



# Recommended Grass and Clover Lists for England and Wales



2017/18



# 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](http://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	Aber/Avon	Toddington	Glenarm	Remark
Recommended List status			G	G	PG	G
Heading date			1 Jun	2 Jun	3 Jun	4 Jun
<b>Grazing: management</b>						
Grazing yield (1000 DM/ha)	100	98	99	96	98	98
Grazing D-value	75.7	76.8	77.4	76.0	75.8	76.8
ME yield (of 10000 MJ/ha)	100	99	100	96	98	99
<b>Grazing: seasonal growth</b>						
Early grazing yield (% of 1.24t DM/ha)	100	97	108	92	108	98
Spring (% of 2.13t DM/ha)	100	88	95	87	98	89
Early summer (% of 4.10t DM/ha)	100	102	101	102	99	103
Late summer (% of 2.74t DM/ha)	100	100	98	97	97	99
Autumn (% of 1.48t DM/ha)	100	99	102	93	99	97
<b>Conservation: management</b>						
Total yield-year 1 (1000 DM/ha)	100	94	95	96	100	99
1st and 2nd year ME yield (first harvest year) (1000 MJ/ha)	100	93	96	96	103	99
Total yield-year 2 (1000 DM/ha)	100	97	96	99	105	99

	Mean var	Late Diploid Mean	Aber/Avon	Toddington
<b>Agronomic characters</b>				
Ground cover % (2nd harvest year)	60	63	65	64
Ground cover % (4th harvest year)	57	59	66	59
Autumn ground cover (1-9, 1=poor 9=good)	6.3	6.6	7.3	6.7
Winter hardiness (1-9, 1=poor 9=good)	6.7	6.6	6.8	6.6
<b>Disease resistance</b>				
Crown rust (1-9, 1=poor 9=good)	6.5	6.5	7.8	6.5
Drechslera (1-9, 1=poor 9=good)	6.2	4.6	3.7	6.2
Mildew (1-9, 1=poor 9=good)	6.9	6.3	5.9	6.9
<b>Year First Listed</b>				
			2001	
<b>Breeder</b>				
			IBERS, Aberystwyth	
<b>UK Agent</b>				
			Genus Ltd	
<b>Number of trials for yields</b>				
1st harvest year				
2nd harvest year				
3rd harvest year				

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

## 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	
	% Cover 3rd Harvest Year	
Hard Defoliation	Overall (1-9, 1=poor 9=good)	
	% Cover 1st Harvest Year	
	% Cover 2nd Harvest Year	
	% Cover 3rd Harvest Year	

# 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
<b>Perennial ryegrass</b>	Diploid	25kg/ha
	Tetraploid	37kg/ha
<b>Italian and Hybrid ryegrasses, plus Festulolium</b>	Diploid	33kg/ha
	Tetraploid	50kg/ha
<b>Timothy</b>		16kg/ha
<b>White clover</b> (along with 18kg/ha of companion ryegrass)		3.5kg/ha
<b>Red clover</b>		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 dry matter (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.

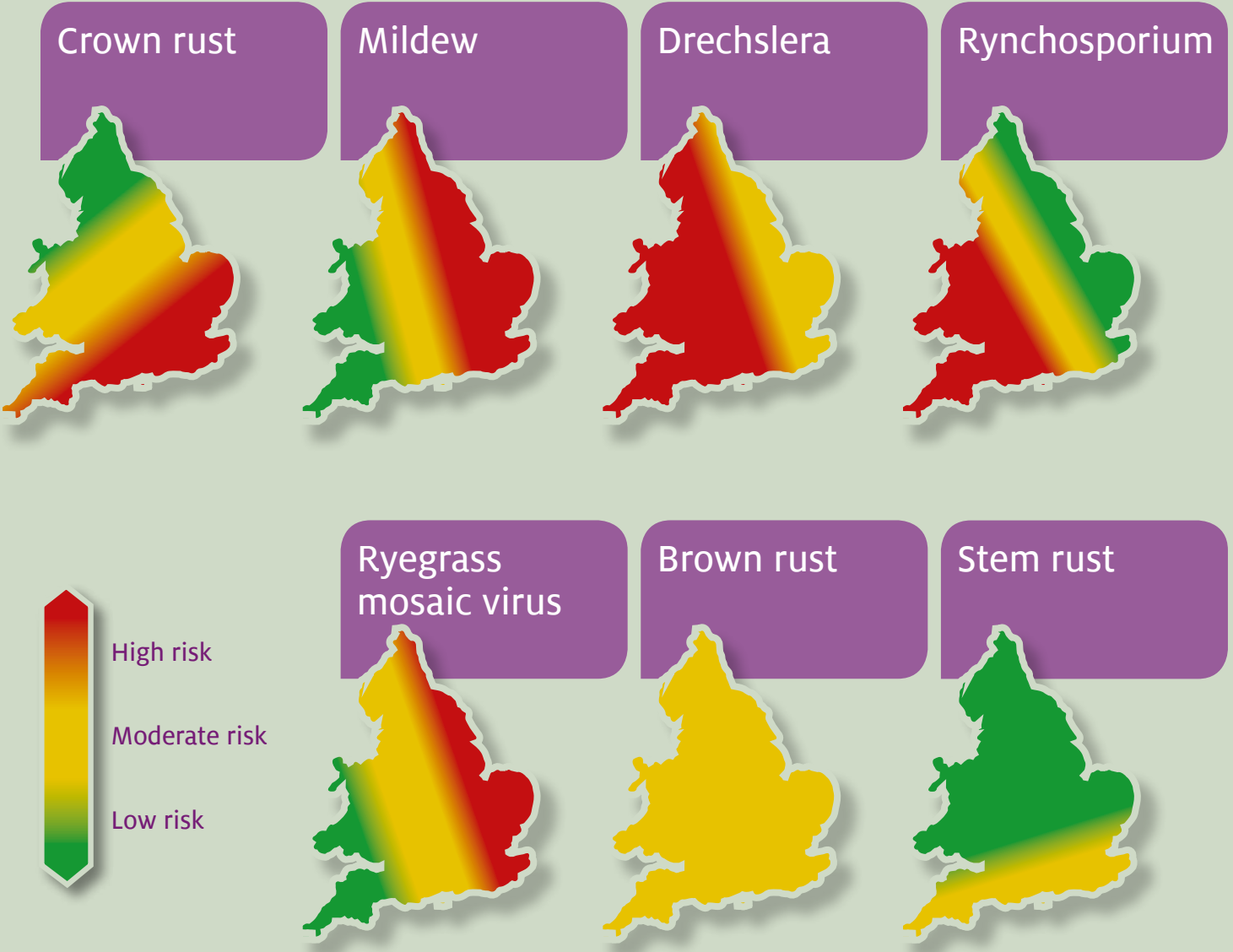
**Rule of thumb**  
1 D-value unit = ME of 0.16

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

# 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 diseases

Selection of a proportion of resistant varieties in seed mixtures provides an effective means of suppressing 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 2017/2018

	Mean of G Varieties	Diploids							Tetraploids				
		Early Diploid Mean	Genesis	Moyola	Kilrea	Kilian	Kimber	Glasker	Early Tetraploid Mean	AberTorch	Anaconda	Carraig	Starman
<b>Recommended List status</b>			<b>G</b>	<b>G</b>	<b>G</b>	<b>PG</b>	<b>G</b>	<b>PG</b>		<b>G</b>	<b>S</b>	<b>PG</b>	<b>PS</b>
<b>Heading date</b>			10 May	12 May	13 May	14 May	15 May	17 May		6 May	7 May	14 May	16 May
<b>Grazing: management</b>													
Grazing yield (% of 10.34t DM/ha)	100	101	101	104	97	103	99	103	100	100	96	102	98
Grazing D-value	76.7	75.5	75.7	75.5	75.4	75.7	75.0	76.2	76.3	76.3	76.3	76.2	75.3
ME yield (% of 128,000 MJ/ha)	100	100	100	103	97	102	97	103	100	100	97	101	95
<b>Grazing: seasonal growth</b>													
Early grazing yield (% of 1.24t DM/ha)	100	118	129	116	110	111	109	119	120	120	109	117	112
Spring (% of 2.13t DM/ha)	100	124	129	125	119	124	117	123	126	126	120	119	104
Early summer (% of 4.10t DM/ha)	100	89	89	89	87	90	91	91	91	91	87	96	95
Late summer (% of 2.74t DM/ha)	100	100	99	106	96	104	98	101	98	98	95	100	94
Autumn (% of 1.48t DM/ha)	100	101	99	109	96	105	95	110	93	93	87	99	99
<b>Conservation: management</b>													
Total yield: year 1 (% of 17.70t DM/ha)	100	105	107	106	101	101	102	104	104	104	101	105	106
1st and 2nd cut ME yield, first harvest year (% of 133,000 MJ/ha)	100	99	103	99	96	97	98	99	101	101	96	102	103
Total yield: year 3 (% of 13.15t DM/ha)	100	102	106	104	97	102	98	103	100	100	98	98	99
Total yield: mean (% of 15.53t DM/ha)	100	104	107	105	99	102	100	103	102	102	100	102	103
<b>Conservation seasonal growth – Year 1</b>													
1st cut (% of 7.20t DM/ha)	100	95	101	96	88	88	91	90	93	93	88	87	92
1st cut D-value	72.3	71.2	70.0	70.8	72.7	73.4	71.9	73.0	72.5	72.5	72.2	74.1	73.0
2nd cut (% of 4.20t DM/ha)	100	98	100	97	98	100	100	102	104	104	101	107	110
2nd cut D-value	73.6	72.4	73.0	72.3	72.0	72.7	71.8	72.6	72.8	72.8	72.0	72.5	72.1
3rd cut (% of 3.25t DM/ha)	100	109	109	111	107	108	103	108	109	109	108	111	107
4th+ cut (% of 3.20t DM/ha)	100	108	108	111	106	104	102	111	104	104	104	109	101



