common, but this is not the same as **Yellow rust** which affects wheat. Timothy can be severely affected by stem rust, particularly in hay crops. Other diseases include **selenophoma** and **cladosporium leaf spots** on timothy, and **mastigosporium leaf fleck** on cocksfoot and timothy. These three fungi favour wet conditions and are more common in the west and south west.

Effects of grass diseases

Diseases not only affect yield but also quality and sward composition. On average, a disease can reduce yields by around 3%. However, responses to fungicide treatments have been far greater than this. The effects of grass diseases have been investigated using fungicide programmes on perennial ryegrass. On average, over the life of a three year ley, disease effects were estimated to cause a loss of just over 1t DM/ha, which is about 3% of the average yield of the varieties used. Individual site and variety effects were larger, for instance controlling Drechslera leaf spot at one site on a susceptible variety gave a yield response of nearly 1.25t DM/ha at first cut.

One of the most serious effects on quality is the reduction of water soluble carbohydrate, generally by 1-2%, when Crown rust was severe in late season cuts. Lower water soluble carbohydrate levels reduce feeding value and may make grass less palatable. In grazing trials, rejection of rusted varieties in favour of cleaner material has been frequently recorded.

Leaf diseases increase the amount of dead material in a ley and will reduce D-value if they are allowed to increase. Mildew and Rhynchosporium in Italian ryegrass have been shown to reduce D-value by between 1 to 2 units.

Grass diseases may also affect sward composition and therefore yield and quality, if susceptible varieties become less vigorous due to infection and die out. In extreme cases, there may be an ingress of unproductive weed species although other sown species may compensate.

Red and white clover diseases

The most significant disease of clover is **sclerotinia rot**, caused by sclerotinia trifoliorum. Red clover is more prone to damage than white clover and the same disease can affect winter sown field beans. Symptoms are difficult to see in clover and usually the first sign of a sclerotinia problem is the disappearance of clover plants in the spring. Where infection is established, re-seeding with more resistant varieties is the most effective control option.

A wide range of leaf spot diseases affect clover, as well as **powdery** and **downy mildew**. Apart from powdery mildew, most diseases tend to be more prevalent in the wetter western parts of the country. The significance of these foliar diseases is uncertain, though some loss of yield and quality is likely.

Managing grass diseases

Selection of a proportion of resistant varieties in seed mixtures provides an effective means of suppressing grass diseases. However where susceptible varieties are used because of other desirable characters, then management techniques will be needed to avoid disease build-up. Generally, cutting or grazing before leaves become significantly infected will help to reduce disease build-up.

Recommended List of Early Perennial Ryegrass Varieties 2016/2017

	Mean of G Varieties	Diploids								Tetraploids			
		Early Diploid Mean	Genesis	Moyola	Kilrea	Kilian	Kimber	Glenvale	Glasker	Early Tetraploid Mean	AberTorch	Anaconda	Carraig
Recommended List status			G	G	G	PG	G	PG	PG		G	S	PG
Heading date			10 May	12 May	13 May	15 May	16 May	16 May	17 May		7 May	7 May	14 May
Grazing: management													
Grazing yield (% of 10.40t DM/ha)	100	100	101	104	97	102	98	101	103	99	99	96	101
Grazing D-value	76.5	75.6	75.8	75.8	75.5	75.9	75.1	76.0	76.3	76.5	76.5	76.4	76.2
ME yield (% of 128,000 MJ/ha)	100	98	100	102	96	101	96	100	102	99	99	95	100
Grazing: seasonal growth													
Early grazing yield (% of 1.24t DM/ha)	100	119	133	118	114	115	110	114	123	124	124	112	120
Spring (% of 2.11t DM/ha)	100	121	128	123	118	123	116	119	122	125	125	119	114
Early summer (% of 4.12t DM/ha)	100	90	90	90	88	90	91	93	91	91	91	88	96
Late summer (% of 2.78t DM/ha)	100	99	98	106	95	103	97	99	100	96	96	94	98
Autumn (% of 1.49t DM/ha)	100	100	99	109	97	105	95	105	111	93	93	88	100
Conservation: management													
Total yield year 1 (% of 17.74t DM/ha)	100	104	108	106	101	101	102	105	104	104	104	101	(105)
1st and 2nd cut ME yield, first harvest year (% of 132,000 MJ/ha)	100	98	102	98	95	96	98	100	98	100	100	95	(102)
Total yield year 3 (% of 13.03t DM/ha)	100	101	105	105	97	102	98	(99)	102	100	100	96	(100)
Total yield: Mean (% of 15.48t DM/ha)	100	103	106	105	99	102	100	(102)	103	102	102	99	(103)
Conservation seasonal growth – Year 1													
1st cut (% of 7.14t DM/ha)	100	96	103	99	90	89	94	97	92	95	95	90	(89)
1st cut D-value	72.3	71.3	69.7	70.5	72.8	73.3	72.4	72.2	73.0	72.1	72.1	72.1	(74.0)
2nd cut (% of 4.12t DM/ha)	100	94	97	91	92	95	95	96	97	98	98	95	(102)
2nd cut D-value	73.8	72.9	73.3	72.7	72.7	73.2	72.6	72.4	73.1	73.0	73.0	72.5	(72.8)
3rd cut (% of 3.36t DM/ha)	100	107	109	110	107	107	103	109	107	110	110	106	(107)
4th+ cut (% of 3.27t DM/ha)	100	107	108	111	107	105	103	105	111	104	104	103	(110)

	Mean of G Varieties	Diploids								Tetraploids			
		Early Diploid Mean	Genesis	Moyola	Kilrea	Kilian	Kimber	Glenvale	Glasker	Early Tetraploid Mean	AberTorch	Anaconda	Carraig
Agronomic characters													
Ground cover % (2nd harvest year)	60	62	62	60	65	63	62	61	61	60	60	56	60
Ground cover % (3rd harvest year)	57	58	57	56	60	61	59	(57)	58	58	58	58	(57)
Autumn ground cover (1-9, 1=poor 9=good)	6.3	6.6	6.5	6.3	6.9	6.9	6.6	(6.3)	6.4	6.4	6.4	6.1	(6.4)
Winter hardiness (1-9, 1=poor 9=good)	6.8	7.1	7.0	7.0	7.1	[7.2]	7.2	[6.9]	[7.0]	7.4	7.4	6.7	7.1
Disease resistance													
Crown rust (1-9, 1=poor 9=good)	6.5	6.1	7.5	7.2	4.7	8.2	5.0	5.3	7.9	6.5	6.5	4.1	2.3
Drechslera (1-9, 1=poor 9=good)	6.3	6.0	6.4	5.6	5.8		6.0	6.3		6.9	6.9	8.6	
Mildew (1-9, 1=poor 9=good)	6.9	7.0	5.9	7.8	7.2		7.0	[6.0]		4.6	4.6	4.5	[4.5]
Year First Listed			2009	2009	2005	2016	2004	2012	2016		2000	1992	2013
Breeder			Teagasc, Eire	AFBI, UK	AFBI, UK		DLF Seeds A/S, Denmark		AFBI UK		IBERS, Aberystwyth	DLF Seeds A/S, Denmark	Teagasc, Eire
UK Agent			DLF Seeds Ltd	Barenbrug UK Ltd	Barenbrug UK Ltd		DLF Seeds Ltd		Barenbrug UK Ltd		Geminal	Limagrain UK Ltd	DLF Seeds Ltd
Number of trials for yields													
1st harvest year			15	14	17	5	15	6	5		19	12	9
2nd harvest year			14	13	16	5	14	5	5		18	11	8
3rd harvest year			12	11	14	5	13	8	5		17	10	6

Note that the mean of G varieties include all those from early, intermediate and late maturity groups.

Yields are expressed as a percentage of the mean of all fully recommended PRG varieties in trials. Grazing yields are measured in year 2, Conservation yields in years 1 and 3.

Grazing D-value is measured from a late-summer cut in year 2 and the grazing ME yields are calculated as total yield multiplied by the D-value x 0.16.

Conservation D-value is measured from both the 1st and 2nd cuts in year 1.

Conservation ME yields are calculated as the first year first cut multiplied by its D-value x 0.16, plus the first year second cut yield multiplied by its D-value x 0.16.

() for Glenvale and Carraig indicate values derived from Intermediate trials.

[] = Only two trials worth of data.

