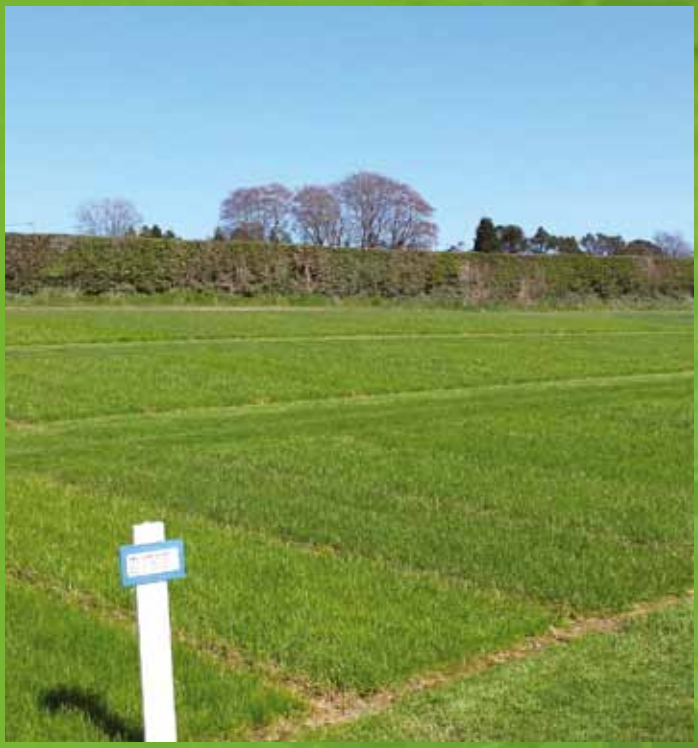
Department of Agriculture and Rural Development

Grass and **Clover**



Recommended Varieties for Northern Ireland 2014/15

Department of
Agriculture and
Rural Development
www.dardni.gov.uk

afbi
Agri-Food and
Biosciences Institute

Recommended Booklet

This booklet provides information on the grass and clover varieties currently recommended by DARD for use in Northern Ireland.

The Agri-Food and Biosciences Institute at the Plant Testing Station in Crossnacreevy conducts these recommended list variety trials on behalf of the Department of Agriculture and Rural Development.

The booklet is designed to act as a variety selection tool for farmers when planning to reseed, as an information source to assist seeds merchants compile and develop their seeds mixtures in response to the latest advances in plant breeding and as a technical document to assist DARD extension staff.

These recommendations are also available on-line at:
www.afbini.gov.uk/recommendedlists

The recommendations are reviewed and published annually.

Acknowledgements
The plant breeders, merchants and maintainers who supplied seed of the varieties tested, are thanked for their assistance.

Cover photograph
Different varieties of intermediate perennial ryegrass, sown in plots, in their second year of trials at the Plant Testing Station, AFBI Crossnacreevy, April 2014.

A large print version of this booklet can be supplied on request.

GRASS AND CLOVER VARIETIES FOR 2014-15

E J MEEHAN BSc MSc PhD and T J GILLILAND BSc BAgr PhD

Agri-Food and Biosciences Institute, Plant Testing Station, Crossnacreevy
Published 2014 (Recommendations valid until July 2015)

CONTENTS

	PAGES
Summary of Recommended Varieties	2
Recommendation Categories	2
Variety Summary Table	3
Testing Procedures	4
Performance Tables for Recommended Varieties	6
Silage Perennial Ryegrass Tables - Diploid	12
Silage Perennial Ryegrass Tables - Tetraploid	14
Grazing Perennial Ryegrass Tables - Diploid	16
Grazing Perennial Ryegrass Tables - Tetraploid	18
Hybrid Ryegrass Tables	20
Italian Ryegrass Tables	22
Timothy Tables	24
White Clover Tables	26
Red Clover Table	28
Indexed Lists of Variety Descriptions	29
Diploid Perennial Ryegrass	29
Tetraploid Perennial Ryegrass	32
Hybrid Ryegrass	35
Italian Ryegrass	36
Timothy	37
White Clover	38
Red Clover	40
Key Contacts and Services	42
Breeder & UK Agent Details	42
AFBI Crossnacreevy Contacts and Services	44
The Agri-Food and Biosciences Institute	45

HOW TO USE THIS BOOKLET

This booklet can be used to provide:

- A quick reference to which varieties are recommended by scanning the name lists in **Summary of Recommended Varieties**.
- A guide to variety performance and classification by examining the main yields in the **Performance Tables for Recommended Varieties**.
- A resource for comparing the seasonal growth patterns of varieties in '**Seasonal Yields' on the Performance Tables for Recommended Varieties**.
- A description of the main agronomic features of varieties in **Indexed Lists of Variety Descriptions.**
- A merchant's reference to breeder and UK agent details as listed in **Key Contacts and Services**.
- As a guide to DARD services and contacts in **Key Contacts and Services**.

Summary of Recommended Varieties

This section lists the names of the recommended grass and clover varieties for 2014/15 and indicates their recommended status.

Recommendation Categories

As varieties progress through the DARD recommended list testing programme and more information is gained on their performance over years, so the varieties can advance through a rising scale of recommended list categories. These recommendation categories are awarded and indicated as follows:

Indicator		Stipulation
'BOLD TYPE'	-	Varieties that have been tested in at least 5 separate trials and found to maintain very high performance levels
'Plain Type'	-	Varieties that may be very high performing but have as yet completed less than 5 separate trials
	-	Varieties which have consistently performed well in 5 or more trials but not with quite as high a performance as the 'Bold Type' varieties
(S)	-	Varieties recommended for a SPECIFIC USE as detailed in the text
(P)	-	Varieties which, as yet, have completed only 3 trials and are PROVISIONALLY RECOMMENDED pending further data (Seed may be in short supply)
(O)	-	Varieties which are BECOMING OUTCLASSED

The following summary table lists all the currently recommended varieties and indicates their current recommended status. Varieties are listed in heading date or leaf size order in each category. Red clover is listed in order of three year average yield. (T) = Tetraploid.