	Mean of G Varieties	Diploids							Tetraploids				
		Early Diploid Mean	Genesis	Moyola	Kilrea	Kilian	Kimber	Glasker	Early Tetraploid Mean	AberTorch	Anaconda	Carraig	Starman
<b>Agronomic characters</b>													
Ground cover % (2nd harvest year)	60	63	63	61	67	65	63	62	62	62	57	61	61
Ground cover % (3rd harvest year)	57	60	60	58	62	63	61	60	59	59	57	57	56
Autumn ground cover (1-9, 1=poor 9=good)	6.3	6.7	6.7	6.4	7.1	7.1	6.7	6.6	6.5	6.5	6.0	6.3	6.2
Winter hardiness (1-9, 1=poor 9=good)	6.7	6.8	6.8	6.7	6.8	[7.0]	6.9	[6.7]	7.1	7.1	6.5	6.9	[6.9]
<b>Disease resistance</b>													
Crown rust (1-9, 1=poor 9=good)	6.5	5.8	7.1	6.5	3.9	8.3	3.5	7.9	6.6	6.6	4.1	2.3	8.9
Drechslera (1-9, 1=poor 9=good)	6.2	5.9	6.4	5.4	5.9		5.9		6.9	6.9	8.6	8.4	
Mildew (1-9, 1=poor 9=good)	6.9	6.9	5.9	7.8	7.2		7.0		4.6	4.6	4.5	[4.5]	
<b>Year First Listed</b>			2009	2009	2005	2016	2004	2016		2000	1992	2013	2017
<b>Breeder</b>			Teagasc, Eire	AFBI, UK	AFBI, UK	R2n, France	DLF Seeds A/S, Denmark	AFBI, UK		IBERS, Aberystwyth	DLF Seeds A/S, Denmark	Teagasc, Eire	DLF Seeds A/S, Denmark
<b>UK Agent</b>			DLF Seeds Ltd	Barenbrug UK Ltd	Barenbrug UK Ltd	RAGT	DLF Seeds Ltd	Barenbrug UK Ltd		Germinal GB Ltd	Limagrain UK Ltd	DLF Seeds Ltd	DLF Seeds Ltd
<b>Number of trials for yields</b>													
1st harvest year			17	14	19	5	13	5		19	11	12	6
2nd harvest year			14	13	16	5	13	5		17	11	9	6
3rd harvest year			14	13	16	5	14	5		18	11	9	5

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.

[] = Limited data.

# Recommended List of Intermediate Perennial Ryegrass Diploid Varieties 2017/2018

	Mean of G varieties	Int. Diploid Mean	Solomon	Boyne	Aston Conqueror	Moira	Nifty	AberDart	Glenariff	AberStar	AberZeus	Premium	AberFarrell	AberWolf	AberMagic	Gosford	AberGreen	Elyria
<b>Recommended List status</b>			G	S	PS	PS	PG	G	S	S	PG	G	S	PS	G	PG	G	PG
<b>Heading date</b>			17 May	19 May	22 May	23 May	23 May	24 May	25 May	25 May	25 May	27 May	27 May	27 May	27 May	28 May	29 May	29 May
<b>Grazing: management</b>																		
Grazing yield (% of 10.34t DM/ha)	100	103	99	102	103	102	105	100	103	103	107	97	99	104	106	102	106	102
Grazing D-value	76.7	76.9	75.7	75.0	76.6	75.6	77.1	77.7	75.1	77.3	77.5	75.3	77.1	77.8	76.7	76.6	77.3	76.2
ME yield (% of 128,000 MJ/ha)	100	102	97	100	102	100	105	100	101	103	108	95	99	105	105	101	106	101
<b>Grazing: seasonal growth</b>																		
Early grazing yield (% of 1.24t DM/ha)	100	104	108	105	107	113	98	112	99	103	115	93	98	102	97	108	98	99
Spring (% of 2.13t DM/ha)	100	106	111	109	115	113	108	108	99	105	113	102	97	109	99	107	105	100
Early summer (% of 4.10t DM/ha)	100	97	92	98	98	95	101	94	100	98	102	94	95	98	102	97	102	99
Late summer (% of 2.74t DM/ha)	100	103	98	101	97	99	105	97	107	101	106	96	102	104	109	100	106	104
Autumn (% of 1.48t DM/ha)	100	111	102	104	107	109	109	107	108	113	113	99	107	111	120	107	114	107
<b>Conservation: management</b>																		
Total yield: year 1 (% of 17.70t DM/ha)	100	99	103	104	100	102	100	95	101	96	99	97	97	103	99	98	100	96
1st and 2nd cut ME yield, first harvest year (% of 133,000 MJ/ha)	100	98	99	103	94	96	97	93	97	94	99	95	98	101	98	97	100	95
Total yield: year 3 (% of 13.15t DM/ha)	100	101	101	106	104	105	98	95	98	96	104	97	96	102	101	102	105	101
Total yield: mean (% of 15.53t DM/ha)	100	100	102	105	102	103	99	95	100	96	102	97	97	103	100	100	102	98
<b>Conservation seasonal growth – Year 1</b>																		
1st cut (% of 7.20t DM/ha)	100	102	115	112	107	106	103	96	103	97	103	101	97	104	98	101	99	98
1st cut D-value	72.3	71.4	67.6	68.6	67.8	70.1	70.7	71.0	71.3	71.4	72.1	69.8	75.0	71.4	73.6	72.2	73.5	71.6
2nd cut (% of 4.20t DM/ha)	100	96	90	102	83	87	94	93	94	94	93	92	92	101	100	94	100	93
2nd cut D-value	73.6	72.9	72.4	70.2	75.1	74.5	72.3	73.3	73.1	72.7	74.8	73.1	76.1	73.3	72.1	74.0	73.7	73.1
3rd cut (% of 3.25t DM/ha)	100	104	105	103	105	113	107	100	107	102	102	100	108	107	106	102	106	99
4th+ cut (% of 3.20t DM/ha)	100	103	103	102	104	112	106	99	106	101	101	99	106	106	105	101	105	97

	Mean of G varieties	Int. Dlploid Mean	Solomon	Boyne	Aston Conqueror	Moira	Nifty	AberDart	Glenariff	AberStar	AberZeus	Premium	AberFarrell	AberWolf	AberMagic	Gosford	AberGreen	Elyria
<b>Agronomic characters</b>																		
Ground cover % (2nd harvest year)	60	63	61	64	66	60	61	67	65	64	66	63	61	66	58	63	65	66
Ground cover % (3rd harvest year)	57	61	61	61	61	58	61	62	60	61	68	60	59	67	59	59	64	64
Autumn ground cover (1-9, 1=poor 9=good)	6.3	6.8	6.6	6.9	7.1	6.3	6.6	7.2	6.8	6.9	7.5	6.8	6.4	7.5	6.3	6.6	7.1	7.2
Winter hardiness (1-9, 1=poor 9=good)	6.7	6.6	6.4	6.5	[6.7]	6.5	6.6	6.7	6.5	6.8	[6.6]	6.4	6.6	6.7	6.5	[6.8]	6.8	6.9
<b>Disease resistance</b>																		
Crown rust (1-9, 1=poor 9=good)	6.5	7.8	7.7	8.0	4.9	7.4	7.4	7.2	8.5	8.6	8.1	5.7	7.7	7.0	8.2	8.0	8.3	7.6
Drechslera (1-9, 1=poor 9=good)	6.2	4.7	6.9	5.8		7.0	4.5	3.3	5.2	2.9		6.9	5.6	3.9	3.7		5.1	5.9
Mildew (1-9, 1=poor 9=good)	6.9	6.9	6.3	7.0		7.3	6.1	6.2	[8.1]	5.9		6.4	7.8	5.5	7.7		7.5	6.5
<b>Year First Listed</b>			2009	2010	2017	2014	2014	1999	2012	2005	2016	1998	2009	2014	2008	2016	2011	2015
<b>Breeder</b>			Teagasc, Eire	DLF Seeds A/S, Denmark	DSV, UK	AFBI, UK	DLF Seeds A/S, Denmark	IBERS, Aberystwyth	AFBI, UK	IBERS, Aberystwyth	IBERS, Aberystwyth	Innoseeds, NL	IBERS, Aberystwyth	IBERS, Aberystwyth	IBERS, Aberystwyth	AFBI, UK	IBERS, Aberystwyth	DLF Seeds A/S, Denmark
<b>UK Agent</b>			DLF Seeds Ltd	DLF Seeds Ltd	DSV	Barenbrug UK Ltd	DLF Seeds Ltd	Germinal GB Ltd	Barenbrug UK Ltd	Germinal GB Ltd	Germinal GB Ltd	DLF Seeds Ltd	Germinal GB Ltd	Germinal GB Ltd	Germinal GB Ltd	Barenbrug UK Ltd	Germinal GB Ltd	Limagrain UK
<b>Number of trials for yields</b>																		
1st harvest year			13	25	6	10	10	11	13	13	6	39	13	10	12	6	14	8
2nd harvest year			14	21	6	9	9	13	11	15	6	40	14	9	12	6	12	6
3rd harvest year			14	19	5	6	6	11	11	15	6	38	14	6	12	6	12	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.