Recommended List of Intermediate Perennial Ryegrass Diploid Varieties 2016/2017

	Mean of G varieties	Int. Diploid Mean	Solomon	Boyne	Nifty	Moira	AberDart	Glenariff	AberStar	AberZeus	AberWolf	Premium	AberFarrell	AberMagic	Gosford	Elyria	AberGreen
Recommended List status			G	S	PG	PS	G	PG	S	PG	PS	G	S	G	PG	PG	G
Heading date			18 May	19 May	23 May	23 May	24 May	26 May	26 May	26 May	27 May	27 May	28 May	28 May	28 May	29 May	29 May
Grazing: management																	
Grazing yield (% of 10.40t DM/ha)	100	100	98	101	103	98	98	102	102	106	103	96	98	105	100	101	104
Grazing D-value	76.5	76.6	75.7	75.2	77.2	75.4	77.7	74.9	77.5	77.5	77.9	75.3	77.3	76.9	76.6	76.3	77.5
ME yield (% of 128,000 MJ/ha)	100	100	96	99	104	97	100	100	103	107	105	94	99	106	101	101	106
Grazing: seasonal growth																	
Early grazing yield (% of 1.24t DM/ha)	100	102	108	107	96	104	112	101	105	116	104	96	98	96	109	99	99
Spring (% of 2.11t DM/ha)	100	100	106	105	100	101	103	95	101	108	106	98	92	94	103	96	100
Early summer (% of 4.12t DM/ha)	100	97	91	98	101	92	94	99	98	103	97	94	95	102	97	99	102
Late summer (% of 2.78t DM/ha)	100	100	97	99	104	98	95	105	100	104	105	94	101	107	98	103	105
Autumn (% of 1.49t DM/ha)	100	109	102	105	111	111	108	108	114	114	113	99	107	122	108	109	113
Conservation: management																	
Total yield year 1 (% of 17.74t DM/ha)	100	99	103	105	101	102	96	101	97	100	103	97	96	99	98	98	101
1st and 2nd cut ME yield, first harvest year (% of 132,000 MJ/ha)	100	97	99	103	97	97	96	97	95	99	101	95	97	98	98	95	100
Total yield year 3 (% of 13.03t DM/ha)	100	100	101	106	98	106	97	98	97	105	103	97	95	100	103	101	104
Total yield: Mean (% of 15.48t DM/ha)	100	99	102	105	100	104	97	100	97	102	103	97	96	100	101	99	102
Conservation seasonal growth – Year 1																	
1st cut (% of 7.14t DM/ha)	100	101	113	112	103	105	96	102	98	103	103	101	95	97	100	98	97
1st cut D-value	72.3	71.5	68.0	68.7	70.8	70.1	72.1	71.3	71.9	72.5	72.0	69.9	75.0	73.9	72.6	72.0	73.7
2nd cut (% of 4.12t DM/ha)	100	98	92	104	97	90	97	97	95	95	101	94	94	103	96	96	103
2nd cut D-value	73.8	73.2	72.6	70.5	72.2	74.3	74.2	73.2	73.0	74.8	73.5	73.1	75.9	72.3	73.9	73.3	73.7
3rd cut (% of 3.36t DM/ha)	100	105	105	104	109	115	102	109	104	104	109	101	107	110	104	102	109
4th+ cut (% of 3.27t DM/ha)	100	104	104	103	108	113	100	108	102	102	108	100	106	108	102	100	108

	Mean of G varieties	Int. Dploidy Mean	Solomon	Boyne	Nifty	Moire	AberDart	Glenariff	AberStar	AberZeus	AberWolf	Premium	AberFarrell	AberMagic	Gosford	Elyria	AberGreen
Agronomic characters																	
Ground cover % (2nd harvest year)	60	63	60	64	61	58	67	65	63	65	64	63	60	58	63	65	65
Ground cover % (3rd harvest year)	57	62	61	63	60	57	64	59	62	68	67	60	59	61	59	64	64
Autumn ground cover (1-9, 1=poor 9=good)	6.3	6.9	6.6	7.1	6.6	6.2	7.5	6.9	7.0	7.6	7.4	6.8	6.5	6.5	6.7	7.3	7.2
Winter hardiness (1-9, 1=poor 9=good)	6.8	6.7	6.5	6.6	6.8	6.6	6.8	6.6	6.9	[6.7]	6.8	6.5	6.7	6.6	[7.0]	7.0	7.0
Disease resistance																	
Crown rust (1-9, 1=poor 9=good)	6.5	6.7	7.0	7.0	7.8	7.9	5.7	8.4	7.0	7.6	7.3	5.3	7.0	7.6	7.5	7.1	7.8
Drechslera (1-9, 1=poor 9=good)	6.3	5.4	6.5	6.1	4.4	6.8	3.6	5.3	2.8		3.6	6.8	5.6	4.2		[5.9]	5.8
Mildew (1-9, 1=poor 9=good)	6.9	6.8	6.6	6.9	6.3	7.3	6.6	[8.0]	5.9		5.5	6.4	7.6	7.3		6.2	7.4
Year First Listed			2009	2010	2014	2014	1999	2012	2005	2016	2014	1998	2009	2008	2016	2015	2011
Breeder			Teagasc, Eire	DLF Seeds A/S, Denmark	DLF Seeds A/S, Denmark	AFBI, UK	IBERS, Aberystwyth	AFBI, UK	IBERS, Aberystwyth	IBERS, Aberystwyth	IBERS, Aberystwyth	Innoseeds, NL	IBERS, Aberystwyth	IBERS, Aberystwyth	AFBI, UK	DLF Seeds A/S, Denmark	IBERS, Aberystwyth
UK Agent			DLF Seeds Ltd	DLF Seeds Ltd	DLF Seeds Ltd	Barenbrug UK Ltd	Germinal	Barenbrug UK Ltd	Germinal	Germinal	Germinal	DLF Seeds Ltd	Germinal	Germinal	Barenbrug UK Ltd	Limagrain UK	Germinal
Number of trials for yields																	
1st harvest year			14	22	8	8	12	12	16	6	8	39	14	12	6	6	13
2nd harvest year			13	17	6	6	12	10	14	6	6	36	13	13	6	6	11
3rd harvest year			13	16	6	6	12	8	16	6	6	36	13	13	6	6	11

Note that the mean of G varieties include all those from early, intermediate and late maturity groups.

Yields are expressed as a percentage of the mean of all fully recommended PRG varieties in trials. Grazing yields are measured in year 2, Conservation yields in years 1 and 3.

Grazing D-value is measured from a late-summer cut in year 2 and the grazing ME yields are calculated as total yield multiplied by the D-value x 0.16.

Conservation D-value is measured from both the 1st and 2nd cuts in year 1.

Conservation ME yields are calculated as the first year first cut multiplied by its D-value x 0.16, plus the first year second cut yield multiplied by its D-value x 0.16.

[] = Only two trials worth of data.

Recommended List of Intermediate Perennial Ryegrass Tetraploid Varieties 2016/2017

	Mean of G varieties	Int. Tetraploid Mean	Trintella	AberGlyn	Fintona	Malone	Glenstal	Seagoe	Aubisque	Ramore	AberClyde	Eurostar	AstonBonus	Dunluce	Caledon	Pensel	Diwan	Montova	AstonEnergy
Recommended List status			S	G	PG	G	G	G	G	PG	PG	G	PS	G	PS	PS	PS	G	G
Heading date			19 May	20 May	20 May	20 May	21 May	22 May	22 May	23 May	24 May	25 May	29 May	29 May	30 May	30 May	30 May	30 May	31 May
Grazing: management																			
Grazing yield (% of 10.40t DM/ha)	100	99	95	97	103	97	100	100	96	100	99	98	101	101	106	101	98	100	99
Grazing D-value	76.5	76.5	76.7	76.2	76.9	76.8	75.7	76.4	76.4	75.8	77.5	76.5	75.8	77.2	76.3	75.6	76.5	75.4	77.8
ME yield (% of 128,000 MJ/ha)	100	99	95	96	103	97	99	100	96	99	100	98	100	102	106	100	98	98	100
Grazing: seasonal growth																			
Early grazing yield (% of 1.24t DM/ha)	100	100	100	111	106	107	110	107	94	105	101	96	108	94	86	98	87	86	89
Spring (% of 2.11t DM/ha)	100	101	105	112	106	106	110	104	99	103	104	97	103	92	94	103	92	90	93
Early summer (% of 4.12t DM/ha)	100	99	92	95	99	93	98	99	96	95	100	101	100	105	113	104	97	104	102
Late summer (% of 2.78t DM/ha)	100	97	92	90	104	95	97	98	93	101	93	95	100	103	110	97	102	100	96
Autumn (% of 1.49t DM/ha)	100	98	95	93	104	100	98	98	93	102	95	96	102	100	101	95	96	96	100
Conservation: management																			
Total yield year 1 (% of 17.74t DM/ha)	100	103	102	105	108	103	103	109	100	106	103	102	104	102	105	107	106	102	99
1st and 2nd cut ME yield, first harvest year (% of 132,000 MJ/ha)	100	104	103	108	105	102	106	110	101	106	106	104	105	102	108	109	108	102	101
Total yield year 3 (% of 13.03t DM/ha)	100	101	99	100	106	101	101	105	98	107	96	99	97	105	105	101	101	104	96
Total yield: Mean (% of 15.48t DM/ha)	100	103	100	103	107	102	102	107	99	107	101	100	101	103	105	105	103	103	98
Conservation seasonal growth – Year 1																			
1st cut (% of 7.14t DM/ha)	100	105	109	113	111	109	109	117	103	108	107	105	108	95	(114)	109	110	99	97
1st cut D-value	72.3	72.8	70.9	70.6	70.5	70.9	72.6	71.3	72.2	73.4	73.5	72.4	73.4	75.4	(70.5)	72.8	72.8	73.9	75.2
2nd cut (% of 4.12t DM/ha)	100	105	98	107	102	96	103	105	100	105	107	105	102	110	(108)	117	107	109	101
2nd cut D-value	73.8	73.5	74.1	71.9	74.3	75.1	73.0	72.9	73.4	73.8	73.7	73.9	74.4	73.5	(71.5)	71.3	73.1	72.0	76.1
3rd cut (% of 3.36t DM/ha)	100	104	101	99	112	104	103	109	101	110	100	103	107	108	(91)	100	104	103	106
4th+ cut (% of 3.27t DM/ha)	100	103	100	98	110	102	102	108	99	108	99	101	106	107	(96)	99	103	102	104