Recommended Grass and White Clover Varieties 2014/15

Perennial Ryegrass

Early Diploid	Intermediate Diploid		Late Diploid	
Genesis	**Solomon**	Spelga	**AberZest**	Majestic
Moyola	**Boyne**	Lineker	**AberAvon**	Denver
Kilrea	**AberDart**	Glenariff	**Pastour**	Glenveagh
Kimber	**AberStar**	(P) Nifty	**Clanrye**	Tyrella
	Gandalf	(P) Moira	**Drumbo**	Foxtrot
	Copeland	(P) AberWolf	**AberChoice**	
	AberMagic			
	AberGreen	(O) Bree		

Early Tetraploid	Intermediate Tetraploid		Late Tetraploid	
AberTorch	**Niagara**	Glenstal	**Glencar**	**Kintyre**
Carraig	**Trintell**	AberClyde	**Delphin**	Aspect
	Malone	(P) Fintona	**AberCraigs**	Dunloy
	Magician	(P) Pensel	**Dundrum**	(P) AstonDiamond
	Seagoe		**AberGain**	(P) Xenon
	Eurostar		**AberBite**	(P) AstonPlentiful
	Dunluce		**Twymax**	(O) Navan
	AstonEnergy		**AstonPrincess**	(O) Tivoli

Italian Ryegrass

Dorike (T)
Hunter (T)
Meribel
Barmultra II (T)
Fox
Litonio (T)
Shakira
Bartrento (T)
(P) Javorio

Hybrid Ryegrass

AberEcho (HT)	Foyle (HT)
Ligunda (HD)	Amalgam (HT)
Pirol (HD)	Scapino (HT)
Drumlin (HT)	Barsilo (HD)
AberExcel	(P) AberCrusader
AberEve (HT)	
Kirial (HT)	(O) Hymer (HT)

Timothy

Early	Intermediate
Presto	**Motim**
Comer	
Dolina	
Promesse	**Late**
Erecta	**(S) Aber S48**
Comtal	(P) Barrett

White Clover

Small Leaved	Medium Leaved		Large & Very Large Leaved
AberAce	**Crusader**	AberHerald	**Alice**
Gr. Demand	**Gr. Bounty**	Gr. Huia	**Barblanca**
	Avoca	Iona	Triffid
	AberDai	AberVantage	Aran
	Chieftain		

Red Clover

Lemmon	Milvus
Atlantis (T)	Maro (T)
AberClaret	AberChianti
Merviot	Rotra (T)
Amos (T)	Gr. Sensation
Avisto	Mercury

Key: (S) - Specific Use (P) - Provisional (O) - Outclassed (HD, HT) - Hybrid Diploid or Tetraploid
Note: Varieties listed in heading date or leaf size order in each recommendation category.
Red clover is in order of three year average yield.
N.B. Perennial ryegrass varieties listed in 'Bold type' above may be in the 'Bold' category for either silage or grazing or in both categories. Similarly, 'P' varieties may be provisionally listed for either silage or grazing or in both categories.

Testing Procedures

Variety trials are sown annually at the Plant Testing Station, Crossnacreevy in mid-summer and are evaluated over three growing seasons.

Perennial Ryegrass trials are grazed with cattle in the first year and measurements are taken during the second and third years to assess long-term potential. **Perennial Ryegrass** and **Timothy** varieties are assessed under both a simulated rotational grazing management with 320 kg/ha nitrogen applied per annum and under a 3-cut silage management with backend simulated grazing, with 350 kg/ha nitrogen applied per annum.

Hybrid Ryegrass, being best suited to medium-term use, is assessed over three harvest years under a 3-cut silage management with spring and backend simulated grazing, at 425 kg/ha nitrogen applied per annum.

Italian Ryegrass, being best suited to short-term conservation use, is assessed in both first and second harvest years under a silage management with spring plus backend simulated grazing, at 425 kg/ha nitrogen applied per annum.

White Clover, sown with Premium perennial ryegrass, is assessed in the second and third harvest years. Reaction to rotational cattle grazing is assessed using either 50 kg/ha nitrogen applied in spring (Low N) or 200 kg/ha nitrogen applied throughout the season (High N). Yield potential is measured separately in a simulated rotational grazing trial at 'High N'.

Red Clover, normally sown as a high yielding, high protein conservation crop with or without companion perennial or hybrid ryegrasses. It is regarded as a short term ley, normally for three years but not longer than five years.

Key to Performance Tables:

The recommended varieties are grouped into tables according to species and maturity and are listed within each category in order of heading date or leaf size and within red clovers according to the three year average yield.

Therefore, the variety at the top of a list is not necessarily the best.

The parameters recorded in the tables are as follows:

Heading Date: Indicates the relative maturity of varieties, recorded when half of a set of individual indicator plants of each variety produce seed heads in an average season at Crossnacreevy. Dates are about 4-6 days earlier than ear emergence in swards and **are not the date of the first silage cut**.

Leaf Size: Indicates the relative leaf size of clover varieties as a percentage of Grasslands Huia.

Total Yield: Total annual dry matter yields (t DM/ha) as a percentage of the bold type diploid varieties in each table. The tetraploid perennials are expressed as a percentage of the diploid perennial controls and for Italian ryegrasses, yields are given as a percentage of the first year control yield.

Early Spring Growth: The yield in t DM/ha available by the end of March at Crossnacreevy.

Spring Growth: The yield in t DM/ha available by the end of April at Crossnacreevy.

2-Cut Silage Yield: The combined yield from the first two silage cuts as a percentage of the mean of the bold type diploid varieties.

2-Cut Digest Yield: The total yield of digestible material produced in the first two silage cuts.

Grazing Grass Quality: The D-value of leafy grazing swards in August (differences of less than 2% should be treated as not significant).

Sward Density: Assessed at the end of a harvest year on a 0-9 scale of increasing density. Ratings above 6.0 for diploid and 5.0 for tetraploid ryegrasses indicate a high level of persistence.

Grazing Density: Indicates the relative tolerance of white clover to grazing on a 0-9 scale. High values represent good persistence and a potential to proliferate under a suitable management.

The data in the tables are an accumulation from a large over-years data matrix from different trials at Crossnacreevy. The number of years of data representing each variety depends on its stage in the testing programme (see 'Recommended Categories' on page 2).

Performance Tables for Recommended Varieties

This section presents, as an over-years average, the main production and sward density or persistency results for varieties.