[ ] = Limited data.

# Recommended List of Intermediate Perennial Ryegrass Tetraploid Varieties 2017/2018

	Mean of G varieties	Int. Tetraploid Mean	Fintona	Malone	Glenstal	Seagoe	Nolwen	Ramore	AberClyde	Eurostar	AstonBonus	AberSpey	Dunluce	Caledon	Triwarwic	Diwan	Pensel	Montova	Federer	AstonEnergy
<b>Recommended List status</b>			PG	G	G	G	PG	PG	PG	G	PS	PG	G	PS	PG	PS	PS	G	PG	G
<b>Heading date</b>			19 May	19 May	21 May	21 May	21 May	22 May	24 May	25 May	28 May	29 May	29 May	29 May	30 May	30 May	30 May	30 May	30 May	31 May
<b>Grazing: management</b>																				
Grazing yield (% of 10.34t DM/ha)	100	100	105	98	101	101	101	101	100	99	100	106	103	104	101	99	102	100	102	99
Grazing D-value	76.7	76.5	76.8	76.9	75.6	76.3	77.0	75.8	77.4	76.6	75.8	77.5	77.1	76.4	76.2	76.5	75.5	75.3	76.8	77.7
ME yield (% of 128,000 MJ/ha)	100	99	104	98	98	100	101	99	100	98	98	106	103	104	100	98	100	98	101	100
<b>Grazing: seasonal growth</b>																				
Early grazing yield (% of 1.24t DM/ha)	100	95	105	102	106	105	103	105	96	94	99	99	92	85	95	86	95	84	95	84
Spring (% of 2.13t DM/ha)	100	103	112	109	113	108	108	108	108	101	105	105	97	92	98	97	107	95	99	96
Early summer (% of 4.10t DM/ha)	100	100	101	93	98	99	97	95	100	100	98	103	105	112	103	97	103	103	100	101
Late summer (% of 2.74t DM/ha)	100	99	104	97	98	100	100	102	93	96	99	104	104	106	98	103	99	101	104	97
Autumn (% of 1.48t DM/ha)	100	98	102	101	96	98	102	100	95	96	98	111	102	100	103	95	95	96	102	99
<b>Conservation: management</b>																				
Total yield: year 1 (% of 17.70t DM/ha)	100	103	108	102	102	109	101	107	103	101	103	104	102	105	105	106	106	102	101	99
1st and 2nd cut ME yield, first harvest year (% of 133,000 MJ/ha)	100	104	106	102	105	110	101	107	106	103	104	104	103	107	106	108	108	102	101	101
Total yield: year 3 (% of 13.15t DM/ha)	100	101	106	99	100	104	102	107	96	99	97	98	103	106	104	100	101	104	101	95
Total yield: mean (% of 15.53t DM/ha)	100	102	107	101	101	107	102	107	100	100	100	101	103	106	105	103	104	103	101	97
<b>Conservation seasonal growth – Year 1</b>																				
1st cut (% of 7.20t DM/ha)	100	105	111	109	108	117	102	109	108	104	108	101	97	105	106	110	109	101	100	97
1st cut D-value	72.3	72.8	70.6	70.6	72.6	70.8	73.3	72.5	73.2	72.2	73.0	74.9	75.1	74.6	73.0	72.4	72.7	73.1	73.4	75.0
2nd cut (% of 4.20t DM/ha)	100	102	100	94	100	103	96	104	105	102	98	101	107	112	106	105	113	107	102	98
2nd cut D-value	73.6	73.8	74.6	75.0	73.2	73.0	75.0	73.8	73.5	73.8	74.5	75.2	73.8	70.7	73.2	73.1	71.3	71.8	73.9	76.0
3rd cut (% of 3.25t DM/ha)	100	104	110	102	102	108	105	110	99	100	105	112	107	105	106	102	98	101	101	104
4th+ cut (% of 3.20t DM/ha)	100	102	109	101	101	107	104	109	98	99	105	112	106	100	105	101	97	99	100	103

	Mean of G varieties	Int. Tetraploid Mean	Fintona	Malone	Glenstal	Seagoe	Nolwen	Ramore	AberClyde	Eurostar	AstonBonus	AberSpey	Dunluce	Caledon	Triwarwic	Diwan	Pensel	Montova	Federer	AstonEnergy
<b>Agronomic characters</b>																				
Ground cover % (2nd harvest year)	60	57	56	58	55	57	61	60	62	60	56	60	56	54	57	57	54	60	62	52
Ground cover % (3rd harvest year)	57	53	52	51	53	53	57	53	58	57	52	51	53	49	54	49	55	56	54	48
Autumn ground cover (1-9, 1=poor 9=good)	6.3	5.7	5.6	5.6	5.6	5.7	6.3	5.9	6.5	6.2	5.6	5.8	5.7	5.2	5.8	5.4	5.7	6.2	6.2	4.9
Winter hardiness (1-9, 1=poor 9=good)	6.7	6.5	6.8	6.3	6.9	6.3	[6.5]	7.0	6.7	6.9	6.1	[6.8]	6.5	6.8	[6.5]	[6.7]	6.7	6.4	[6.6]	6.2
<b>Disease resistance</b>																				
Crown rust (1-9, 1=poor 9=good)	6.5	5.9	5.1	4.3	4.4	8.1	8.9	4.8	8.2	6.5	7.6	7.7	3.8	[7.8]	8.1	8.6	8.2	5.7	8.4	8.6
Drechslera (1-9, 1=poor 9=good)	6.2	7.5	8.2	7.3	7.4	7.5		8.7	7.1	7.8	7.2		7.5	[8.8]			8.3	7.1		8.2
Mildew (1-9, 1=poor 9=good)	6.9	7.7	8.1	8.8	6.2	8.7		7.9	8.1	7.2	6.5		7.5	7.8			7.4	8.1		7.8
<b>Year First Listed</b>			2014	2006	2004	2011	2017	2015	2013	2002	2013	2017	2005	2015	2017	2016	2013	2004	2017	2006
<b>Breeder</b>			AFBI, UK	AFBI, UK	Teagasc, Eire	AFBI, UK	R2n, France	AFBI, UK	IBERS, Aberystwyth	DLF Seeds A/S	DSV, UK	IBERS, Aberystwyth	AFBI, UK	AFBI, UK	DLF Seeds A/S	DLF Seeds A/S, Denmark	DLF Seeds A/S, Denmark	DLF Seeds A/S	DLF Seeds A/S	DSV, UK
<b>UK Agent</b>			Barenbrug UK Ltd	Barenbrug UK Ltd	DLF Seeds Ltd	Barenbrug UK Ltd	RAGT	Barenbrug UK Ltd	Germinal GB Ltd	Lim-agrain UK Ltd	DSV	Germinal GB Ltd	Barenbrug UK Ltd	Barenbrug UK Ltd	DLF Seeds Ltd	DLF Seeds Ltd	Lim-agrain UK Ltd	Lim-agrain UK Ltd	Lim-agrain UK Ltd	Germinal GB Ltd
<b>Number of trials for yields</b>																				
1st harvest year			10	14	13	14	6	8	12	11	12	6	22	8	6	6	12	12	6	14
2nd harvest year			9	14	13	12	6	6	11	11	11	6	24	6	6	6	11	14	6	13
3rd harvest year			6	12	15	12	5	6	9	10	9	5	20	6	5	6	9	14	5	12

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 Caledon indicate values derived from Late trials.

[] = Limited data.