	Mean of G varieties	Int. tetraploid Mean	Trintella	AberGlyn	Fintona	Malone	Glenstal	Seagoe	Aubisque	Ramore	AberClyde	Eurostar	AstonBonus	Dunluce	Caledon	Pensel	Diwan	Montova	AstonEnergy
Agronomic characters																			
Ground cover % (2nd harvest year)	60	56	57	58	55	57	54	57	60	60	62	59	55	55	53	53	57	61	51
Ground cover % (3rd harvest year)	57	53	52	54	51	51	53	53	59	53	59	58	49	53	(48)	55	50	57	48
Autumn ground cover (1-9, 1=poor 9=good)	6.3	5.7	5.7	5.9	5.4	5.6	5.5	5.7	6.4	6.0	6.7	6.3	5.3	5.6	(5.1)	5.6	5.5	6.4	4.8
Winter hardiness (1-9, 1=poor 9=good)	6.8	6.6	6.8	6.9	7.0	6.4	6.9	6.5	6.8	7.2	6.9	6.9	6.2	6.6	7.0	6.8	[6.9]	6.5	6.4
Disease resistance																			
Crown rust (1-9, 1=poor 9=good)	6.5	6.1	7.9	7.1	6.2	5.3	4.6	7.7	6.9	5.0	8.2	6.0	7.2	4.1		8.4	8.3	6.1	8.2
Drechslera (1-9, 1=poor 9=good)	6.3	7.2	7.6	6.5	7.8	6.9	7.2	7.4	7.9	[8.2]	6.6	7.5	7.1	7.2	[8.4]	7.8		7.1	7.9
Mildew (1-9, 1=poor 9=good)	6.9	7.4	[7.4]	7.1	8.2	8.7	5.3	8.6	5.6	8.0	8.1	7.3	6.5	7.5	6.0	7.3		7.5	7.5
Year First Listed			2007	2004	2014	2006	2004	2011	1993	2015	2013	2002	2013	2005	2015	2013	2016	2004	2006
Breeder			DLF Seeds A/S, Denmark	IBERS, Aberystwyth	AFBI, UK	AFBI, UK	Teagasc, Eire	AFBI, UK	DLF Seeds A/S, Denmark	AFBI, UK	IBERS, Aberystwyth	DLF Seeds A/S, Denmark	DSV, UK	AFBI, UK	AFBI, UK	DLF Seeds A/S, Denmark	DLF Seeds A/S, Denmark	DLF Seeds A/S, Denmark	DSV, UK
UK Agent			Limagrain UK Ltd	Germinal	Barenbrug UK Ltd	Barenbrug UK Ltd	DLF Seeds Ltd	Barenbrug UK Ltd	Limagrain UK Ltd	Barenbrug UK Ltd	Germinal	Limagrain UK Ltd	DSV	Barenbrug UK Ltd	Barenbrug UK Ltd	Limagrain UK Ltd	DLF Seeds Ltd	Limagrain UK Ltd	Germinal
Number of trials for yields																			
1st harvest year			12	16	8	13	17	13	43	6	11	11	11	23	6	11	6	15	13
2nd harvest year			12	13	6	13	13	11	43	6	8	10	8	20	6	8	6	14	12
3rd harvest year			12	14	6	13	15	11	45	6	6	11	6	19	6	6	6	14	13

Note that the mean of G varieties include all those from early, intermediate and late maturity groups.

Yields are expressed as a percentage of the mean of all fully recommended PRG varieties in trials. Grazing yields are measured in year 2, Conservation yields in years 1 and 3.

Grazing D-value is measured from a late-summer cut in year 2 and the grazing ME yields are calculated as total yield multiplied by the D-value x 0.16.

Conservation D-value is measured from both the 1st and 2nd cuts in year 1.

Conservation ME yields are calculated as the first year first cut multiplied by its D-value x 0.16, plus the first year second cut yield multiplied by its D-value x 0.16.

() for Aswini and Caledon indicate values derived from Late trials.

[] = Only two trials worth of data.

Recommended List of Late Perennial Ryegrass Diploid Varieties 2016/2017

	Mean of G varieties	Late Diploid Mean	AberAvon	Toddington	Glenarm	Romark	Pastour	Foxtrot	Drumbo	Clanrye	Cavendish	Timing	AberChoice	Matiz	Cancan
Recommended List status			G	G	PG	G	G	G	G	PS	PS	PG	S	S	G
Heading date			2 Jun	2 Jun	3 Jun	3 Jun	4 Jun	4 Jun	4 Jun	4 Jun	5 Jun	5 Jun	9 Jun	11 Jun	12 Jun
Grazing: management															
Grazing yield (% of 10.40t DM/ha)	100	100	100	98	100	100	99	99	101	98	98	101	104	98	101
Grazing D-value	76.5	76.6	77.3	75.9	76.7	76.6	75.7	75.5	77.1	75.3	75.3	75.9	77.2	77.1	76.3
ME yield (% of 128,000 MJ/ha)	100	100	101	97	100	100	98	98	101	97	97	100	105	99	100
Grazing: seasonal growth															
Early grazing yield (% of 1.24t DM/ha)	100	92	101	87	104	92	90	84	99	82	94	82	96	80	80
Spring (% of 2.11t DM/ha)	100	90	96	89	100	91	87	88	95	83	90	85	96	80	78
Early summer (% of 4.12t DM/ha)	100	104	101	104	100	104	104	104	103	106	104	109	110	104	107
Late summer (% of 2.78t DM/ha)	100	103	103	100	102	103	101	103	104	100	97	104	106	106	107
Autumn (% of 1.49t DM/ha)	100	99	100	94	100	99	100	101	99	97	98	97	101	96	104
Conservation: management															
Total yield year 1 (% of 17.74t DM/ha)	100	93	94	95	100	92	95	94	93	100	97	97	97	90	93
1st and 2nd cut ME yield, first harvest year (% of 132,000 MJ/ha)	100	94	96	96	104	90	94	93	94	102	100	99	100	91	92
Total yield year 3 (% of 13.03t DM/ha)	100	97	98	98	104	96	96	96	97	101	98	103	98	95	97
Total yield: Mean (% of 15.48t DM/ha)	100	94	96	96	102	94	95	95	95	100	98	100	97	93	95
Conservation seasonal growth – Year 1															
1st cut (% of 7.14t DM/ha)	100	94	102	100	110	90	100	96	92	106	102	99	98	90	87
1st cut D-value	72.3	71.8	71.5	70.5	70.5	71.7	69.6	69.8	72.2	71.2	71.7	71.4	73.7	72.0	73.2
2nd cut (% of 4.12t DM/ha)	100	94	89	95	97	92	93	100	96	103	98	101	103	95	100
2nd cut D-value	73.8	74.8	75.5	73.5	74.7	75.0	73.1	72.2	75.8	71.5	74.9	73.2	73.2	74.7	74.0
3rd cut (% of 3.36t DM/ha)	100	91	87	88	86	93	88	87	91	90	92	89	91	84	95
4th+ cut (% of 3.27t DM/ha)	100	92	91	90	93	93	91	91	92	90	92	94	95	90	94

	Mean of G varieties	Late Diploid Mean	AberAvon	Toddington	Glenarm	Romark	Pastour	Foxtrot	Drumbo	Clanrye	Cavendish	Timing	AberChoice	Matiz	Cancan
Agronomic characters															
Ground cover % (2nd harvest year)	60	63	65	63	60	61	60	60	61	60	64	61	59	63	64
Ground cover % (3rd harvest year)	57	58	63	57	55	58	54	59	53	58	58	53	54	55	58
Autumn ground cover (1-9, 1=poor 9=good)	6.3	6.6	7.1	6.6	6.2	6.5	6.1	6.5	6.0	6.4	6.7	6.0	6.1	6.4	6.7
Winter hardiness (1-9, 1=poor 9=good)	6.8	6.6	6.9	6.7	6.7	6.4	6.7	6.5	6.4	6.7	6.3	6.7	6.8	6.4	6.5
Disease resistance															
Crown rust (1-9, 1=poor 9=good)	6.5	6.4	7.3	8.1		5.2	6.2	6.0	6.5	6.7			5.3	7.1	5.0
Drechslera (1-9, 1=poor 9=good)	6.3	5.3	4.1	6.4	[3.8]	5.0	4.8	5.5	5.2	5.6	[3.2]	[6.1]	3.4	5.8	6.0
Mildew (1-9, 1=poor 9=good)	6.9	6.4	6.0	6.9	[7.8]	5.9	5.4	6.3	5.5	[7.3]	[6.9]	[6.6]	8.5	6.6	7.6
Year First Listed			2001	2010	2015	2000	2001	1997	2009	2012	2015	2015	2009	2008	1998
Breeder			IBERS, Aberystwyth	DLF Seeds A/S, Denmark	AFBI, UK	Innoseeds NL	DLF Seeds A/S, Denmark	DLF Seeds A/S, Denmark	AFBI, UK	AFBI, UK	DLF Seeds A/S, Denmark	DLF Seeds A/S, Denmark	IBERS, Aberystwyth	DLF Seeds A/S, Denmark	DLF Seeds A/S, Denmark
UK Agent			Germinal	DLF Seeds Ltd	Barenbrug UK Ltd	DLF Seeds Ltd	DLF Seeds Ltd	DLF Seeds Ltd	Barenbrug UK Ltd	Barenbrug UK Ltd	DLF Seeds Ltd	Limagrain UK Ltd	Germinal	Limagrain UK Ltd	DLF Seeds Ltd
Number of trials for yields															
1st harvest year			13	14	6	14	26	9	16	13	6	6	21	10	12
2nd harvest year			13	12	6	13	24	10	13	11	6	6	18	11	10
3rd harvest year			14	12	6	16	22	9	13	8	6	6	16	12	13

Note that the mean of G varieties include all those from early, intermediate and late maturity groups.