RECOMMENDED PERENNIAL RYEGRASS VARIETIES

Perennial Ryegrass Maturity Groups:
Perennial ryegrass varieties are grouped into three heading date classes, mainly for ease of management of trials. When comparing varieties for farming use, they are best regarded as existing in a continuum that currently extends from the earliest maturing variety, Genesis, to the latest maturing, AberChoice.

It is vital to realise that the latest maturing varieties in one group may be of a similar type to the earliest maturing in the next. For example, in terms of maturity, there is a greater difference between the intermediate varieties Solomon and AberGreen (11 days), than between AberGreen and the 'late' variety Majestic (1 day). Consequently, the perennial ryegrass varieties have been listed in one table to assist growers to compare across the maturity groups and avoid excluding varieties simply because of their classification label.

Throughout this continuum, however, there is an expected progression of higher spring yields associated with earlier heading dates and the development of secondary mid-season heading being lower the later the maturity. Similarly, the rate of stem development and yield accumulation prior to the first silage cut should show a progressive delay from the earliest to the latest maturing variety. Varieties that outperform these conventions, based on their position in the maturity continuum, can be regarded as elite performers.

New Silage and Grazing Tables for Perennial Ryegrass Varieties

These tables allow the farmer to pick the best varieties for silage or separately for grazing. Although most varieties can be used for both cutting and grazing, some are better performing when used for silage production and some others perform best when grazed. So not all varieties are recommended for both silage and grazing use. Those varieties that achieved the high performance requirements for recommendation in both managements have been labelled as 'Dual Purpose' varieties.

'Mostly silage and maybe some grazing'
Use silage tables pages 12-15

Silage Use: These tables list the information for perennial ryegrass varieties most suitable for silage production. The data is mainly for the silage cuts and includes the two cut digestible yield, but also shows the aftermath grazing performance.

'Mostly grazing and maybe some cutting'
Use grazing tables pages 16-19

Grazing Use: These tables list the information for perennial ryegrass varieties most suitable for grazing production. The varieties are listed with data for rotational grazing and include the D value as an indicator of quality across the season.

'Dual Purpose'

A "plus" symbol (+) is inserted in the column beside the variety name if it is recommended for both silage production and grazing use. A variety which is bold type for silage may not always be bold type for grazing and vice versa.

For both grazing and silage use, the 'Bold Type' table is on one page and the 'Plain Types' (including provisionally recommended and outclassed categories) are on the facing page. There are separate diploid and tetraploid tables for both silage production and grazing use.

Recommendation changes for 2014/15:

Silage List

Early Perennial Ryegrass

Four variety changes have been made to the recommended list this year. The diploid varieties Kilrea and Kimber and the tetraploids, AberTorch and Carraig have been removed from the silage list.

Intermediate Perennial Ryegrass

Diploids: Twelve varieties had their recommended status changed. Three new varieties have been added as provisional recommendations: Nifty, Moira and AberWolf.
Copeland has moved up to 'Bold' and Lineker and Glenariff have moved up from provisional to 'Plain'.
Bree has been moved down to outclassed and AberDart, AberStar and Gandalf have been removed from the silage list.
Gerrison and Bahima 1 were also removed as they are no longer commercially available.

Tetraploids: Eight varieties had their recommended status changed. Two new provisional recommendations have been added: Fintona and Pensel.
AberClyde has moved up to 'Plain' and Seagoe up to 'Bold'.
Eurostar, Dunluce and AstonEnergy have moved down from 'Bold' to 'Plain', and AberGlyn, having been outclassed last year, was removed from the list.

Late Perennial Ryegrass

Diploids: Five varieties had their recommended status changed.
Clanrye has move up to 'Bold' and Drumbo has moved down to 'Plain'.
Foxtrot has been removed from the silage list and Mateon 1 has been removed as it is no longer commercially available.
Twytop, having been outclassed last year, was also removed from the list.

Tetraploids: Seven varieties had their recommended status changed.
Glencar and AberGain have moved up to 'Bold' and Aspect has moved up to 'Plain'.
Navan and Tivoli have been moved down to outclassed whereas Elgon and Fornido, having been outclassed last year, were removed from the list.

Recommendation changes for 2014/15:

Grazing List

Early Perennial Ryegrass

Three variety changes have been made to the recommended list this year. The diploid varieties Kilrea and Kimber have moved down to 'Plain Type' and in the tetraploids, the provisional variety, Carraig, has been moved up to 'Plain Type'.

Intermediate Perennial Ryegrass

Diploids: Twelve varieties had their recommended status changed.
Three new varieties have been added as provisional recommendations: Nifty, Moira and AberWolf.
AberDart and Gandalf have moved up from 'Plain' to 'Bold' and Lineker and Glenariff have moved up from provisional to 'Plain'.
Solomon has moved down to 'Plain' and Spelga has been removed from the grazing list.
Bree has been moved down to outclassed and Gerrison and Bahima 1 were removed as they are no longer commercially available.
Tetraploids: Six varieties had their recommended status changed.
Two new provisional recommendations have been added: Fintona and Pensel.
AberClyde has moved up to 'Plain' and Seagoe up to 'Bold'.
Glenstal was removed from the grazing list and AberGlyn, having been outclassed last year, was also removed.

Late Perennial Ryegrass

Diploids: Four varieties had their recommended status changed.
Pastour has moved down to 'Plain Type' and Denver was removed from the grazing list.
Mateon 1 has been removed from the list as it is no longer commercially available and Twytop, having been outclassed last year, was also removed from the list.

Tetraploids: Eleven varieties had their recommended status changed.
Three new provisional varieties have been added to the list: AstonDiamond, Xenon and AberPlentiful.
AberGain has moved up to 'Bold' and Aspect has moved up to 'Plain'.
Delphin and AstonPrincess have moved down to 'Plain'.
Navan and Tivoli have been moved down to outclassed whereas Elgon and Fornido, having been outclassed last year, were removed from the list.

Diploid Perennial Ryegrass Varieties (silage and grazing)

These varieties comprise the majority of the seed sold in Northern Ireland either as 'straights' or in mixtures. They are long lived and form swards of good density, giving them a high damage resistance. They are well suited to a wide range of enterprises as the diverse selection of varieties is capable of producing high silage yields or maintaining high grazing outputs throughout the growing season.