# Recommended List of Late Perennial Ryegrass Diploid Varieties 2017/2018

	Mean of G varieties	Late Diploid Mean	AberAvon	Toddington	Glenarm	Romark	Drumbo	Clanrye	Cavendish	Timing	AberLee	AberChoice	Matiz	Cancan
Recommended List status			G	G	PG	G	G	S	PS	PG	PG	S	S	G
Heading date			1 Jun	2 Jun	3 Jun	3 Jun	4 Jun	4 Jun	5 Jun	5 Jun	6 Jun	9 Jun	11 Jun	11 Jun
<b>Grazing: management</b>														
Grazing yield (% of 10.34t DM/ha)	100	98	99	96	98	98	98	97	96	99	100	103	96	99
Grazing D-value	76.7	76.8	77.4	76.0	76.8	76.8	77.2	75.4	75.5	76.1	78.6	77.2	77.4	76.5
ME yield (% of 128,000 MJ/ha)	100	99	100	96	98	99	100	95	95	98	103	104	98	99
<b>Grazing: seasonal growth</b>														
Early grazing yield (% of 1.24t DM/ha)	100	97	108	92	108	98	102	88	98	87	84	102	86	86
Spring (% of 2.13t DM/ha)	100	88	95	87	98	89	92	81	88	83	84	95	79	77
Early summer (% of 4.10t DM/ha)	100	102	101	102	99	103	102	105	103	107	109	108	103	104
Late summer (% of 2.74t DM/ha)	100	100	98	97	97	99	100	98	93	100	101	103	101	105
Autumn (% of 1.48t DM/ha)	100	99	102	93	99	97	98	96	97	96	100	101	95	105
<b>Conservation: management</b>														
Total yield: year 1 (% of 17.70t DM/ha)	100	94	95	96	100	92	94	100	98	98	95	99	91	93
1st and 2nd cut ME yield, first harvest year (% of 133,000 MJ/ha)	100	93	96	96	103	90	93	102	100	99	97	101	92	90
Total yield: year 3 (% of 13.15t DM/ha)	100	97	96	99	105	95	97	100	100	104	97	98	94	95
Total yield: mean (% of 15.53t DM/ha)	100	95	95	98	102	93	95	100	99	100	96	98	92	94
<b>Conservation seasonal growth – Year 1</b>														
1st cut (% of 7.20t DM/ha)	100	95	103	101	110	91	93	106	103	101	95	99	91	87
1st cut D-value	72.3	71.4	71.1	70.2	70.0	71.7	71.5	70.8	71.1	70.9	75.1	73.0	71.4	72.3
2nd cut (% of 4.20t DM/ha)	100	94	86	95	96	91	96	102	97	100	93	103	95	98
2nd cut D-value	73.6	74.1	74.7	72.6	74.6	74.4	75.2	71.1	74.3	73.0	76.3	72.8	74.3	73.5
3rd cut (% of 3.25t DM/ha)	100	92	88	90	89	93	93	91	94	91	93	93	85	96
4th+ cut (% of 3.20t DM/ha)	100	94	93	92	95	95	95	92	94	95	97	97	90	95

	Mean of G varieties	Late Diploid Mean	AberAvon	Toddington	Glenarm	Romark	Drumbo	Clanrye	Cavendish	Timing	AberLee	AberChoice	Matiz	Cancan
<b>Agronomic characters</b>														
Ground cover % (2nd harvest year)	60	63	65	64	61	61	61	60	65	62	66	59	64	63
Ground cover % (3rd harvest year)	57	59	66	59	56	58	54	59	59	53	63	55	56	58
Autumn ground cover (1-9, 1=poor 9=good)	6.3	6.6	7.3	6.7	6.2	6.4	6.1	6.4	6.7	6.1	7.1	6.1	6.4	6.5
Winter hardiness (1-9, 1=poor 9=good)	6.7	6.6	6.8	6.6	6.6	6.5	6.4	6.6	6.1	6.5	[6.7]	6.8	6.3	6.6
<b>Disease resistance</b>														
Crown rust (1-9, 1=poor 9=good)	6.5	6.5	7.8	8.2	8.1	5.1	6.6	6.4		8.3	7.5	5.5	7.1	5.0
Drechslera (1-9, 1=poor 9=good)	6.2	4.6	3.7	5.8	3.3	4.2	4.5	5.5	[2.9]	4.4		3.2	5.9	5.0
Mildew (1-9, 1=poor 9=good)	6.9	6.3	5.9	6.9	7.7	5.8	5.5	[7.2]	[6.8]	6.8		8.3	6.5	7.5
<b>Year First Listed</b>			2001	2010	2015	2000	2009	2012	2015	2015	2017	2009	2008	1998
<b>Breeder</b>			IBERS, Aberystwyth	DLF Seeds A/S, Denmark	AFBI, UK	Innoseeds NL	AFBI, UK	AFBI, UK	DLF Seeds A/S, Denmark	DLF Seeds A/S, Denmark	IBERS, Aberystwyth	IBERS, Aberystwyth	DLF Seeds A/S, Denmark	DLF Seeds A/S, Denmark
<b>UK Agent</b>			Germinal GB Ltd	DLF Seeds Ltd	Barenbrug UK Ltd	DLF Seeds Ltd	Barenbrug UK Ltd	Barenbrug UK Ltd	DLF Seeds Ltd	Limagrain UK Ltd	Germinal GB Ltd	Germinal GB Ltd	Limagrain UK Ltd	DLF Seeds Ltd
<b>Number of trials for yields</b>														
1st harvest year			11	12	9	12	16	14	6	9	6	22	11	11
2nd harvest year			11	13	6	11	16	12	6	6	6	22	11	9
3rd harvest year			11	13	6	12	14	11	6	6	6	20	11	10

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.

[ ] = Limited data.

# Recommended List of Late Perennial Ryegrass Tetraploid Varieties 2017/2018

	Mean of G Varieties	Late Tetraploid Mean	Ballintoy	Bijou	Alfonso	Calao	Meiduno	Hurricane	Dundrum	Aspect	AberGain	Novello	Irondal	AberBite	Youpi	Twymax	Aston Princess	Xenon	Aber Plentiful	Solas	Ideal
<b>Recommended List status</b>			PS	PG	PS	PG	PG	PS	S	G	G	G	PS	G	PG	G	G	S	PG	PG	G
<b>Heading date</b>			31 May	31 May	1 Jun	2 Jun	2 Jun	2 Jun	3 Jun	3 Jun	4 Jun	4 Jun	4 Jun	4 Jun	5 Jun	6 Jun	6 Jun	6 Jun	6 Jun	7 Jun	9 Jun
<b>Grazing: management</b>																					
Grazing yield (% of 10.34t DM/ha)	100	99	101	102	99	101	103	97	98	99	107	101	99	101	100	98	100	101	100	102	95
Grazing D-value	76.7	77.3	77.6	75.6	77.1	77.7	76.5	77.2	77.3	77.3	78.1	76.9	77.3	77.7	77.0	77.5	77.1	77.0	77.1	76.7	77.5
ME yield (% of 128,000 MJ/ha)	100	101	103	100	100	102	103	98	99	100	109	102	100	103	101	100	101	102	101	102	97
<b>Grazing: seasonal growth</b>																					
Early grazing yield (% of 1.24t DM/ha)	100	92	113	112	100	98	103	92	84	92	116	99	90	91	87	90	97	96	94	96	85
Spring (% of 2.13t DM/ha)	100	86	101	98	98	90	96	89	81	85	105	90	83	89	82	88	90	88	89	85	77
Early summer (% of 4.10t DM/ha)	100	107	103	104	104	106	108	102	105	108	108	107	105	107	107	110	111	108	105	108	102
Late summer (% of 2.74t DM/ha)	100	100	102	103	97	103	106	101	101	99	108	104	102	103	106	97	98	105	102	108	98
Autumn (% of 1.48t DM/ha)	100	96	96	97	96	98	100	93	95	98	103	97	99	101	98	89	93	93	98	97	99
<b>Conservation: management</b>																					
Total yield: year 1 (% of 17.70t DM/ha)	100	99	106	104	102	99	103	103	103	101	108	97	99	100	98	100	102	97	98	99	96
1st and 2nd cut ME yield, first harvest year (% of 133,000 MJ/ha)	100	103	108	108	107	102	106	105	106	104	112	98	100	102	100	106	108	98	100	99	100
Total yield: year 3 (% of 13.15t DM/ha)	100	101	107	100	100	109	104	106	104	103	109	98	103	102	104	102	101	100	100	104	98
Total yield: mean (% of 15.53t DM/ha)	100	100	107	103	102	104	103	104	104	102	108	98	101	101	100	101	101	99	99	101	97
<b>Conservation seasonal growth – Year 1</b>																					
1st cut (% of 7.20t DM/ha)	100	101	113	114	114	102	106	112	109	105	116	94	99	101	97	105	107	94	98	97	96
1st cut D-value	72.3	73.2	69.9	70.7	71.4	72.4	72.6	70.3	71.4	72.6	71.6	72.5	72.3	72.7	72.6	72.9	73.5	72.9	73.3	72.2	74.6
2nd cut (% of 4.20t DM/ha)	100	104	106	104	99	100	106	100	104	102	109	104	102	104	106	106	107	105	103	104	101
2nd cut D-value	73.6	74.3	72.7	72.5	73.8	73.7	74.2	73.4	73.5	74.1	72.8	73.6	74.3	74.3	73.6	74.5	74.5	73.8	73.7	73.8	74.6
3rd cut (% of 3.25t DM/ha)	100	93	98	87	88	93	96	94	94	94	95	93	95	93	92	93	92	95	92	96	90
4th+ cut (% of 3.20t DM/ha)	100	95	99	95	96	96	100	94	98	95	100	97	97	102	96	91	92	97	97	101	94