Yields are expressed as a percentage of the mean of all fully recommended PRG varieties in trials. Grazing yields are measured in year 2, Conservation yields in years 1 and 3.

Grazing D-value is measured from a late-summer cut in year 2 and the grazing ME yields are calculated as total yield multiplied by the D-value x 0.16.

Conservation D-value is measured from both the 1st and 2nd cuts in year 1.

Conservation ME yields are calculated as the first year first cut multiplied by its D-value x 0.16, plus the first year second cut yield multiplied by its D-value x 0.16.

[] = Only two trials worth of data.

Recommended List of Late Perennial Ryegrass Tetraploid Varieties 2016/2017

	Mean of G Varieties	Late Tetraploid Mean	Bijou	Alfonso	Drift	Meiduno	Hurricane	Dundrum	Aspect	Novello	AberGain	Irondal	AberBite	Twymax	Youpi	Aston Princess	Herbal	Xenon	AberPlentiful	Solas	Ideal
Recommended List status			PG	PS	PG	PG	PS	S	G	G	PG	PS	G	G	PG	G	G	S	PG	PG	G
Heading date			1 Jun	1 Jun	1 Jun	2 Jun	3 Jun	3 Jun	4 Jun	4 Jun	4 Jun	4 Jun	5 Jun	6 Jun	6 Jun	6 Jun	7 Jun	7 Jun	7 Jun	8 Jun	9 Jun
Grazing: management																					
Grazing yield (% of 10.40t DM/ha)	100	101	100	100	100	105	99	99	101	103	108	100	103	101	102	103	100	103	102	104	98
Grazing D-value	76.5	77.2	76.0	77.2	75.6	76.6	77.0	77.2	77.1	76.8	78.2	77.2	77.6	77.3	76.8	77.0	76.8	77.0	77.2	77.1	77.1
ME yield (% of 128,000 MJ/ha)	100	103	99	101	99	105	100	100	103	103	111	101	105	102	103	104	101	104	103	105	99
Grazing: seasonal growth																					
Early grazing yield (% of 1.24t DM/ha)	100	89	91	92	83	86	87	78	87	95	111	85	86	86	83	96	90	92	89	89	82
Spring (% of 2.11t DM/ha)	100	89	90	100	89	91	91	82	87	93	108	86	92	90	84	94	85	91	92	88	79
Early summer (% of 4.12t DM/ha)	100	109	103	105	108	110	103	106	110	108	109	106	109	111	108	111	106	109	107	108	104
Late summer (% of 2.78t DM/ha)	100	103	102	101	102	112	105	105	102	107	112	104	106	101	110	103	104	108	106	114	103
Autumn (% of 1.49t DM/ha)	100	97	98	96	88	101	94	96	100	98	103	99	102	91	99	94	104	95	99	99	100
Conservation: management																					
Total yield year 1 (% of 17.74t DM/ha)	100	99	(105)	102	99	102	101	102	100	97	107	98	100	100	97	100	96	96	97	100	96
1st and 2nd cut ME yield, first harvest year (% of 132,000 MJ/ha)	100	103	(109)	107	103	106	104	105	104	98	112	100	102	106	100	107	98	98	99	100	100
Total yield year 3 (% of 13.03t DM/ha)	100	100	(101)	98	103	103	105	103	102	98	108	101	101	101	103	99	99	99	99	103	98
Total yield: Mean (% of 15.48t DM/ha)	100	99	(103)	100	101	103	103	102	101	97	107	99	100	100	100	100	97	97	98	101	97
Conservation seasonal growth – Year 1																					
1st cut (% of 7.14t DM/ha)	100	100	(107)	113	106	105	109	108	104	95	115	98	100	103	94	105	92	93	97	98	95
1st cut D-value	72.3	73.5	(73.4)	71.9	71.6	73.4	70.9	71.7	73.3	72.9	71.9	72.7	72.8	73.4	74.0	73.7	73.8	73.3	73.4	72.6	74.9
2nd cut (% of 4.12t DM/ha)	100	104	(109)	100	103	107	101	105	103	103	110	102	105	107	106	106	105	105	103	107	102
2nd cut D-value	73.8	74.6	(72.9)	73.8	72.4	75.0	73.9	73.5	74.4	73.9	73.0	74.6	74.4	74.8	74.4	74.7	74.8	74.2	73.8	74.0	75.3
3rd cut (% of 3.36t DM/ha)	100	91	(98)	87	85	95	93	91	92	92	93	94	91	91	92	92	93	93	90	96	90
4th+ cut (% of 3.27t DM/ha)	100	94	(95)	95	89	97	91	94	92	95	98	95	101	89	94	90	98	93	95	100	94

	Mean of G Varieties	Late Tetraploid Mean	Bijou	Alfonso	Drift	Meiduno	Hurricane	Dundrum	Aspect	Novello	AberGain	Irondal	AberBite	Twymax	Youpi	Aston Princess	Herbal	Xenon	AberPlentiful	Solas	Ideal
Agronomic characters																					
Ground cover % (2nd harvest year)	60	59	57	59	58	51	58	57	58	58	56	60	56	60	56	59	65	63	55	60	61
Ground cover % (3rd harvest year)	57	54	(54)	53	55	45	51	51	53	54	52	56	50	56	54	54	59	56	50	52	56
Autumn ground cover (1-9, 1=poor 9=good)	6.3	6.0	(5.9)	5.9	6.0	4.6	5.7	5.5	5.9	5.9	5.6	6.3	5.5	6.3	5.8	5.9	6.8	6.5	5.4	5.8	6.3
Winter hardiness (1-9, 1=poor 9=good)	6.8	6.9	6.9	6.8	6.7	6.8	6.9	6.7	7.1	7.2	6.8	6.8	6.9	6.8	6.9	6.9	6.8	6.8	6.9	6.7	6.8
Disease resistance																					
Crown rust (1-9, 1=poor 9=good)	6.5	7.0	7.4	7.2	8.1	7.1		3.5	6.8	7.4	8.3	8.1	7.6	6.3		6.5	6.9	6.0	8.2	3.8	7.3
Drechslera (1-9, 1=poor 9=good)	6.3	7.0	6.6	6.1	6.6	7.7	[6.5]	7.4	6.8	7.5	6.9	7.1	7.2	6.9	[8.8]	6.9	7.0	6.6	6.1	7.1	6.8
Mildew (1-9, 1=poor 9=good)	6.9	6.9	[7.5]	7.7	7.0	7.4	[8.0]	7.8	6.8	6.9	[7.6]	[6.6]	6.1	7.8	[8.1]	7.8	6.2	6.0	[7.3]	7.7	6.0
Year First Listed			2014	2013	2011	2014	2015	2010	2011	2010	2012	2012	2009	2004	2015	2007	2003	2011	2012	2014	2005
Breeder			R2n, France	DSV, UK	DLF Seeds A/S, Denmark	DLF Seeds A/S, Denmark	Semences de France	AFBI, UK	DLF Seeds A/S, Denmark	DLF Seeds A/S, Denmark	IBERS, Aberystwyth	R2n, France	IBERS, Aberystwyth	CPB Twyford	R2n, France	DSV, UK	R2n, France	DLF Seeds A/S, Denmark	IBERS, Aberystwyth	Teagasc, Eire	R2n, France
UK Agent			RAGT	DLF Seeds Ltd	Limagrain UK Ltd	Limagrain UK Ltd	DSV	Barenbrug UK Ltd	Limagrain UK Ltd	Limagrain UK Ltd	Germinal	RAGT	Germinal	Limagrain UK Ltd	Barenbrug UK Ltd	Germinal	Organic Seed Producers	Limagrain UK Ltd	Germinal	Limagrain UK Ltd	Barenbrug UK Ltd
Number of trials for yields																					
1st harvest year			8	11	13	8	6	14	13	14	13	13	21	28	6	11	12	13	13	8	14
2nd harvest year			6	8	12	6	6	12	12	12	11	11	18	25	6	11	9	12	11	5	13
3rd harvest year			6	6	11	6	6	13	11	13	8	8	16	28	6	12	11	11	8	6	16

Note that the mean of G varieties include all those from early, intermediate and late maturity groups.