The seasonal yield distribution of these varieties shows a progression of increasing early season yields from the latest to the earliest varieties and increasing summer production with later heading. The varieties all undergo the same cycle of simulated rotational grazing cuts with 'Spring' growth up to the end of April, 'Early Summer' growth to the end of July, 'Late Summer' to the end of September and the 'Autumn' period ending in early November. The first silage cuts are normally completed by mid-May for the early, the end of May for the intermediate and during early June for the late varieties. This gives a three to four week spread in most years, which is maintained to the end of the third cut, resulting in different periods of 'Aftermath'.

Diploids summary: generally higher sward density and therefore longer lasting but lower yields and quality than tetraploids.

Tetraploid Perennial Ryegrass Varieties (silage and grazing)

These varieties tend to have high sugar contents and a tall upright growth habit that promotes high intakes when grazed. They also contain some of the highest yielding perennial ryegrass varieties. Although equally long lived, they are more open growing than the diploid varieties with which they are normally mixed in order to increase sward density and damage resistance.

The yielding pattern of these varieties shows the same progression of seasonal yields as the diploid varieties. The same cycle of simulated rotational grazing cuts is used, with 'Spring' growth up to the end of April, 'Early Summer' growth to the end of July, 'Late Summer' to the end of September and the 'Autumn' period ending in early November. The same silage system is also used to give a '1st cut' by mid-May for the early, by the end of May for the intermediate and during early June for the late varieties. This three to four week spread in most years means that the 'Aftermath Grazing' begins in mid-August for the 'Early' varieties, late August for the 'Intermediate' varieties and early September for the 'Late' varieties.

Tetraploids summary: generally higher yields and quality but lower sward density so not as good for wetter ground and not as long lasting under grazing by cattle as more prone to damage by trampling.

Perennial Ryegrass

‘Bold Type’ Diploids for Silage

	Diploid Variety	Heading Date	Total Yield	2-Cut Yields		Seasonal silage yields				Sward Density	Maturity Class
				Total	Digestible	1st Cut	2nd Cut	3rd Cut	Aftermath grazing		
			16.1*	10.3*	7.8*	6.6*	3.7*	3.4*	2.4*		
			%	%	%	%	%	%	%	(0-9)	
+	Genesis	9 May	106	102	94	106	95	107	120	6.2	Early
+	Moyola	11 May	105	100	98	104	94	107	123	6.0	Early
+	Solomon	17 May	102	104	104	108	98	101	92	6.3	Inter
+	Boyne	18 May	107	111	106	112	109	98	100	6.4	Inter
+	Copeland	27 May	100	99	100	98	103	101	99	6.7	Inter
+	AberMagic	27 May	104	102	98	99	108	107	107	6.3	Inter
+	AberGreen	28 May	100	99	109	89	119	96	106	6.5	Inter
+	AberZest	30 May	104	107	96	116	93	101	94	5.9	Late
+	AberAvon	1 Jun	97	99	100	104	89	92	92	6.3	Late
+	Pastour	3 Jun	98	101	103	105	94	102	82	6.0	Late
+	Clanrye	3 Jun	102	103	99	104	103	106	85	6.3	Late
+	AberChoice	9 Jun	98	99	105	93	110	102	91	5.9	Late

'Plain Type' Diploids for Silage

		Diploid Variety	Heading Date	Total Yield	2-Cut Yields		Seasonal silage yields				Sward Density	Maturity Class
					Total	Digestible	1st Cut	2nd Cut	3rd Cut	Aftermath grazing		
				16.1*	10.3*	7.8*	6.6*	3.7*	3.4*	2.4*		
				%	%	%	%	%	%	%	(0-9)	
		Spelga	18 May	100	103	97	108	98	96	90	6.4	Inter
	+	Lineker	20 May	103	107	107	113	99	94	94	6.2	Inter
	+	Glenariff	25 May	102	101	105	102	102	104	97	6.3	Inter
	+	Majestic	29 May	100	102	99	110	91	103	84	6.6	Late
		Denver	29 May	100	104	98	114	88	98	81	6.8	Late
	+	Glenveagh	31 May	98	99	98	106	90	103	81	6.6	Late
	+	Tyrella	1 Jun	101	106	97	118	86	96	83	6.3	Late
	+	Drumbo	3 Jun	96	97	100	96	97	102	86	6.3	Late
(P)	+	Nifty	23 May	105	106	99	104	112	102	103	6.1	Inter
(P)	+	Moira	23 May	108	110	92	114	106	104	107	6.3	Inter
(P)	+	AberWolf	26 May	107	109	92	102	125	101	107	6.6	Inter
(O)	+	Bree	24 May	98	99	97	95	106	99	94	6.5	Inter

+ = Dual purpose (variety also on grazing list)
* = Control yield as average of 'Bold Type' diploid varieties in t/ha DM

Perennial Ryegrass

'Bold Type' Tetraploids for Silage

	Tetraploid Variety	Heading Date	Total Yield	2-Cut Yields		Seasonal silage yields				Sward Density	Maturity Class
				Total	Digestible	1st Cut	2nd Cut	3rd Cut	Aftermath grazing		
			16.1*	10.3*	7.8*	6.6*	3.7*	3.4*	2.4*		
			%	%	%	%	%	%	%	(0-9)	
+	Niagara(T)	18 May	102	102	104	102	103	104	98	6.3	Inter
+	Trintella(T)	18 May	103	105	109	108	103	100	93	5.5	Inter
+	Malone(T)	18 May	108	109	111	111	106	111	98	5.3	Inter
+	Magician(T)	19 May	105	110	110	111	108	96	94	5.7	Inter
+	Seagoe(T)	21 May	105	108	112	109	108	100	97	5.4	Inter
+	Glencar(T)	31 May	104	109	106	117	97	101	82	6.0	Late
+	Delphin(T)	31 May	104	109	109	117	97	98	90	5.2	Late
+	AberCraigs(T)	1 Jun	103	108	105	114	99	102	83	5.8	Late
+	Dundrum(T)	2 Jun	105	110	107	116	101	101	85	5.6	Late
+	AberGain(T)	3 Jun	113	118	118	126	105	109	93	5.5	Late
+	AberBite(T)	4 Jun	108	109	110	112	106	110	95	5.6	Late
+	Twymax(T)	4 Jun	105	109	111	116	98	107	84	6.1	Late
+	AstonPrincess(T)	5 Jun	101	104	107	111	95	100	85	6.1	Late
+	Kintyre(T)	5 Jun	104	107	106	109	105	105	88	5.7	Late