	Mean of G Varieties	Late Tetraploid Mean	Ballintoy	Bijou	Alfonso	Calao	Meiduno	Hurricane	Dundrum	Aspect	AberGain	Novello	Irondal	AberBite	Youpi	Twymax	Aston Princess	Xenon	Aber Plentiful	Solas	Ideal
<b>Agronomic characters</b>																					
Ground cover % (2nd harvest year)	60	59	56	59	59	62	52	59	57	59	57	58	61	57	57	61	59	63	56	59	62
Ground cover % (3rd harvest year)	57	54	52	54	55	53	47	52	52	54	54	54	57	52	55	56	55	57	51	54	56
Autumn ground cover (1-9, 1=poor 9=good)	6.3	6.0	5.5	6.0	6.0	6.1	4.9	5.8	5.6	5.9	5.7	5.8	6.3	5.6	5.9	6.3	6.0	6.4	5.5	6.0	6.3
Winter hardiness (1-9, 1=poor 9=good)	6.7	6.9	[6.9]	6.8	6.7	[6.8]	6.6	6.7	6.7	7.1	6.8	7.2	6.7	6.9	6.7	6.6	6.9	6.9	6.8	6.6	6.9
<b>Disease resistance</b>																					
Crown rust (1-9, 1=poor 9=good)	6.5	6.5	3.7	7.7	7.4	8.2	7.0	7.6	3.5	5.6	8.1	7.1	7.7	7.4	8.9	5.6	6.0	5.4	7.8	2.3	7.1
Drechslera (1-9, 1=poor 9=good)	6.2	7.0		[7.0]	6.5		7.6	6.9	6.8	7.1	7.0	7.4	7.3	7.0	8.6	6.8	7.0	7.1	6.5	7.7	6.8
Mildew (1-9, 1=poor 9=good)	6.9	6.8		7.3	7.6		7.3	7.8	7.8	6.7	[7.5]	6.8	[6.5]	5.9	7.8	7.7	7.7	6.0	[7.2]	7.6	6.1
<b>Year First Listed</b>			2017	2014	2013	2017	2014	2015	2010	2011	2012	2010	2012	2009	2015	2004	2007	2011	2012	2014	2005
<b>Breeder</b>			AFBI, UK	R2n, France	DSV, UK	Semences de France	DLF Seeds A/S, Denmark	Semences de France	AFBI, UK	DLF Seeds A/S, Denmark	IBERS, Aberystwyth	DLF Seeds A/S, Denmark	R2n, France	IBERS, Aberystwyth	R2n, France	CPB, Twyford	DSV, UK	DLF Seeds A/S, Denmark	IBERS, Aberystwyth	Teagasc, Eire	R2n, France
<b>UK Agent</b>			Barenbrug UK Ltd	RAGT	DLF Seeds Ltd	Germinal GB Ltd	Limagrain UK Ltd	DSV	Barenbrug UK Ltd	Limagrain UK Ltd	Germinal GB Ltd	Limagrain UK Ltd	RAGT	Germinal GB Ltd	Barenbrug UK Ltd	Limagrain UK Ltd	Germinal GB Ltd	Limagrain UK Ltd	Germinal GB Ltd	Limagrain UK Ltd	Barenbrug UK Ltd
<b>Number of trials for yields</b>																					
1st harvest year			6	11	12	6	11	9	12	14	14	12	14	22	9	30	10	14	14	11	14
2nd harvest year			6	9	11	6	9	6	13	13	12	13	12	22	6	28	10	13	12	8	12
3rd harvest year			6	6	9	6	6	6	14	12	11	14	11	20	6	28	11	12	11	6	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 Bijou indicate values derived from Intermediate trials.

[] = Limited data.

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

# Recommended List of Italian Ryegrass Diploid Varieties 2017/2018

	Mean of G varieties	Diploid Mean	Shakira	Muriello	Meribel	Fox	Alamo	Steel	Abys	Davinci	Belluna	Javorio
Recommended List status			G	G	S	G	G	G	G	G	G	G
Heading date			15-May	18-May	19-May	19-May	19-May	19-May	20-May	22-May	22-May	22-May
<b>Total annual yields</b>												
1st harvest year (% of 20.43t DM/ha)	100	100	100	100	102	98	102	99	98	101	100	101
2nd harvest year (% of 15.67t DM/ha)	100	100	100	102	95	100	99	98	100	101	100	98
Total yield: mean (% of 18.11t DM/ha)	100	100	100	101	98	99	101	99	99	101	100	100
Year of sowing (% of 2.36t DM/ha)	100	96	94	98	89	103	93	97	95	92	93	92
1st and 2nd cut ME yield, first harvest year (% of 130,000 MJ/ha)	100	97	100	95	99	95	100	99	96	98	96	101
<b>Seasonal growth – Year 1</b>												
Early spring growth (% of 1.87t DM/ha)	100	101	101	106	102	99	101	103	103	96	99	98
<b>Conservation: management</b>												
1st conservation cut (% of 6.85t DM/ha)	100	96	103	92	96	95	97	100	94	94	91	101
1st conservation cut D-value	71.0	70.8	70.9	71.1	71.9	70.0	71.5	69.9	70.6	71.4	71.6	71.1
2nd conservation cut (% of 4.77t DM/ha)	100	100	98	99	104	99	103	98	98	101	101	102
2nd conservation cut D-value	66.7	66.7	66.3	66.6	67.1	66.3	67.3	66.7	66.2	67.0	66.8	66.8
Monthly cuts (% of 6.99t DM/ha)	100	103	98	107	106	100	106	98	100	108	108	102

	Mean of G varieties	Diploid Mean	Shakira	Muriello	Meribel	Fox	Alamo	Steel	Abys	Davinci	Belluna	Javorio
<b>Agronomic characters</b>												
Ground cover % (1st harvest year)	50	51	49	50	51	50	53	52	51	51	51	49
Ground cover % (2nd harvest year)	48	48	43	48	44	48	52	48	48	49	49	44
Autumn ground cover (1-9, 1=poor 9=good)	3.9	3.9	3.2	4.0	3.4	3.8	4.4	4.0	3.9	4.0	4.0	3.4
Winter hardiness (1-9, 1=poor 9=good)	6.9	6.9	6.7	7.2	7.4	6.6	6.9	6.6	7.3	6.7	6.9	6.5
<b>Disease resistance</b>												
Ryegrass mosaic virus (1-9, 1=poor 9=good)	5.0	5.0	6.2	3.3	3.8	3.8	4.6	7.4	3.8	5.4	5.7	5.5
Mildew (1-9, 1=poor 9=good)	6.7	6.9	6.4	7.2	6.3	6.7	7.0	6.4	7.5	6.7	7.2	7.0
Brown rust (1-9, 1=poor 9=good)	6.9	6.5	6.2	6.5	7.5	7.6	5.5	6.1	7.8	7.8	5.1	7.0
Crown rust (1-9, 1=poor 9=good)	6.9	7.2	7.6	6.6	1.9	7.5	6.4	8.1	7.4	6.9	7.2	5.0
Rhynchosporium (1-9, 1=poor 9=good)	7.0	6.8	[8]	[7]	[7]	[7]	[6]	[7]	[7]	[6]	[6]	[7]
<b>Year First Listed</b>			2012	2006	1991	2004	2001	2009	2004	2005	2005	2013
<b>Breeder</b>			DSV, France	ILVO, Belgium	ILVO, Belgium	Force Limagrain	Innoseeds, NL	R2n, France	R2n, France	ILVO, Belgium	ILVO, Belgium	DSV, NL
<b>UK Agent</b>			DSV	Germinal GB Ltd	Limagrain UK Ltd	DLF Seeds Ltd	DLF Seeds Ltd	Barenbrug UK Ltd	Barenbrug UK Ltd	Limagrain UK Ltd	Limagrain UK Ltd	Barenbrug UK Ltd
<b>Number of trials for yields</b>												
Year of sowing			6	12	7	10	15	10	11	10	10	7
1st harvest year			13	17	10	13	20	15	12	14	14	12
2nd harvest year			12	15	10	12	18	15	11	14	14	11

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.

[ ] = Limited data.

# Recommended List of Italian Ryegrass Tetraploid Varieties 2017/2018

	Mean of G varieties	Tetraploid Mean	Itarzi	Udine	Hunter	Kigezi 1	Barmultra II	Cazzano	Gemini	Messina	Danergo
Recommended List status			G	G	G	G	G	PG	S	PG	G
Heading date			15 May	16 May	17 May	18 May	18 May	19 May	19 May	19 May	21 May
<b>Total annual yields</b>											
1st harvest year (% of 20.43t DM/ha)	100	100	99	100	103	100	101	101	104	105	99
2nd harvest year (% of 15.67t DM/ha)	100	100	100	101	101	100	99	103	99	102	98
Total yield: mean (% of 18.11t DM/ha)	100	100	100	100	102	100	100	101	101	104	99
Year of sowing (% of 2.36t DM/ha)	100	106	105	111	101	106	108	102	100	108	104
1st and 2nd cut ME yield, first harvest year (% of 130,000 MJ/ha)	100	104	102	104	105	103	105	103	106	106	104
<b>Seasonal growth – Year 1</b>											
Early spring growth (% of 1.87t DM/ha)	100	99	99	99	100	99	103	100	100	111	92
<b>Conservation: management</b>											
1st conservation cut (% of 6.85t DM/ha)	100	106	105	107	106	108	106	101	101	105	102
1st conservation cut D-value	71.0	71.3	70.2	71.3	71.4	71.1	71.7	72.6	73.6	72.8	72.2
2nd conservation cut (% of 4.77t DM/ha)	100	100	99	98	103	98	101	100	106	102	103
2nd conservation cut D-value	66.7	66.8	66.9	67.4	66.3	66.3	66.7	68.0	67.2	67.9	67.0
Monthly cuts (% of 6.99st DM/ha)	100	96	94	94	100	94	97	101	105	105	96