Yields are expressed as a percentage of the mean of all fully recommended PRG varieties in trials. Grazing yields are measured in year 2, Conservation yields in years 1 and 3.

Grazing D-value is measured from a late-summer cut in year 2 and the grazing ME yields are calculated as total yield multiplied by the D-value x 0.16.

Conservation D-value is measured from both the 1st and 2nd cuts in year 1.

Conservation ME yields are calculated as the first year first cut multiplied by its D-value x 0.16, plus the first year second cut yield multiplied by its D-value x 0.16.

() for Bijou indicate values derived from Intermediate trials.

[] = Only two trials worth of data.

Recommended List of Italian Ryegrass Diploid Varieties 2016/2017

	Mean of G varieties	Diploid Mean	Shakira	Muriello	Meribel	Fox	Steel	Alamo	Abys	Davinci	Belluna	Javorio
Recommended List status			G	G	S	G	G	G	G	G	G	PG
Heading date			16 May	18 May	19 May	19 May	20 May	20 May	20 May	22 May	22 May	23 May
Total annual yields												
1st harvest year (% of 20.62t DM/ha)	100	99	99	99	101	98	99	102	97	101	99	101
2nd harvest year (% of 15.72t DM/ha)	100	100	100	103	95	101	99	99	100	102	101	98
Total yield: Mean (% of 18.24t DM/ha)	100	100	100	101	98	99	99	101	99	101	100	100
Year of sowing (% of 2.49t DM/ha)	100	96	96	99	91	104	98	94	96	93	94	94
1st and 2nd cut ME yield, first harvest year (% of 130,000 MJ/ha)	100	97	100	94	100	95	99	100	95	98	96	101
Seasonal growth – Year 1												
Early spring growth (% of 1.90t DM/ha)	100	100	101	107	100	98	102	101	103	96	98	98
Conservation: management												
1st conservation cut (% of 6.72t DM/ha)	100	95	104	92	96	96	102	98	96	96	92	102
1st conservation cut D-value	71.3	71.1	70.9	71.2	71.8	70.1	70.0	71.3	70.5	71.4	71.3	70.9
2nd conservation cut (% of 4.91t DM/ha)	100	99	96	97	103	98	98	102	96	100	100	100
2nd conservation cut D-value	66.7	66.7	66.2	66.7	67.0	66.3	66.6	67.1	66.2	66.9	66.8	66.7
Monthly cuts (% of 7.14t DM/ha)	100	103	97	105	104	99	97	105	98	106	105	100

	Mean of G varieties	Diploid Mean	Shakira	Muriello	Meribel	Fox	Steel	Alamo	Abys	Davinci	Belluna	Javorio
Agronomic characters												
Ground cover % (1st harvest year)	49	50	48	48	51	49	51	53	50	51	51	48
Ground cover % (2nd harvest year)	47	48	42	47	43	47	48	51	48	48	48	43
Autumn ground cover (1-9, 1=poor 9=good)	3.8	3.9	3.2	3.9	3.4	3.9	3.9	4.4	3.9	4.0	4.0	3.3
Winter hardiness (1-9, 1=poor 9=good)	7.0	7.0	6.8	7.2	7.4	6.7	6.7	7.1	7.3	6.7	6.9	6.5
Disease resistance												
Ryegrass mosaic virus (1-9, 1=poor 9=good)	4.7	4.7	6.2	3.2	3.7	3.8	7.4	4.6	3.7	5.3	5.7	5.5
Mildew (1-9, 1=poor 9=good)	6.7	6.7	5.9	7.4	7.2	7.1	5.3	6.7	7.2	6.4	6.2	6.3
Brown rust (1-9, 1=poor 9=good)	6.9	6.6	6.2	6.4	7.4	7.5	6.0	5.5	7.7	7.8	5.0	7.0
Crown rust (1-9, 1=poor 9=good)	5.7	6.1	7.4	6.0	1.8	7.1	7.8	6.1	6.8	6.3	6.7	4.5
Rhynchosporium (1-9, 1=poor 9=good)	6.8	6.6	[8]	[7]	[7]	[7]	[7]	[6]	[7]	[6]	[6]	[7]
Year First Listed			2012	2006	1991	2004	2009	2001	2004	2005	2005	2013
Breeder			DSV, France	DVP, Belgium/ DSV UK	ILVO, Belgium	Force Limagrain	R2n, France	Innoseeds, NL	R2n, France	ILVO, Belgium	ILVO, Belgium	DSV, NL
UK Agent			DLF Seeds Ltd	Germinal	Limagrain UK Ltd	DLF Seeds Ltd	Germinal	DLF Seeds Ltd	Barenbrug UK Ltd	Limagrain UK Ltd	Limagrain UK Ltd	DSV
Number of trials for yields												
Year of sowing			6	13	7	11	10	16	12	13	13	7
1st harvest year			12	14	10	13	15	18	12	14	14	11
2nd harvest year			11	14	10	11	14	16	10	13	13	8

Yields are expressed as a percentage of the mean of all fully recommended Italian ryegrass varieties in trials.

Conservation D-value is measured from both the 2nd and 3rd cuts in year 1.

Conservation ME yields are calculated as the first year 2nd cut multiplied by its D-value x 0.16, plus the first year 3rd cut multiplied by its D-value x 0.16.

[] = Only two trials worth of data.

Recommended List of Italian Ryegrass Tetraploid Varieties 2016/2017

	Mean of G varieties	Tetraploid Mean	Itarzi	Dorike	Udine	Hunter	Kigezi 1	Barmultra II	Cazzano	Gemini	Litonio	Danergo
Recommended List status			G	G	G	G	G	G	PG	S	G	G
Heading date			16 May	16 May	16 May	17 May	18 May	19 May	19 May	19 May	21 May	22 May
Total annual yields												
1st harvest year (% of 20.62t DM/ha)	100	101	99	99	99	102	99	101	100	104	96	99
2nd harvest year (% of 15.72t DM/ha)	100	100	100	95	100	101	100	99	103	100	96	98
Total yield: Mean (% of 18.24t DM/ha)	100	100	100	97	100	101	100	100	101	102	96	99
Year of sowing (% of 2.49t DM/ha)	100	105	106	97	112	103	107	108	102	100	109	104
1st and 2nd cut ME yield, first harvest year (% of 130,000 MJ/ha)	100	104	102	102	104	104	103	104	102	106	100	103
Seasonal growth – Year 1												
Early spring growth (% of 1.90t DM/ha)	100	99	100	100	99	102	98	103	99	102	96	93
Conservation: management												
1st conservation cut (% of 6.72t DM/ha)	100	106	106	104	108	106	108	106	104	103	102	104
1st conservation cut D-value	71.3	71.6	70.3	71.9	71.7	71.2	70.9	71.5	72.0	73.7	72.3	72.2
2nd conservation cut (% of 4.91t DM/ha)	100	101	98	97	96	101	97	100	96	105	94	102
2nd conservation cut D-value	66.7	66.6	66.7	67.0	67.4	66.3	66.3	66.5	67.7	67.1	68.0	66.8
Monthly cuts (% of 7.14t DM/ha)	100	96	94	95	92	98	93	95	98	103	92	94

	Mean of G varieties	Tetraploid Mean	Itarzi	Dorike	Udine	Hunter	Kigezi 1	Barmultra II	Cazzano	Gemini	Litonio	Danergo
Agronomic characters												
Ground cover % (1st harvest year)	49	47	47	47	46	49	51	46	42	46	48	45
Ground cover % (2nd harvest year)	47	45	49	40	49	44	46	47	47	41	44	45
Autumn ground cover (1-9, 1=poor 9=good)	3.8	3.6	4.1	2.9	4.0	3.4	3.8	3.8	3.9	3.0	3.4	3.5
Winter hardiness (1-9, 1=poor 9=good)	7.0	7.0	7.0	7.0	7.2	7.3	6.8	7.1	[6.6]	6.9	7.1	6.7
Disease resistance												
Ryegrass mosaic virus (1-9, 1=poor 9=good)	4.7	4.6	5.5	3.9	5.9	5.2	4.4	4.1	[4.8]	3.7	2.4	5.1
Mildew (1-9, 1=poor 9=good)	6.7	6.7	6.3	7.1	6.1	6.4	6.8	7.0	6.6	7.2	7.8	6.5
Brown rust (1-9, 1=poor 9=good)	6.9	7.3	7.2	3.8	7.3	7.7	7.7	6.1		8.0	5.9	7.2
Crown rust (1-9, 1=poor 9=good)	5.7	5.3	8.0	7.6	7.5	5.0	8.2	8.2	5.4	1.2	7.3	1.1
Rhynchosporium (1-9, 1=poor 9=good)	6.8	7.2	[7]	[7]	[8]	[7]	[7]	[8]		[7]	[6]	[7]
Year First Listed			2009	2007	2012	2008	2010	2009	2015	2000	2007	1994
Breeder			DLF Seeds A/S, Denmark	DSV, NL	DLF Seeds A/S, Denmark	DSV, Germany	DLF Seeds A/S, Denmark	Barenbrug, NL	DLF Seeds A/S, Denmark	ILVO, Belgium	DSV, Germany	DLF Seeds A/S, Denmark
UK Agent			DLF Seeds Ltd	Geminal	Limagrain UK Ltd	DLF Seeds Ltd	DLF Seeds Ltd	Barenbrug UK Ltd	Limagrain UK Ltd	Limagrain UK Ltd	DSV	DLF Seeds Ltd
Number of trials for yields												
Year of sowing			10	8	6	10	11	10	6	12	9	31
1st harvest year			15	13	12	15	15	15	6	10	12	33
2nd harvest year			14	14	11	14	13	14	6	11	13	31

Yields are expressed as a percentage of the mean of all fully recommended Italian ryegrass varieties in trials.