'Plain Type' Tetraploids for Silage

		Tetraploid Variety	Heading Date	Total Yield	2-Cut Yields		Seasonal silage yields				Sward Density	Maturity Class
					Total	Digestible	1st Cut	2nd Cut	3rd Cut	Aftermath grazing		
				16.1*	10.3*	7.8*	6.6*	3.7*	3.4*	2.4*		
				%	%	%	%	%	%	%	(0-9)	
		Glenstal(T)	20 May	105	108	104	108	110	101	91	5.7	Inter
	+	AberClyde(T)	23 May	108	112	109	112	111	105	93	5.7	Inter
	+	Eurostar(T)	24 May	103	104	101	106	103	104	93	6.0	Inter
	+	Dunluce(T)	28 May	103	100	105	87	123	110	101	5.6	Inter
	+	AstonEnergy(T)	31 May	101	99	104	90	115	104	104	5.4	Inter
	+	Aspect(T)	2 Jun	105	109	106	111	106	103	86	5.9	Late
	+	Dunloy(T)	6 Jun	102	102	105	103	101	107	89	6.1	Late
(P)	+	Fintona(T)	19 May	114	118	100	115	123	110	104	6.0	Inter
(P)	+	Pensel(T)	29 May	109	115	109	116	114	106	87	5.7	Inter
(O)	+	Navan(T)	3 Jun	102	101	103	102	102	113	84	5.6	Late
(O)	+	Tivoli(T)	8 Jun	101	102	103	102	103	111	82	5.7	Late

+ = Dual purpose (variety also on grazing list)
* = Control yield as average of 'Bold Type' diploid varieties in t/ha DM

Perennial Ryegrass

'Bold Type' Diploids for Grazing

	Diploid Variety	Heading Date	Total Yield	Grass Quality	Seasonal silage yields				Sward Density	Maturity Class
					Spring	Early Summer	Late Summer	Autumn		
			12.1*	D Value	2.4*	4.7*	3.3*	1.7*		
			%	%	%	%	%	%	(0-9)	
+	Genesis	9 May	106	73.5	130	97	102	98	6.2	Early
+	Moyola	11 May	106	73.2	129	96	108	103	6.0	Early
+	Boyne	18 May	101	73.7	109	100	101	95	6.4	Inter
	AberDart	23 May	95	76.4	94	96	94	94	6.7	Inter
	AberStar	25 May	100	76.1	94	103	99	102	6.4	Inter
	Gandalf	25 May	94	74.1	91	98	93	88	6.8	Inter
+	AberMagic	27 May	106	74.2	98	107	109	109	6.3	Inter
+	AberGreen	28 May	107	74.7	109	105	109	107	6.5	Inter
+	AberZest	30 May	101	76.0	95	102	103	106	5.9	Late
+	AberAvon	1 Jun	97	75.6	79	102	98	102	6.3	Late
+	Drumbo	3 Jun	97	75.8	85	102	96	100	6.3	Late
+	AberChoice	9 Jun	103	75.4	87	111	102	105	5.9	Late

'Plain Type' Diploids for Grazing

		Diploid Variety	Heading Date	Total Yield	Grass Quality	Seasonal silage yields				Sward Density	Maturity Class
						Spring	Early Summer	Late Summer	Autumn		
				12.1*	D Value	2.4*	4.7*	3.3*	1.7*		
				%	%	%	%	%	%	(0-9)	
		Kilrea	14 May	97	73.8	109	92	94	93	6.6	Early
		Kimber	15 May	94	74.2	107	90	93	92	6.3	Early
	+	Solomon	17 May	98	73.3	108	96	96	93	6.3	Inter
	+	Lineker	20 May	97	73.0	99	99	97	91	6.2	Inter
	+	Glenariff	25 May	100	73.5	99	98	103	101	6.3	Inter
	+	Copeland	27 May	97	73.1	102	96	97	97	6.7	Inter
	+	Majestic	29 May	97	74.4	85	101	98	98	6.6	Late
	+	Glenveagh	31 May	95	74.7	86	100	95	90	6.6	Late
	+	Tyrella	1 Jun	94	74.2	94	95	94	96	6.3	Late
		Foxtrot	3 Jun	96	74.7	79	102	98	97	6.4	Late
	+	Pastour	3 Jun	95	74.5	84	99	96	99	6.0	Late
	+	Clanrye	3 Jun	95	73.9	80	103	97	93	6.3	Late
(P)	+	Nifty	23 May	103	75.6	104	102	105	103	6.1	Inter
(P)	+	Moira	23 May	98	75.1	101	97	98	100	6.3	Inter
(P)	+	AberWolf	26 May	106	76.8	101	106	112	102	6.6	Inter
(O)	+	Bree	24 May	95	73.6	92	97	96	92	6.5	Inter

+ = Dual purpose (variety also on grazing list)
* = Control yield as average of 'Bold Type' diploid varieties in t/ha DM

Perennial Ryegrass

'Bold Type' Tetraploids for Grazing

	Diploid Variety	Heading Date	Total Yield	Grass Quality	Seasonal silage yields				Sward Density	Maturity Class
					Spring	Early Summer	Late Summer	Autumn		
			12.1*	D Value	2.4*	4.7*	3.3*	1.7*		
			%	%	%	%	%	%	(0-9)	
	AberTorch(T)	7 May	98	75.2	124	91	94	91	5.7	Early
+	Niagara(T)	18 May	98	77.1	106	95	98	96	6.3	Inter
+	Trintella(T)	18 May	97	75.3	108	95	97	91	5.5	Inter
+	Malone(T)	18 May	101	75.8	117	96	98	95	5.3	Inter
+	Magician(T)	19 May	101	75.9	111	98	101	92	5.7	Inter
+	Seagoe(T)	21 May	106	74.6	112	100	110	101	5.4	Inter
+	Eurostar(T)	24 May	99	75.9	106	99	98	93	6.0	Inter
+	Dunluce(T)	28 May	104	76.2	101	106	105	100	5.6	Inter
+	AstonEnergy(T)	31 May	102	78.5	96	103	105	101	5.4	Inter
+	AberCraigs(T)	1 Jun	97	77.9	92	102	97	94	5.8	Late
+	Dundrum(T)	2 Jun	97	77.2	84	105	96	98	5.6	Late
+	AberGain(T)	3 Jun	108	77.2	109	109	108	103	5.5	Late
+	AberBite(T)	4 Jun	102	78.4	88	107	103	110	5.6	Late
+	Twymax(T)	4 Jun	99	75.4	92	106	97	92	6.1	Late
+	Kintyre(T)	5 Jun	99	76.0	91	102	99	104	5.7	Late