	Mean of G varieties	Tetraploid Mean	Itarzi	Udine	Hunter	Kigezi 1	Barmultra II	Cazzano	Gemini	Messina	Danergo
<b>Agronomic characters</b>											
Ground cover % (1st harvest year)	50	48	48	46	50	51	47	43	46	52	46
Ground cover % (2nd harvest year)	48	47	49	49	44	47	48	47	41	47	45
Autumn ground cover (1-9, 1=poor 9=good)	3.9	3.8	4.0	4.0	3.4	3.7	3.9	3.8	3.1	3.7	3.5
Winter hardiness (1-9, 1=poor 9=good)	6.9	7.0	7.0	7.2	7.2	6.8	7.1	[6.6]	6.8	[7.2]	6.8
<b>Disease resistance</b>											
Ryegrass mosaic virus (1-9, 1=poor 9=good)	5.0	5.0	5.5	6.0	5.2	4.4	4.1	[4.5]	3.8	[6.9]	5.1
Mildew (1-9, 1=poor 9=good)	6.7	6.4	5.8	7.1	6.7	6.4	6.1	8.1	7.3	[6.9]	6.4
Brown rust (1-9, 1=poor 9=good)	6.9	7.3	7.4	7.3	7.8	7.9	6.2		8.1	7.8	7.2
Crown rust (1-9, 1=poor 9=good)	6.9	6.5	8.0	7.9	5.2	8.4	8.3	4.1	1.1	8.9	1.1
Rhynchosporium (1-9, 1=poor 9=good)	7.0	7.3	[7]	[8]	[7]	[7]	[8]		[7]		[7]
<b>Year First Listed</b>			<b>2009</b>	<b>2012</b>	<b>2008</b>	<b>2010</b>	<b>2009</b>	<b>2015</b>	<b>2000</b>	<b>2017</b>	<b>1994</b>
<b>Breeder</b>			DLF Seeds A/S	DLF Seeds A/S, Denmark	DSV, Germany	DLF Seeds A/S, Denmark	Barenbrug, NL	DLF Seeds A/S, Denmark	ILVO, Belgium	ILVO, Belgium	DLF Seeds A/S, Denmark
<b>UK Agent</b>			DLF Seeds Ltd	Limagrain UK Ltd	DLF Seeds Ltd	DLF Seeds Ltd	Barenbrug UK Ltd	DLF Seeds Ltd	Limagrain UK Ltd	Limagrain UK Ltd	DLF Seeds Ltd
<b>Number of trials for yields</b>											
Year of sowing			10	6	10	11	10	6	11	4	28
1st harvest year			15	13	15	15	15	9	11	6	34
2nd harvest year			15	12	15	14	15	6	12	6	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.

[ ] = Limited data.

# Recommended List of Hybrid Ryegrass Varieties 2017/2018

			Diploids				Tetraploids											Festulolium
	Mean of G varieties	Diploid Mean (= Barsilo)	Pirol	Barsilo	Barclamp	Tetraploid Mean	Palmata	AberEcho	Solid	Aston Crusader	Enduro	Tetragraze	Novial	AberEve	Kirial	Bahial	Amalgam	
<b>Recommended List status</b>			G	G	PG		PS	G	S	PG	G	S	G	S	G	G	G	S
<b>Heading date</b>			20 May	23 May	24 May		7 May	15 May	16 May	18 May	18 May	19 May	19 May	21 May	21 May	22 May	22 May	23 May
<b>Total annual yields</b>																		
1st harvest year (% of 19.94t DM/ha)	100	105	106	105	105	99	100	106	97	101	98	97	98	101	100	97	96	104
2nd harvest year (% of 15.25t DM/ha)	100	94	100	94	100	101	100	102	98	102	102	101	103	96	101	102	100	101
3rd harvest year (% of 14.00t DM/ha)	100	96	98	96	90	101	103	101	98	103	104	101	101	94	105	103	101	101
Total yield: mean (% of 16.54t DM/ha)	100	98	102	98	98	100	101	103	98	102	101	100	101	97	102	101	99	102
Year of sowing (% of 2.09t DM/ha)	100	95	99	95	99	101	89	97	93	103	101	89	104	103	110	107	92	104
1st and 2nd cut ME yield, first harvest year (% of 130,000 MJ/ha)	100	99	99	99	101	100	95	106	98	100	98	99	97	105	100	96	99	101
<b>Seasonal growth – Year 1</b>																		
Early spring growth (% of 1.69t DM/ha)	100	115	118	115	114	97	107	105	82	108	99	79	99	98	100	100	83	115
<b>Conservation management</b>																		
1st conservation cut (% of 6.96t DM/ha)	100	93	95	93	96	101	98	100	103	102	100	106	102	103	100	98	104	95
1st conservation cut D-value	71.8	72.0	70.8	72.0	71.7	71.8	69.7	72.3	70.3	70.6	70.9	70.5	70.7	73.4	71.4	71.7	71.6	71.8
2nd conservation cut (% of 4.26t DM/ha)	100	112	116	112	114	98	93	113	92	99	96	93	92	103	100	95	90	115
2nd conservation cut D-value	71.5	69.1	67.0	69.1	67.7	71.9	72.5	72.5	71.9	71.1	71.5	71.3	71.9	72.2	71.9	71.2	71.9	67.9
Monthly cuts (% of 7.08t DM/ha)	100	110	108	110	107	98	104	107	96	100	97	95	97	98	99	98	94	102
<b>Agronomic characters</b>																		
Ground cover % (1st harvest year)	54	51	56	51	60	55	55	56	58	56	56	59	55	52	54	55	55	49
Ground cover % (2nd harvest year)	53	47	51	47	52	54	55	54	59	54	54	57	53	50	52	53	58	47
Ground cover % (3rd harvest year)	52	40	46	40	46	54	57	53	60	50	53	59	54	45	51	56	61	44
Autumn ground cover (1-9, 1=poor 9=good)	4.2	3.4	3.8	3.4	3.9	4.3	4.4	4.2	4.8	4.2	4.3	4.7	4.2	3.8	4.1	4.3	4.8	3.6
Winter hardiness (1-9, 1=poor 9=good)	7.0	6.8	7.4	6.8	[7.2]	7.1	7.0	7.0	7.1	7.1	7.1	7.1	7.2	7.2	7.1	7.0	7.0	7.1

			Diploids				Tetraploids											Festulolium
	Mean of G varieties	Diploid Mean (= Barsilo)	Pirol	Barsilo	Barclamp	Tetraploid Mean	Palmata	AberEcho	Solid	Aston Crusader	Enduro	Tetragraze	Novial	AberEve	Kirial	Bahial	Amalgam	
<b>Disease resistance</b>																		
Ryegrass mosaic virus (1-9, 1=poor 9=good)	6.6	3.8	3.9	3.8	[6.8]	7.1	6.8	5.7	7.4	6.6	6.8	6.7	7.4	7.3	8.1	7.5	7.7	6.7
Mildew (1-9, 1=poor 9=good)	6.7	7.3	4.3	7.3	6.3	6.6	7.0	6.8	6.7	7.4	6.9	6.9	7.1	7.4	7.4	6.2	5.3	7.8
Brown rust (1-9, 1=poor 9=good)	6.5	3.0	6.1	3.0	[8.9]	7.1	6.6	4.1	8.8	[8.8]	7.8	8.1	7.1	8.1	8.0	6.9	8.9	[6.8]
Crown rust (1-9, 1=poor 9=good)	6.9	6.4	7.7	6.4	8.4	7.0	7.9	6.4	8.0	8.1	8.5	6.3	8.3	2.4	8.5	8.2	8.3	7.6
Rhynchosporium (1-9, 1=poor 9=good)	7.9	7.5	8.0	7.5		8.0	6.7	7.9	8.8	8.3	8.4	8.3	7.9	8.0	8.0	6.9	8.8	7.8
<b>Year First Listed</b>			<b>2005</b>	<b>1998</b>	<b>2017</b>		<b>2013</b>	<b>2002</b>	<b>1994</b>	<b>2014</b>	<b>2005</b>	<b>2008</b>	<b>2010</b>	<b>2004</b>	<b>2012</b>	<b>2007</b>	<b>2009</b>	<b>2011</b>
<b>Breeder</b>			Steinach, Germany/ DSV	Barenburg, NL	Barenbrug, NL		ARTS, Switzerland/ DSV	IBERS, Aberystwyth	DLF Seeds A/S, Denmark	DSV, UK	R2n, France	DLF Seeds A/S, Denmark	R2n, France	IBERS, Aberystwyth	R2n, France	R2n, France	DLF Seeds A/S, Denmark	IBERS, Aberystwyth
<b>UK Agent</b>			Germinal GB Ltd	Barenburg UK Ltd	Barenbrug UK Ltd		Germinal GB Ltd	Germinal GB Ltd	DLF Seeds Ltd	DSV	Lim-agrain UK Ltd	DLF Seeds Ltd	Barenbrug UK Ltd	Germinal GB Ltd	RAGT	DLF Seeds Ltd	Limagrain UK Ltd	Germinal GB Ltd
<b>Number of trials for yields</b>																		
Year of sowing			14	6	4		4	11	21	3	9	7	9	9	4	7	7	6
1st harvest year			20	11	6		12	19	30	11	15	11	14	12	14	13	11	15
2nd harvest year			20	10	6		12	16	30	9	14	11	15	14	13	12	13	14
3rd harvest year			16	11	6		9	14	27	6	11	10	13	12	11	10	12	11

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.