Conservation D-value is measured from both the 2nd and 3rd cuts in year 1.

Conservation ME yields are calculated as the first year 2nd cut multiplied by its D-value x 0.16, plus the first year 3rd cut multiplied by its D-value x 0.16.

[] = Only two trials worth of data.

Recommended List of Hybrid Ryegrass Varieties 2016/2017

	Mean of G varieties	Diploid Mean (= Barsilo)	Diploids		Tetraploids															Festulolium	
			Pirol	Barsilo	Tetraploid Mean	Palmata	AberEcho	Solid	Aston Crusader	Enduro	Tetragraze	Novial	Citeliac #	AberEve	Kirial	Foyle #	Bahial	Amalgam	Scapino		Storm #
Recommended List status			S	G		PS	G	S	PG	G	S	G	S	G	PG	S	G	G	PS	S	S
Heading date			21 May	24 May		7 May	15 May	16 May	18 May	19 May	19 May	20 May	20 May	21 May	22 May	22 May	22 May	23 May	23 May	26 May	23 May
Total annual yields																					
1st harvest year (% of 19.54t DM/ha)	100	105	106	105	99	99	106	96	101	98	96	98	95	101	100	91	97	96	99	93	104
2nd harvest year (% of 15.31t DM/ha)	100	95	100	95	101	102	102	98	102	102	102	103	96	95	101	96	102	100	95	95	101
3rd harvest year (% of 14.05t DM/ha)	100	97	98	97	100	101	100	97	103	104	100	101	96	96	104	93	101	101	95	95	100
Total yield: Mean (% of 16.51t DM/ha)	100	99	101	99	100	101	102	97	102	101	99	101	96	98	102	93	100	99	96	94	101
Year of sowing (% of 2.17t DM/ha)	100	96	94	96	101	88	94	95	101	101	88	104	101	105	108	97	106	94	101	105	103
1st and 2nd cut ME yield, first harvest year (% of 127,000 MJ/ha)	100	99	99	99	100	94	107	98	100	97	98	98	96	105	100	93	96	99	100	95	101
Seasonal growth – Year 1																					
Early spring growth (% of 1.66t DM/ha)	100	119	120	119	97	108	105	79	108	100	76	98	79	97	101	65	100	80	110	77	115
Conservation management																					
1st conservation cut (% of 6.94t DM/ha)	100	92	95	92	101	96	101	104	102	100	105	101	99	103	100	93	97	105	100	97	96
1st conservation cut D-value	71.5	72.0	70.0	72.0	71.4	69.5	71.9	70.2	70.1	70.4	70.0	70.6	71.3	73.1	71.2	72.1	71.4	71.1	72.6	71.8	71.4
2nd conservation cut (% of 4.15t DM/ha)	100	112	118	112	98	92	112	91	99	96	93	92	91	104	100	91	95	89	101	90	116
2nd conservation cut D-value	71.1	69.2	66.6	69.2	71.4	72.3	72.2	71.5	70.7	71.0	70.9	71.4	72.3	71.8	71.6	72.7	70.9	71.3	70.3	72.1	67.3
Monthly cuts (% of 6.86t DM/ha)	100	111	108	111	98	104	107	96	99	96	94	97	98	98	98	95	98	94	94	95	102
Agronomic characters																					
Ground cover % (1st harvest year)	54	52	56	52	55	55	56	59	56	57	59	55	53	51	55	54	56	55	53	56	50
Ground cover % (2nd harvest year)	52	47	49	47	53	55	52	58	55	54	57	52	52	49	51	49	53	58	46	57	46
Ground cover % (3rd harvest year)	50	37	43	37	52	55	50	59	48	52	58	52	47	46	48	51	54	59	43	55	41
Autumn ground cover (1-9, 1=poor 9=good)	4.2	3.3	3.8	3.3	4.3	4.5	4.2	4.8	4.2	4.3	4.7	4.3	4.0	3.8	4.1	4.1	4.4	4.8	3.6	4.6	3.5
Winter hardiness (1-9, 1=poor 9=good)	7.1	6.9	7.1	6.9	7.1	7.0	7.1	6.9	7.1	7.1	7.1	7.2	7.2	7.2	7.1	7.1	6.9	6.9	7.3	7.1	7.1

	Mean of G varieties	Diploid Mean (= Barsilo)	Diploids		Tetraploids																Festulolium	
			Pirol	Barsilo	Tetraploid Mean	Palmata	AberEcho	Solid	Aston Crusader	Enduro	Tetragraze	Novial	Citellac #	AberEve	Kirial	Foyle #	Bahial	Amalgam	Scapino	Storm #		AberNiche
Disease resistance																						
Ryegrass mosaic virus (1-9, 1=poor 9=good)	6.1		3.6	3.5	6.6	6.6	5.3	7.1	6.2	6.3	6.2	7.0	7.4	6.8	7.7	7.6	7.0	7.2	4.3	5.1	6.4	
Mildew (1-9, 1=poor 9=good)	6.9		4.4	7.5	6.8	7.1	6.6	7.0	7.6	7.2	7.4	7.1	8.1	7.5	7.6	7.4	6.4	6.4	7.3	6.6	8.0	
Brown rust (1-9, 1=poor 9=good)	6.5		6.3	2.9	7.1	6.9	4.3	8.7	[8.5]	7.8	8.0	7.0	[8.3]	8.0	8.5	[8.0]	6.8	8.9	[4.5]	[7.0]	[6.3]	
Crown rust (1-9, 1=poor 9=good)	6.8		7.4	5.7	7.0	7.6	6.4	7.8	[7.9]	8.4	5.8	8.2	5.9	2.4	8.4	7.8	8.0	8.2	8.1	5.6	7.6	
Rhynchosporium (1-9, 1=poor 9=good)	7.0	[7]	[6]	[7]	7.0	[6]	[6]	[8]		[8]	[7]	[7]		[7]	[8]		[6]	[8]	[8]		[9]	
Year First Listed			2005	1998		2013	2002	1994	2014	2005	2008	2010	2001	2004	2012	2004	2007	2009	2011	1995	2011	
Breeder			Steinach, Germany/ DSV	Barenburg, NL		ARTS Switzerland/ DSV	IBERS, Aberystwyth	DLF Seeds A/S, Denmark	DSV, UK	R2n, France	DLF Seeds A/S, Denmark	R2n, France	DLF Seeds A/S, Denmark	IBERS, Aberystwyth	R2n, France	AFBI, UK	R2n, France	DLF Seeds A/S, Denmark	DLF Seeds A/S, Denmark	DLF Seeds A/S, Denmark	IBERS, Aberystwyth	
UK Agent			Germinal	Barenburg UK Ltd		Germinal	Germinal	DLF Seeds Ltd	DSV	Lim-agrain UK Ltd	DLF Seeds Ltd	Barenbrug UK Ltd	DLF Seeds Ltd	Germinal	RAGT	Barenbrug UK	DLF Seeds Ltd	Lim-agrain UK Ltd	Lim-agrain UK Ltd	DLF Seeds Ltd	Germinal	
Number of trials for yields																						
Year of sowing			16	9		5	14	21	4	10	7	9	3	13	4	6	7	7	5	3	6	
1st harvest year			19	14		11	20	32	8	14	10	15	11	13	13	11	12	12	14	11	14	
2nd harvest year			17	11		9	15	29	6	13	10	14	10	13	12	10	11	12	13	10	13	
3rd harvest year			15	13		6	13	25	6	10	11	12	9	13	8	11	11	11	10	9	10	

Yields are expressed as a percentage of the mean of all fully recommended hybrid ryegrass varieties in trials.

Conservation D-value is measured from both the 2nd and 3rd cuts in year 1.

Conservation ME yields are calculated as the first year first cut multiplied by its D-value x 0.16, plus the first year second cut yield multiplied by its D-value x 0.16.

No diploid highlighting as no decisions required and only one G variety.

[] = Only two trials worth of data.

= Varieties originally listed in the Intermediate perennial ryegrass group.