'Plain Type' Tetraploids for Grazing

		Diploid Variety	Heading Date	Total Yield	Grass Quality	Seasonal silage yields				Sward Density	Maturity Class
						Spring	Early Summer	Late Summer	Autumn		
				12.1*	D Value	2.4*	4.7*	3.3*	1.7*		
				%	%	%	%	%	%	(0-9)	
		Carraig(T)	14 May	103	75.4	110	100	108	95	6.2	Early
	+	AberClyde(T)	23 May	103	77.0	111	103	103	92	5.7	Inter
	+	Glencar(T)	31 May	95	74.6	92	99	94	91	6.0	Late
	+	Delphin(T)	31 May	99	75.5	96	100	98	100	5.2	Late
	+	Aspect(T)	2 Jun	98	77.2	92	102	97	98	5.9	Late
	+	AstonPrincess(T)	5 Jun	97	76.5	90	104	94	91	6.1	Late
	+	Dunloy(T)	6 Jun	97	76.6	87	104	95	97	6.1	Late
(P)	+	Fintona(T)	19 May	102	75.9	114	99	104	95	6.0	Inter
(P)	+	Pensel(T)	29 May	100	75.9	101	99	107	91	5.7	Inter
(P)		AstonDiamond(T)	30 May	99	75.9	94	102	97	101	5.8	Late
(P)		Xenon(T)	5 Jun	97	78.3	87	103	99	95	6.5	Late
(P)		AberPlentiful(T)	6 Jun	103	76.1	94	104	106	107	5.5	Late
(O)	+	Navan(T)	3 Jun	97	76.8	82	101	102	101	5.6	Late
(O)	+	Tivoli(T)	8 Jun	94	76.3	80	101	93	95	5.7	Late

+ = Dual purpose (variety also on grazing list)
* = Control yield as average of 'Bold Type' diploid varieties in t/ha DM

Recommended Hybrid Ryegrass Varieties

Hybrid Ryegrass Types:

Hybrid ryegrass varieties are a cross between perennial and Italian ryegrass and some strongly express the perennial or Italian parentage. 'Italian-like' hybrids have the highest yields but lowest sward densities, whereas 'perennial-like' hybrids are expected to live longer, potentially up to five years if carefully managed. Varieties achieving both high yield and density can be regarded as elite performers.

Recommendation changes for 2014/15:

Three hybrid ryegrass varieties have had their recommended list status changed this year. Kirial (HT) has been moved up from provisional to 'Plain Type', AstonCrusader (HT) has been added as a new provisionally (P) recommended variety and Hymer (HT) has become outclassed.

	VARIETY	Heading Date	Silage Yields			Sward Density
			1st Year	2nd Year	3rd Year	
			20.0*	17.9*	17.0*	
			%	%	%	(0-9)
	AberEcho(HT)	**15 May**	**100**	**99**	**98**	**5.0**
	Ligunda(HD)	**19 May**	**100**	**101**	**101**	**4.7**
	Pirol(HD)	**20 May**	**100**	**100**	**101**	**5.3**
	Drumlin(HT)	18 May	91	89	92	5.0
	AberExcel(HT)	19 May	91	88	90	4.9
	AberEve(HT)	21 May	94	93	93	5.0
	Kirial(HT)	21 May	90	91	95	4.9
	Foyle(HT)	22 May	89	89	90	5.0
	Amalgam(HT)	22 May	90	89	90	5.4
	Scapino(HT)	22 May	94	93	94	4.8
	Barsilo(HD)	23 May	96	97	97	4.7
(P)	AstonCrusader (HT)	18 May	91	92	96	5.2
(O)	Hymer(HT)	20 May	91	92	92	4.5

* = Average yield of 'Bold Type' varieties in t DM/ha (HD = Hybrid Diploid, HT = Hybrid Tetraploid)

Seasonal Yields of Hybrid Ryegrass

The seasonal yield distribution of these varieties is strongly influenced by the differing seasonal growth characteristics of their Italian and perennial parentage. The very high early spring performance of some varieties by the end of March is an Italian ryegrass derived feature. All these varieties continue growing strongly after the two silage cuts are completed by mid-July, to provide substantial aftermath outputs.

	VARIETY	Seasonal Yields			
		Spring Grazing 2.0*	1st Cut Silage 5.6*	2nd Cut Silage 4.3*	Aftermath Grazing 6.6*
		%	%	%	%
	AberEcho(HT)	**99**	**107**	**91**	**98**
	Ligunda(HD)	**103**	**96**	**104**	**103**
	Pirol(HD)	**98**	**97**	**106**	**100**
	Drumlin(HT)	63	110	79	91
	AberExcel(HT)	78	103	83	87
	AberEve(HT)	74	104	86	95
	Kirial(HT)	75	106	80	94
	Foyle(HT)	56	107	78	92
	Amalgam(HT)	69	106	80	88
	Scapino(HT)	85	110	82	90
	Barsilo(HD)	91	92	98	102
(P)	AstonCrusader (HT)	80	115	75	90
(O)	Hymer(HT)	83	107	82	88

* = Average yield of 'Bold Type' varieties in t DM/ha (HD = Hybrid Diploid, HT = Hybrid Tetraploid)

Recommended Italian Ryegrass Varieties

Italian Ryegrass Performance:

Italian ryegrass is the highest yielding of all recommended grasses but is short lived and best utilised for silage. Higher density varieties may be more damage resistant but none form dense soles. Second year yields are shown as a percentage of the first year control yield, to highlight the difference in annual outputs.