[ ] = Limited 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 2017/2018

	Mean of G varieties	Presto	Comer	Dolina	Promesse	Comtal	Winnetou	Moverdi	Motim	Barrett
Recommended List status		G	G	S	S	G	G	S	S	S
Heading date		8 Jun	9 Jun	9 Jun	10 Jun	10 Jun	11 Jun	11 Jun	17 Jun	18 Jun
<b>Grazing: management</b>										
Grazing yield (% of 11.45t DM/ha)	100	102	103	101	96	102	97	101	97	99
Grazing D-value	72.2	72.7	71.3	71.7	73.0	71.6	73.1	72.8	72.4	72.4
ME yield (% of 132,000 MJ/ha)	100	102	102	101	97	101	98	102	97	99
<b>Grazing: seasonal growth</b>										
Early grazing yield (% of 1.41t DM/ha)	100	110	106	100	86	103	86	91	88	110
Spring (% of 2.58t DM/ha)	100	109	108	106	93	101	95	100	91	96
Early summer (% of 4.47t DM/ha)	100	100	100	100	98	103	98	98	100	100
Late summer (% of 3.03t DM/ha)	100	100	101	99	97	101	97	103	97	99
Autumn (% of 1.44t DM/ha)	100	98	106	102	92	100	97	110	94	100
<b>Conservation: management</b>										
Total yield: year 1 (% of 14.89t DM/ha)	100	102	103	101	98	99	100	99	98	98
ME yield of 1st+2nd cut year 1 (% of 96,000 MJ/ha)	100	101	103	98	101	98	100	99	99	100
Total yield: year 3 (% of 13.26t DM/ha)	100	101	105	101	94	98	98	99	98	98
Total yield: mean (% of 14.13t DM/ha)	100	102	104	101	96	98	99	99	98	98
<b>Conservation seasonal growth – Year 1</b>										
1st cut (% of 5.51t DM/ha)	100	106	107	101	100	101	102	101	95	91
1st cut D-value	66.6	64.6	65.1	64.7	67.6	65.5	67.3	66.1	68.8	68.8
2nd cut (% of 3.75t DM/ha)	100	99	102	101	100	97	96	94	104	107
2nd cut D-value	64.3	64.8	63.6	63.5	64.6	64.2	64.7	65.4	63.8	63.6
3rd cut (% of 2.68t DM/ha)	100	102	102	104	96	98	100	101	96	94
4th+ cut (% of 2.95t DM/ha)	100	98	99	98	94	101	100	102	99	102



	Mean of G varieties	Presto	Comer	Dolina	Promesse	Comtal	Winnetou	Moverdi	Motim	Barrett
<b>Agronomic characters</b>										
Ground cover % (2nd harvest year)	61	59	59	52	65	58	57	49	67	64
Ground cover % (3rd harvest year)	55	52	51	46	57	53	55	43	64	59
Autumn ground cover (1-9, 1=poor 9=good)	5.7	5.2	4.8	3.2	6.7	5.0	5.2	2.6	7.9	6.8
Winter hardiness (1-9, 1=poor 9=good)	7.0	7.1	7.1	7.1	6.8	6.9	6.6	[6.3]	6.8	[6.9]
<b>Year First Listed</b>		2005	2001	2003	1990	1989	2003	2005	1974	2012
<b>Breeder</b>		DSV, Netherlands	ILVO, Belgium	ILVO, Belgium	Innoseeds, NL	DLF Seeds A/S, Denmark	DLF Seeds A/S, Denmark	DLF Seeds A/S, Denmark	DLF Seeds A/S, Denmark	AFBI, UK
<b>UK Agent</b>		Germinal GB Ltd	Limagrain UK Ltd	DLF Seeds Ltd	DLF Seeds Ltd	Limagrain UK Ltd	DLF Seeds Ltd	Limagrain UK Ltd	Limagrain UK Ltd	Barenbrug UK
<b>Number of trials for yields</b>										
1st harvest year		12	12	11	11	11	11	10	15	6
2nd harvest year		12	11	12	11	12	12	10	17	6
3rd harvest year		10	11	10	11	12	10	10	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.

[ ] = Limited data.

# Recommended List of White Clover Varieties 2017/2018

	Mean of G varieties	AberAce	Galway	Aber S.184	AberPearl	G Demand	AberHerald	Iona	Crusader	Avoca	Buddy	G Bounty	AberDai	Violin	Dublin	Katy	Alice	Barblanca	Aran	Brianna	
<b>Recommended List status</b>		<b>G</b>	<b>G</b>	<b>G</b>	<b>G</b>	<b>G</b>	<b>G</b>	<b>G</b>	<b>G</b>	<b>G</b>	<b>PG</b>	<b>G</b>	<b>G</b>	<b>G</b>	<b>PG</b>	<b>PG</b>	<b>G</b>	<b>G</b>	<b>G</b>	<b>PG</b>	
<b>Leaf area (length x breadth mm<sup>2</sup>)</b>	824	378	513	580	723	735	767	792	793	800	812	833	847	1011	1018	1031	1035	1070	1361	1489	
<b>Light defoliation (cutting or rotational cattle grazing)</b>																					
Total clover yield (% of 4.59t DM/ha) #	100	84	74	88	90	91	104	95	106	102	103	100	108	119	118	104	107	107	122	123	
Total yield: grass and clover (% of 12.01t DM/ha) #	100	96	94	100	101	97	100	100	103	100	99	101	100	108	103	98	100	101	102	101	
% clover	38	33	30	34	34	36	40	36	39	39	40	38	41	42	44	41	41	41	46	46	
Clover yield: first cut (% of 0.64t DM/ha) #	100	82	81	82	106	88	95	101	116	109	108	99	111	114	112	92	109	101	126	97	
Clover yield: last cut (% of 0.50t DM/ha) #	100	68	60	78	77	93	106	90	121	94	94	101	105	121	108	106	110	136	127	115	
<b>3rd harvest year</b>																					
Yield of clover (% of 4.03t DM/ha) #	100	80	78	83	77	91	116	101	94	92	110	93	107	119	115	114	111	114	121	118	
Yield of grass + clover (% of 11.64t DM/ha) #	100	96	94	96	98	97	102	98	100	100	101	101	101	107	105	101	101	104	103	104	
% clover	35	29	29	30	27	32	39	35	33	32	38	32	36	39	38	39	38	38	41	39	
Clover yield: first cut (% of 0.48t DM/ha) #	100	71	67	69	81	77	122	99	106	110	119	102	112	119	116	105	113	131	128	114	
Clover yield: last cut (% of 0.40t DM/ha) #	100	78	67	78	73	102	115	88	96	82	96	107	106	111	113	107	112	121	130	123	
<b>Autumn ground cover</b>																					
Light Defoliation	% cover (1st harvest year)	49	47	48	51	48	48	49	51	53	47	47	51	45	53	52	40	45	48	43	45
	% cover (2nd harvest year)	47	43	34	45	43	46	52	42	51	46	48	48	51	55	51	44	46	49	48	48
	% cover (3rd harvest year)	47	42	42	41	39	49	52	44	48	44	43	48	46	51	48	47	47	52	48	46
	Overall (1-9, 1=poor 9=good)	6.2	5.0	3.9	5.2	4.7	6.4	7.4	5.2	6.8	5.6	5.8	6.4	6.5	7.7	6.8	5.9	6.1	7.0	6.4	6.2

		Mean of G varieties	AberAce	Galway	Aber S.184	AberPearl	G Demand	AberHerald	Iona	Crusader	Avoca	Buddy	G Bounty	AberDai	Violin	Dublin	Katy	Alice	Barblanca	Aran	Brianna
<b>Autumn ground cover</b>																					
Hard Defoliation	% cover (1st harvest year)	58	62	61	62	56	63	52	60	60	59	58	60	56	60	58	51	54	57	49	46
	% cover (2nd harvest year)	57	64	58	65	59	57	52	58	57	60	63	63	55	58	53	53	51	54	45	53
	% cover (3rd harvest year)	54	60	56	60	56	56	48	58	50	57	62	60	52	57	49	51	48	54	46	50
	Overall (1-9, 1=poor 9=good)	6.9	8.2	7.3	8.2	7.3	7.2	5.9	7.4	6.5	7.5	8.4	8.1	6.6	7.4	6.0	6.2	5.7	6.6	5.0	6.1
<b>Spring ground cover</b>																					
Hard Defoliation	% cover (1st harvest year)	39	47	35	42	36	41	37	41	44	45	42	39	39	35	43	36	38	38	34	30
	% cover (2nd harvest year)	58	67	59	67	59	61	54	59	51	58	63	65	58	63	55	56	54	52	47	53
	% cover (3rd harvest year)	49	56	54	52	56	53	50	49	43	51	57	51	51	49	50	46	44	45	40	46
	Overall (1-9, 1=poor 9=good)	7.2	8.8	7.9	8.4	8.0	8.0	6.9	7.3	5.9	7.4	8.7	8.2	7.5	7.7	7.0	6.7	6.3	6.1	5.2	6.3
<b>Year First Listed</b>		2001	2005	1969	2004	1994	1994	2011	2002	1993	2013	2003	1997	2009	2015	2012	1985	2001	1981	2015	
<b>Breeder</b>		IBERS, Aberystwyth	Teagasc, Eire	IBERS, Aberystwyth	IBERS, Aberystwyth	AgResearch Ltd (New Zealand)	IBERS, Aberystwyth	Teagasc, Eire	AgResearch Ltd (New Zealand)	Teagasc, Eire	Teagasc, Eire	AgResearch Ltd (New Zealand)	IBERS, Aberystwyth	DLF Seeds A/S, Denmark	Teagasc, Eire	AgResearch Ltd (New Zealand)	IBERS, Aberystwyth	AgResearch Ltd (New Zealand)	Teagasc, Eire	DLF Seeds A/S, Denmark	
<b>UK Agent</b>		Germinal GB Ltd	DLF Seeds Ltd	Barenbrug UK Ltd	Germinal GB Ltd	Limagrain UK Ltd	Germinal GB Ltd	DLF Seeds Ltd	Barenbrug UK Ltd	DLF Seeds Ltd	DLF Seeds Ltd	Limagrain UK Ltd	Germinal GB Ltd	Limagrain UK Ltd	DLF Seeds Ltd	Barenbrug UK Ltd	Barenbrug UK Ltd	Barenbrug UK Ltd	Germinal GB Ltd	DLF Seeds Ltd	
<b>Number of trials for clover yields</b>																					
2nd harvest year		22	13	10	10	11	12	9	13	11	8	11	26	12	6	9	27	11	24	6	
3rd harvest year		20	11	10	10	12	12	7	13	11	6	11	24	11	6	7	26	10	23	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 2017/2018