G General Use **S** Recommended for Specific Use **PG** Provisional General Use Recommendation **PS** Provisional Specific Use Recommendation

Recommended List of Timothy Varieties 2016/2017

	Mean of G varieties	Presto	Comer	Dolina	Promesse	Comtal	Winnetou	Moverdi	Narnia	Motim	Barrett
Recommended List status		G	G	S	S	G	G	S	G	S	PS
Heading date		8 Jun	9 Jun	9 Jun	10 Jun	10 Jun	11 Jun	11 Jun	16 Jun	17 Jun	18 Jun
Grazing: management											
Grazing yield (% of 11.44t DM/ha)	100	101	103	102	96	102	97	101	97	96	98
Grazing D-value	72.2	72.9	70.8	71.6	73.4	71.7	73.1	72.8	72.4	72.5	72.6
ME yield (% of 132,000 MJ/ha)	100	102	101	101	98	101	99	102	97	97	98
Grazing: seasonal growth											
Early grazing yield (% of 1.44t DM/ha)	100	110	107	101	89	103	89	92	91	89	97
Spring (% of 2.65t DM/ha)	100	108	108	106	94	101	97	100	86	91	93
Early summer (% of 4.26t DM/ha)	100	100	99	101	98	103	99	99	99	101	101
Late summer (% of 3.25t DM/ha)	100	99	102	99	97	102	97	103	100	96	98
Autumn (% of 1.33t DM/ha)	100	98	105	100	90	100	96	110	101	92	97
Conservation: management											
Total yield year 1 (% of 14.69t DM/ha)	100	102	103	101	98	99	100	100	96	98	96
ME yield of 1st+2nd cut year 1 (% of 94,000 MJ/ha)	100	101	102	99	101	99	101	100	98	98	97
Total yield year 3 (% of 13.26t DM/ha)	100	101	105	101	94	98	98	99	98	98	98
Total yield: Mean (% of 14.00t DM/ha)	100	102	104	101	96	98	99	100	97	98	97
Conservation seasonal growth – Year 1											
1st cut (% of 5.36t DM/ha)	100	105	106	101	99	101	102	103	86	94	89
1st cut D-value	66.9	64.9	65.4	65.6	67.7	65.8	67.4	66.7	71.2	69.2	69.4
2nd cut (% of 3.62t DM/ha)	100	99	100	101	99	97	97	93	107	103	105
2nd cut D-value	65.0	65.5	64.1	63.6	65.4	65.0	65.3	66.4	64.9	63.8	63.9
3rd cut (% of 2.87t DM/ha)	100	103	102	102	96	98	100	101	97	96	88
4th+ cut (% of 2.84t DM/ha)	100	100	100	98	94	100	100	104	101	99	104

	Mean of G varieties	Presto	Comer	Dolina	Promesse	Comtal	Winnetou	Moverdi	Narnia	Motim	Barrett
Agronomic characters											
Ground cover % (2nd harvest year)	57	56	54	47	62	54	52	46	71	63	62
Ground cover % (3rd harvest year)	55	52	51	46	57	53	55	43	64	64	59
Autumn ground cover (1-9, 1=poor 9=good)	5.7	5.1	4.8	3.3	6.6	5.1	5.1	2.7	8.6	7.6	6.9
Winter hardiness (1-9, 1=poor 9=good)	7.0	7.1	7.2	7.1	6.7	6.9	6.5	[6.3]	[7.3]	6.7	
Year First Listed		2005	2001	2003	1990	1989	2003	2005	2008	1974	2012
Breeder		DSV, Netherlands	ILVO, Belgium	DLF Seeds A/S, Denmark	Innoseeds, NL	DLF Seeds A/S, Denmark	DLF Seeds A/S, Denmark	DLF Seeds A/S, Denmark	DLF Seeds A/S, Denmark	DLF Seeds A/S, Denmark	AFBI, UK
UK Agent		Germinal	Limagrain UK Ltd	DLF Seeds Ltd	DLF Seeds Ltd	Limagrain UK Ltd	DLF Seeds Ltd	Limagrain UK Ltd	DLF Seeds Ltd	Limagrain UK Ltd	Barenbrug UK
Number of trials for yields											
1st harvest year		12	11	12	11	11	12	10	8	17	6
2nd harvest year		10	11	10	11	12	10	10	8	21	6
3rd harvest year		10	11	10	11	12	10	10	8	21	6

Yields are expressed as a percentage of the mean of all fully recommended timothy varieties in trials. Grazing yields are measured in year 2, Conservation yields in years 1 and 3.

Grazing D-value is measured from a late-summer cut in year 2 and the grazing ME yields are calculated as total yield multiplied by the D-value x 0.16.

Conservation D-value is measured from both the 1st and 2nd cuts in year 1.

Conservation ME yields are calculated as the first year first cut multiplied by its D-value x 0.16, plus the first year second cut yield multiplied by its D-value x 0.16.

[] = Only two trials worth of data.

Recommended List of White Clover Varieties 2016/2017

	Mean of G varieties	AberAce	Galway	Aber S.184	AberPearl	G Demand	AberHerald	Saracen	Crusader	Iona	Avoca	Buddy	G Bounty	AberDai	Violin	Katy	Dublin	Alice	Barblanca	Aran	Brianna	
Recommended List status		G	G	G	G	G	G	PG	G	G	G	PG	G	G	G	PG	PG	G	G	G	PG	
Leaf area (length x breadth = mm²)	809	356	507	586	702	720	763	769	777	780	803	807	822	835	997	1011	1026	1026	1059	1396	1549	
Light defoliation (cutting or rotational cattle grazing): 2nd harvest year																						
Total clover yield (% of 4.37t DM/ha) #	100	82	73	90	89	89	106	91	108	95	100	106	97	109	124	106	120	110	108	128	125	
Total yield: grass + clover (% of 12.34t DM/ha) #	100	97	94	99	99	96	100	99	104	101	100	100	99	101	108	99	103	100	100	102	102	
Percentage clover	35	30	28	32	32	33	37	32	37	33	36	38	35	38	41	38	41	39	38	44	44	
Clover yield: First cut (% of 0.59t DM/ha) #	100	79	83	85	104	86	95	93	117	98	106	121	96	111	111	93	112	107	104	130	96	
Clover yield: Last cut (% of 0.44t DM/ha) #	100	70	59	77	73	97	111	105	125	90	88	92	97	105	126	105	112	115	140	137	120	
3rd harvest year																						
Yield of clover (% of 3.94t DM/ha) #	100	75	78	77	74	90	121	91	95	103	91	109	101	111	123	108	117	116	122	127	120	
Yield of grass + clover (% of 12.01t DM/ha) #	100	96	94	95	97	98	103	97	100	100	100	104	100	102	107	102	105	102	103	104	104	
Percentage clover	33	26	27	26	25	30	38	31	31	34	30	34	33	36	37	35	37	37	39	40	38	
Clover yield: First cut (% of 0.49t DM/ha) #	100	66	68	64	81	78	125	95	105	100	106	116	110	119	116	103	118	121	138	131	116	
Clover yield: Last cut (% of 0.38t DM/ha) #	100	72	69	70	71	93	121	103	99	89	82	88	113	108	119	87	115	116	141	140	125	
Autumn ground cover																						
Light Defoliation	% Cover 1st harvest year	48	50	50	52	48	45	49	46	52	49	46	48	50	44	54	42	56	46	50	42	45
	% Cover 2nd harvest year	42	36	28	38	39	41	47	34	47	36	41	41	42	45	51	39	45	42	45	44	43
	% Cover 3rd harvest year	44	39	41	37	36	45	51	41	46	42	42	44	47	43	50	44	46	45	49	45	44
	Overall (1-9, 1=poor 9=good)	6.1	4.9	4.2	4.8	4.8	6.2	7.5	4.9	6.9	5.2	5.8	6.0	6.5	6.4	7.8	5.9	6.7	6.3	7.0	6.5	6.2

	Mean of G varieties	AberAce	Galway	Aber S.184	AberPearl	G Demand	AberHerald	Saracen	Crusader	Iona	Avoca	Buddy	G Bounty	AberDai	Violin	Katy	Dublin	Alice	Barblanca	Aran	Brianna
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Autumn ground cover

Hard Defoliation	% Cover 1st harvest year	58	61	63	63	55	61	52	53	58	61	60	61	59	56	60	55	59	55	52	48	53
	% Cover 2nd harvest year	54	60	54	62	56	54	50	53	54	56	57	62	58	52	55	50	50	49	53	41	49
	% Cover 3rd harvest year	56	63	60	60	57	59	50	50	51	59	58	64	61	54	60	52	51	50	55	46	52
	Overall (1-9, 1=poor 9=good)	6.9	8.2	7.3	8.1	7.3	7.3	6.0	6.2	6.4	7.4	7.4	8.5	7.9	6.6	7.4	6.2	6.0	5.8	6.8	4.7	6.1

Spring ground cover

Hard Defoliation	% Cover 1st harvest year	39	45	35	42	36	40	37	38	43	41	45	38	38	38	35	36	43	38	38	34	30
	% Cover 2nd harvest year	56	66	57	65	56	57	54	46	49	58	56	62	62	56	62	56	53	53	49	45	51
	% Cover 3rd harvest year	53	60	62	55	58	55	52	45	43	51	56	62	54	54	52	53	54	48	49	44	49
	Overall (1-9, 1=poor 9=good)	7.3	8.9	8.2	8.4	7.8	7.6	7.0	5.6	5.6	7.3	7.5	8.8	8.0	7.4	7.7	7.2	7.1	6.5	6.2	5.3	6.4