Recommendation changes for 2014/15:

Four Italian ryegrass varieties have had their recommended list status changed this year. Dorike(T) and Litonio(T) have been moved up from 'Plain' to 'Bold', Bartrento(T) has been moved up from provisional to 'Plain Type' and Javorio has been added as a new provisionally recommended variety.

	VARIETY	Heading Date	Silage Yields 1st Year 20.3*	Silage Yields 2nd Year 20.3*	Early Spring Growth	Sward Density
			%	%	(t DM/ha)	(0-9)
	Dorike(T)	**16 May**	**100**	**89**	**2.2**	**4.4**
	Hunter(T)	**17 May**	**100**	**91**	**2.2**	**4.4**
	Meribel	**18 May**	**101**	**90**	**2.1**	**4.8**
	Barmultra II(T)	**18 May**	**101**	**89**	**2.3**	**4.3**
	Fox	**18 May**	**99**	**90**	**2.2**	**4.7**
	Litonio(T)	**19 May**	**100**	**88**	**2.1**	**4.6**
	Shakira	15 May	103	84	2.3	4.5
	Bartrento(T)	17 May	102	87	2.2	4.7
(P)	Javorio	22 May	103	84	2.1	4.9

* = Average first year yield of 'Bold Type' varieties in t DM/ha

Seasonal Yields of Italian Ryegrass

The seasonal yield distribution of these varieties comprises a very high output by the end of March ('Spring Grazing') followed by two excellent yielding silage cuts, completed by mid-July, to leave the option of further cuts or a very substantial aftermath grazing performance as indicated below.

	VARIETY	Seasonal Yields			
		Spring Grazing 2.2*	1st Cut Silage 5.9*	2nd Cut Silage 4.4*	Aftermath Grazing 6.9*
		%	%	%	%
	Dorike(T)	**100**	**103**	**97**	**98**
	Hunter(T)	**102**	**99**	**102**	**98**
	Meribel	**94**	**96**	**103**	**105**
	Barmultra II(T)	**104**	**104**	**97**	**98**
	Fox	**100**	**100**	**97**	**99**
	Litonio(T)	**97**	**99**	**97**	**99**
	Shakira	107	103	100	96
	Bartrento(T)	101	103	96	100
(P)	Javorio	98	100	100	100

* = Average yield of 'Bold Type' varieties in t DM/ha (HD = Hybrid Diploid, HT = Hybrid Tetraploid)

Recommended Timothy Varieties

Timothy Maturity Types:

The overall yield potential of Timothy is less than perennial ryegrass but can be more productive in cold springs or can maintain density and growth on heavy, less fertile soils. 'EARLY' maturing varieties are generally erect and highly productive in spring and 'LATER' maturing varieties are more dense growing pasture-types.

Recommendation changes for 2014/15:

There have been two changes to the recommended list status of Timothy varieties this year. Narnia has been removed as it is no longer commercially available and Barrett has been added as a new provisional recommendation.

	VARIETY	Heading Date	Silage		Grazing		Maturity Class
			Total Yield 14.0*	2-Cut Silage 9.1*	Total Yield 11.3*	Sward Density	
			%	%	%	(0-9)	
	Presto	**8 Jun**	**103**	**100**	**103**	**5.6**	**Early**
	Comer	**9 Jun**	**103**	**102**	**103**	**5.3**	**Early**
	Dolina	**9 Jun**	**100**	**98**	**103**	**5.5**	**Early**
	Motim	**17 Jun**	**99**	**101**	**100**	**6.0**	**Inter**
(S)	**Aber S 48**	**23 Jun**	**93**	**96**	**93**	**7.1**	**Late**
	Promesse	10 Jun	93	89	98	5.7	Early
	Erecta	10 Jun	97	93	101	5.4	Early
	Comtal	10 Jun	92	89	101	5.1	Early
(P)	Barrett	18 Jun	100	97	99	5.9	Late

* = Average yield of 'Bold Type' varieties in t DM/ha

Seasonal Yields of Timothy

There is normally a sharp distinction between the early season performance of early Timothy varieties and the summer production of the late varieties, particularly under a silage management. The grazing and silage systems used on all these varieties were as used for the intermediate perennial ryegrasses.

	VARIETY	Seasonal Silage Yields				Seasonal Grazing Yields			
		1st Cut 5.1*	2nd Cut 4.0*	3rd Cut 2.8*	Autumn Grazing 2.2*	Spring 2.5*	Early Summer 4.2*	Late Summer 3.4*	Autumn 1.2*
		%	%	%	%	%	%	%	%
	Presto	**114**	**83**	**111**	**99**	**115**	**97**	**102**	**98**
	Comer	**115**	**85**	**111**	**99**	**122**	**91**	**105**	**105**
	Dolina	**111**	**82**	**111**	**95**	**117**	**95**	**101**	**100**
	Motim	**98**	**105**	**96**	**96**	**99**	**102**	**98**	**96**
(S)	**Aber S 48**	**72**	**127**	**73**	**107**	**58**	**113**	**92**	**96**
	Promesse	102	72	103	97	104	98	99	87
	Erecta	104	80	109	96	106	98	102	97
	Comtal	100	75	100	97	102	100	100	99
(P)	Barrett	97	99	107	104	96	99	103	95

* = Average yield of 'Bold Type' varieties in t DM/ha

Recommended White Clover Varieties

White Clover Leaf Classification:

As variety leaf size increases yield should rise and grazing persistence decrease. Large leaved varieties tend to be the most tolerant of tall grass stands but least tolerant of close defoliation. Varieties achieving yield and persistency above the expected leaf size trend are elite performers.

Recommendation changes for 2014/15:

Iona, has been moved up to 'Plain' and all other varieties have remained with the same recommended list status.