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 2018.

		Diploids										Tetraploids			
	Mean of DL varieties	Merviot	Lemmon	AberRuby	AberClaret	AberChianti	Avisto	Harmonie	Metis	Discovery	Hegemon*	Amos	Maro	Atlantis	Magellan
<b>Conservation: management</b>															
Total yield: 1st harvest year (% of 13.81t DM/ha)	100	103	102	95	103	94	101	97	100	103	98	102	103	101	95
Total yield: 2nd harvest year (% of 13.94t DM/ha)	100	99	100	89	106	100	101	100	103	96	100	102	101	101	103
Total yield: mean (% of 13.87t DM/ha)	100	101	101	92	104	97	101	98	102	100	99	102	102	101	99
<b>Seasonal growth: 1st harvest year</b>															
1st cut (% of 5.26t DM/ha)	100	105	102	93	99	87	99	98	108	105	100	105	104	101	93
Protein content %: 1st cut	17.3	17.3	17.2	17.1	16.8	16.3	16.6	18.1	17.6	17.6	17.6	17.4	17.1	17.8	17.7
<b>Agronomic characters</b>															
Ground cover % (1st harvest year)	59	58	58	51	60	57	57	64	64	57	64	62	62	63	60
Ground cover % (2nd harvest year)	49	45	48	36	51	52	44	55	54	42	52	51	51	55	50
<b>Year First Listed</b>		1980	2003	2005	2010	2011	2011	2012	2016	2016	2017	2005	2010	2011	2014
<b>Breeder</b>		ILVO, Belgium	ILVO, Belgium	IBERS, Aberystwyth	IBERS, Aberystwyth	IBERS, Aberystwyth	ILVO, Belgium	Nord. Pflanz/DSV	DLF Seeds A/S, Denmark	INRA	DLF Seeds A/S, Denmark	Slechtitelska stanice, The Czech Republic	LSPB, UK	Nord. Pflanz/DSV	Nord. Pflanz/DSV
<b>UK Agent</b>		Limagrain UK Ltd	Barenbrug UK Ltd	Germinal GB Ltd	Germinal GB Ltd	Germinal GB Ltd	Barenbrug UK Ltd	DSV	DLF Seeds Ltd	Barenbrug UK Ltd	DLF Seeds Ltd	DLF Seeds Ltd	Limagrain UK Ltd	DSV	DLF Seeds Ltd
<b>Number of trials for yields</b>															
1st harvest year		18	12	12	10	10	10	9	6	6	6	18	10	10	6
2nd harvest year		17	10	10	8	8	8	7	6	6	6	17	8	8	5

\* Name not confirmed

# Descriptive List of Lucerne Varieties 2017/2018

	Mean of all varieties	Daisy	Diane	Marshall
<b>Conservation: management</b>				
Total yield: 1st harvest year (% of 12.60t DM/ha)	100	101	101	98
Total yield: 2nd harvest year (% of 15.78t DM/ha)	100	100	99	101
Total yield: mean (% of 14.08t DM/ha)	100	101	100	99
<b>Seasonal growth: 1st harvest year</b>				
1st cut (% of 4.63t DM/ha)	100	103	101	96
Protein content: 1st cut (%)	18.10	17.95	18.25	18.11
<b>Agronomic characters</b>				
Ground cover % (1st harvest year)	56	59	56	54
Ground cover % (2nd harvest year)	42	45	41	41
<b>Year First Listed</b>		2003	2003	2003
<b>Breeder</b>		DLF Seeds A/S, Denmark	Innoseeds, NL	Limagrain
<b>UK Agent</b>		DLF Seeds Ltd	DLF Seeds Ltd	Limagrain UK Ltd
<b>Number of trials for yields</b>				
1st harvest year		8	8	8
2nd harvest year		7	7	7

# Descriptive List of Cocksfoot Varieties 2017/2018

	Mean of all varieties	Sparta	Lidacta
<b>Conservation management</b>			
Total yield 1st harvest year (% of 15.27t DM/ha)	100	99	104
Total yield 2nd harvest year (% of 14.38t DM/ha)	100	103	102
Total yield: mean (% of 14.85t DM/ha)	100	101	103
<b>Seasonal growth: 1st harvest year</b>			
1st cut (% of 4.79t DM/ha)	100	102	108
1st conservation cut D-Value (minus 65)	68.9	67.6	68.8
2nd cut (% of 2.62t DM/ha)	100	98	104
2nd conservation cut D-Value (minus 65)	69.0	69.3	68.7
3rd cut (% of 3.03t DM/ha)	100	100	104
4th+ cut (% of 4.82t DM/ha)	100	97	99
<b>Agronomic characters</b>			
Ground Cover % (2nd harvest year)	65	67	66
Winter Hardiness (1-9, 9=good)	5.9	6.1	5.4
<b>Disease resistance</b>			
Resistance to Mildew (1-9, 9=good)	7	7	7
Resistance to Mastigosporium (1-9, 9=good)	5	5	6
Resistance to Yellow Rust (1-9, 9=good)	6	3	6
<b>Year First Listed</b>		<b>1982</b>	<b>1991</b>
<b>Breeder</b>		DLF Seeds A/S, Denmark	DSV, Germany
<b>UK Agent</b>		DLF Seeds Ltd	DSV
<b>Number of trials for yields</b>			
1st harvest year		10	10
2nd harvest year		9	9

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



## Useful Contacts

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### Agri-Food and Biosciences Institute

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BT61 8JA  
02838 892344

### Barenbrug UK Ltd

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Suffolk  
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01359 272000

### Semences de France

Activité fourragère et gazon  
62 rue Léon Beauchamp  
59930 La chapelle  
d'Armentières  
France  
0033 320 48 41 41

### Germinal GB Ltd

Camp Road  
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Lincolnshire  
LN6 9QJ  
01522 868714

### DLF Seeds Ltd

Thorn Farm  
Evesham Road  
Inkberrow  
Worcestershire  
WR7 4LJ  
01386 793135

### DSV

Weissenburgerstr.5  
59557 Lippstadt  
Germany  
0049 2941 2960

### AgResearch Ltd. NZ

Grasslands Research Centre  
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Private Bag 11008  
Palmerston North 4442  
New Zealand  
0064 6 356 8019

### ILVO-Seeds

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9090 Melle  
Belgium  
0032 9 282 28 59

### INRA Chez Agri-Obtentions S.A.

Chemin de la Petite Minière  
78280 Guyancourt  
France  
0033 130482300

### Limagrain UK Ltd

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Lincolnshire  
LN7 6DT  
01472 371471

### RAGT Seeds Ltd

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Essex  
CB10 1TA  
01799 533700

### Teagasc

Crops Research Centre  
Oak Park  
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Co. Carlow  
R93 XE12  
Ireland  
00353 599170200

## Pasture Improvement Flow Chart



# 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: \_\_\_\_\_

## Complying with latest spray legislation at a glance

### These measures now apply to grassland weedkillers

- Demonstrate Integrated Pest Management (IPM) is followed on your farm
- The sprayer operator on your farm must hold a Recognised Certificate; Grandfather rights are no longer valid
- All pesticide application equipment (excluding handheld equipment) in use must have a valid National Sprayer Testing Scheme (NSTS) Certificate.

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

## H2OK? Think Water – Keep it Clean

Many grassland weedkillers are detected in drinking water sources, take extra care to protect water when filling and washing the sprayer and avoid over-spraying ditches and streams.

For more advice visit [www.voluntaryinitiative.org.uk](http://www.voluntaryinitiative.org.uk)



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](http://www.britishgrassland.com/rgcl)

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](http://www.niab.com)

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