Year First Listed		2001	2005	1969	2004	1994	1994	2011	2002	2011	1993	2013	2003	1997	2009	2012	2015	1985	2001	1981	2015
Breeder		IBERS, Aberystwyth	Teagasc, Eire	IBERS, Aberystwyth	IBERS, Aberystwyth	AgResearch Ltd (New Zealand)	IBERS, Aberystwyth	AgResearch Ltd (New Zealand)	AgResearch Ltd (New Zealand)	Teagasc, Eire	Teagasc, Eire	Teagasc, Eire	AgResearch Ltd (New Zealand)	IBERS, Aberystwyth	DLF Seeds A/S, Denmark	AgResearch Ltd (New Zealand)	Teagasc, Eire	IBERS, Aberystwyth	AgResearch Ltd (New Zealand)	An Foras Taluntais, Eire	DLF Seeds A/S, Denmark
UK Agent		Germinal	DLF Seeds Ltd	Barenbrug UK Ltd	Germinal	Limagrain UK Ltd	Germinal	Limagrain UK Ltd	Barenbrug UK Ltd	DLF Seeds Ltd	DLF Seeds Ltd	DLF Seeds Ltd	Limagrain UK Ltd	Germinal	Limagrain UK Ltd	Barenbrug UK Ltd	DLF Seeds Ltd	Barenbrug UK Ltd	Barenbrug UK Ltd	Germinal	DLF Seeds Ltd

Number of trials for clover yields

2nd harvest year		23	13	10	11	11	12	8	14	8	12	7	11	27	12	9	6	29	12	27	6
3rd harvest year		21	10	10	10	15	13	7	15	7	12	6	13	29	11	7	6	33	12	29	6

Clover Yields Transformed

Yields are expressed as a percentage of the mean of all fully recommended white clover varieties in trials.

G General Use **S** Recommended for Specific Use **PG** Provisional General Use Recommendation **PS** Provisional Specific Use Recommendation

Descriptive List of Red Clover Varieties 2016/2017

Red clover has a Descriptive List, which means there are not as many sowings as for Recommended Lists.

More data are currently being gathered on red clover varieties so a Recommended List will be produced by 2017.

		Diploids									Tetraploids			
	Mean of DL varieties	Merviot	Lemmon	AberRuby	AberClaret	AberChianti	Avisto	Harmonie	Metis	Discovery	Amos	Maro	Atlantis	Magellan
Conservation: management														
Total yield: 1st harvest year (% of 14.20t DM/ha)	100	102	103	98	104	93	100	98	100	102	102	104	102	98
Total yield: 2nd harvest year (% of 13.68t DM/ha)	100	99	100	87	101	100	102	99	101	94	99	99	100	111
Total yield: Mean (% of 13.97t DM/ha)	100	101	102	93	103	96	101	98	101	98	101	102	101	103
Seasonal growth: 1st harvest year														
1st Cut (% of 5.60t DM/ha)	100	105	103	99	101	88	99	100	108	106	106	107	103	102
Protein Content: 1st cut (%)	16.4	16.8	16.5	16.1	16.2	15.5	15.9	17.3	17.0	16.9	16.5	16.1	16.9	16.4
Agronomic characters														
Ground cover %: 1st harvest year	60	59	59	52	59	57	56	65	64	57	62	64	63	61
Ground cover %: 2nd harvest year	49	46	48	35	51	53	44	54	52	40	49	50	55	59
Year First Listed		1980	2003	2005	2010	2011	2011	2012	2016		2005	2010	2011	2014
Breeder		ILVO, Belgium	ILVO, Belgium	IBERS, Aberystwyth	IBERS, Aberystwyth	IBERS, Aberystwyth	ILVO, Belgium	Nordpflanzen, Germany	DLF Seeds A/S, Denmark	INRA	Slechtitelská stanice, The Czech Republic	LSPB, UK	Nordpflanzen, Germany	LSPB, UK
UK Agent		Limagrain UK Ltd	Barenbrug UK Ltd	Germinal	Germinal	Germinal	Barenbrug UK Ltd	LSPB	DLF Seeds Ltd	Barenbrug UK Ltd	DLF Seeds Ltd	Limagrain UK Ltd	LSPB	DLF Seeds Ltd
Number of trials for yields														
1st harvest year		16	10	10	8	8	8	7	6	6	16	8	8	6
2nd harvest year		15	8	8	5	5	5	4	6	6	15	5	5	4

Descriptive List of Lucerne Varieties 2016/2017

	Mean of all varieties	Daisy	Diane	Marshall
Conservation: management				
Total yield: 1st harvest year (% of 12.60t DM/ha)	100	101	101	98
Total yield: 2nd harvest year (% of 15.43t DM/ha)	100	99	99	102
Total yield: Mean (% of 13.81t DM/ha)	100	100	100	100
Seasonal growth: 1st harvest year				
1st Cut (% of 4.63t DM/ha)	100	103	101	96
Protein Content: 1st cut (%)	18.10	17.95	18.25	18.11
Agronomic characters				
Ground cover %: 1st harvest year	56	59	56	54
Ground cover %: 2nd harvest year	39	41	37	38
Year First Listed		2003	2003	2003
Breeder		DLF Seeds A/S, Denmark	Innoseeds, NL	Limagrain
UK Agent		DLF Seeds Ltd	DLF Seeds Ltd	Limagrain UK Ltd
Number of trials for yields				
1st harvest year		8	8	8
2nd harvest year		6	6	6

Descriptive List of Cocksfoot Varieties

2016/2017

Note Yellow rust ratings are based on three trials only.
Winter hardiness scores are based on three trials only.

	Mean of all varieties	Sparta	Lidacta	AberTop
Conservation: management				
Total Yield: 1st harvest year (% of 15.51t DM/ha)	100	101	104	98
Total Yield: 2nd harvest year (% of 14.93t DM/ha)	100	102	103	95
Total Yield: Mean (% of 15.25t DM/ha)	100	101	104	97
Seasonal growth: 1st harvest year				
1st Cut (% of 5.00t DM/ha)	100	104	108	91
1st Cut D-value	69.4	68.9	69.7	71.5
2nd Cut (% of 2.52t DM/ha)	100	102	106	101
2nd Cut D-value	70.4	70.9	70.3	70.5
3rd Cut (% of 2.91t DM/ha)	100	100	104	97
4th+ Cut (% of 5.07t DM/ha)	100	97	100	105
Agronomic characters				
Ground cover (1-9, 1=poor 9=good)	6.3	6.5	6.4	6.2
Ground cover %: 2nd harvest year	60.3	62.0	61.4	59.3
Winter hardiness (1-9, 1=poor 9=good)	6.2	6.3	5.7	6.3
Disease resistance				
Mildew (1-9, 1=poor 9=good)	6	7	7	6
Mastigosporium (1-9, 1=poor 9=good)	5	5	6	5
Yellow rust (1-9, 1=poor 9=good)	6	3	6	8
Year First Listed		1982	1991	2003
Breeder		DLF Seeds A/S, Denmark	DSV, Germany	IBERS, Aberystwyth
UK Agent		DLF Seeds Ltd	DSV	Germinal
Number of trials for yields				
1st harvest year		12	12	10
2nd harvest year		10	10	8



Pasture Improvement Flow Chart

Useful Contacts

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What do I want?



Field name: _____

For: Beef Sheep Dairy Mixed grazing

It is likely to be:

Grazed only Silaged once Silaged 2-3 times

Needs to last:

1 year 2 years 3-4 years 5 years 10 years is for overseeding only

My soil pH is: 5 - 5.5 6 - 6.5 6.5+

P and K indexes are: P: _____ K: _____

Nitrogen use: None Low Medium High

My priority is: Yield Quality Balance of both

I wish to include varieties for:

Early spring growth Mainly mid-season growth
 Late autumn grazing Extended spring and autumn grazing

Crown rust resistance is:

Very important Moderately important Not important

Other diseases I am concerned about include: _____

Species must include:

White clover Red Clover High digestibility grasses Timothy
 Other _____

Other requirements: _____

Do you use weed killers?

Key changes to spray legislation at a glance

From 2015 – Demonstrate Integrated Pest Management (IPM) is followed on your farm.

From 26 Nov 2015 – The sprayer operator on your farm must hold a Recognised Certificate, and Grandfather's rights are no longer valid.

From 26 Nov 2016 – Working application equipment must have an National Sprayer Testing Scheme (NSTS) Certificate and have a schedule for re-testing.

Why does this matter?

These measures will be legal requirements for the UK and its farmers through the EU Sustainable Use Directive. Non-compliance could lead to prosecution and threaten your Single Farm Payment. They will also feature in Red Tractor standards.

www.voluntaryinitiative.org.uk
for more information.

Detailed descriptions of each variety are available from NIAB-TAG. They are listed within their Forage Variety Advantage publication, which can be purchased by non-members from www.niab.com

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Recommended Grass and Clover Lists are funded by plant breeders through the British Society of Plant Breeders and the ruminant levy boards (AHDB Beef & Lamb, AHDB Dairy, Hybu Cig Cymru).

The full List can be found at www.britishgrassland.com/rgcl