VARIETY	Relative leaf size (% Gr. Huia)	Grazing Yield Potential			Grazing Persistence	
		Total 12.7*	Clover 4.2*	Grass 8.5*	Low N	High N
		%	%	%	(0-9)	(0-9)
AberAce	**43**	**93**	**70**	**104**	**6.2**	**4.2**
Grasslands Demand	**83**	**97**	**85**	**103**	**6.2**	**4.9**
Crusader	**93**	**99**	**96**	**101**	**5.7**	**4.9**
Grasslands Bounty	**101**	**101**	**98**	**102**	**5.8**	**4.5**
Avoca	**105**	**101**	**101**	**101**	**6.1**	**5.0**
AberDai	**106**	**100**	**105**	**97**	**5.4**	**4.6**
Chieftain	**118**	**103**	**118**	**96**	**5.2**	**4.3**
Alice	**133**	**102**	**112**	**97**	**5.1**	**4.1**
Barblanca	**136**	**103**	**115**	**97**	**5.6**	**4.4**
AberHerald	95	99	101	98	5.2	4.5
Grasslands Huia	100	97	85	104	5.8	4.5
Iona	102	101	106	99	5.6	4.8
AberVantage	109	101	103	101	5.1	3.7
Triffid	140	101	102	100	5.1	3.9
Aran	174	101	119	93	4.3	3.3

* = Average yield of 'Bold Type' varieties in t DM/ha

Production and Sward Content of White Clover

Total yield (grass + clover) of grass/clover swards depends on the clover contributing nitrogen to enhance grass growth, but the nutritional value of the sward is enhanced by higher clover contents. All clovers were grown with Premium (perennial ryegrass) under the High N Management.

VARIETY	Clover Content	Seasonal Clover Yields				Leaf Size Class
		Spring 0.5*	Early Summer 1.3*	Late Summer 1.5*	Autumn 0.9*	
	%	%	%	%	%	
AberAce	**25**	**59**	**84**	**72**	**50**	**Small**
Gr. Demand	**29**	**78**	**86**	**89**	**81**	**Small**
Crusader	**32**	**120**	**88**	**86**	**111**	**Medium**
Gr. Bounty	**32**	**110**	**94**	**97**	**99**	**Medium**
Avoca	**33**	**89**	**102**	**103**	**106**	**Medium**
AberDai	**35**	**101**	**109**	**107**	**97**	**Medium**
Chieftain	**38**	**112**	**115**	**120**	**122**	**Medium**
Alice	**37**	**105**	**112**	**117**	**106**	**Large**
Barblanca	**37**	**126**	**111**	**108**	**129**	**Large**
AberHerald	34	82	101	109	98	Medium
Gr. Huia	29	74	84	92	77	Medium
Iona	35	103	116	102	96	Medium
AberVantage	34	99	101	108	99	Medium
Triffid	34	107	100	100	109	V. Large
Aran	39	105	108	125	132	V. Large

* = Average yield of 'Bold Type' varieties in t DM/ha

Recommended Red Clover Varieties

Red Clover Classification:
These yields were achieved without nitrogen fertiliser, but required up to 100 -150kg/ha of phosphate (P_2O_5) and 250-300kg/ha potash (K_2O) (depending on soil indices). In comparison, the top yielding (Italian-type) hybrid ryegrass varieties can produce up to 20, 18 and 17 t DM/ha in the first, second and third harvest years, respectively, but require over 400 kg/ha of nitrogen per annum. Similarly, recommended perennial ryegrass varieties, given 350 kg/ha nitrogen, produce total silage yields of around 17 t DM/ha in their first harvest year, falling to around 15 t DM/ha by the third year. Red clover will perform best on well-drained, fertile soils with a pH of 6.0–6.5 and supplies its own nitrogen. Ewes are kept off red clover for 6 weeks either side of "tupping".

The varieties are listed in order of three year average yield within a 'Bold Type' group and a 'Plain Type' group.

Recommendation changes for 2014/15: There have been three changes to the list this year: two varieties, Milvus and AberChianti have been moved up from provisional to plain and Harmonie, which was outclassed last year, has been removed from the list.

VARIETY	Three Year Average		Harvest Year 1		Harvest Year 2		Harvest Year 3	
Control Yields (t/Ha)	DM Yield 16.6	Rel. Pers.	DM Yield 18.6	Rel. Pers.	DM Yield 17.5	Rel. Pers.	DM Yield 13.7	Rel. Pers.
	%	(0-9)	%	(0-9)	%	(0-9)	%	(0-9)
Lemmon	**101**	**4.6**	**101**	**5.1**	**100**	**4.5**	**104**	**4.2**
Atlantis(T)	**101**	**4.3**	**100**	**4.9**	**100**	**4.2**	**104**	**3.8**
AberClaret	**100**	**4.6**	**100**	**5.1**	**103**	**4.5**	**98**	**4.1**
Merviot	**100**	**4.5**	**101**	**5.2**	**101**	**4.4**	**96**	**4.0**
Amos(T)	**99**	**4.1**	**99**	**4.6**	**97**	**4.1**	**102**	**3.6**
Avisto	**99**	**4.5**	**99**	**5.1**	**100**	**4.5**	**96**	**4.0**
Milvus	101	4.9	99	5.0	103	4.5	100	5.0
Maro(T)	100	3.8	100	4.1	97	3.9	104	3.5
AberChianti	98	5.0	94	5.3	100	5.1	101	4.7
Rotra(T)	98	3.7	97	4.0	96	3.5	101	3.6
Gr. Sensation	97	4.2	95	4.7	99	4.0	99	4.0
Mercury	96	4.3	97	4.6	97	4.2	93	4.1

* = Control yield as average of 'Bold Type' diploid varieties in t DM/ha Rel. Pers. = Relative Persistence (0-9 high)

Indexed Lists of Variety Descriptions

This section provides outline descriptions of the main agronomic features of each variety.

Varieties are listed in alphabetical order within each category

Variety Descriptions:
Variety descriptions provide an overview of the main agronomic characteristics of each variety, highlighting the main strengths and specific uses as appropriate. These overall performance descriptions should assist farmers and grassland specialists compare varieties and select those that best suit a particular enterprise. By referring back to the preceding tables, varieties that are flexible and multipurpose and those that tend to optimise performance when grazed or ensiled can be identified and the performance potential of seeds mixtures containing these varieties can be assessed.

Varieties with (+) inserted after the name are dual purpose, others are recommended either for silage only or grazing only.

Diploid Perennial Ryegrass

Early Diploids

Genesis (+) This variety provides extremely high total silage and total grazing yields, has the highest spring grazing yield of all varieties as well as very high production after the second silage cut.

Kilrea Although a late maturing member of the early group, it is recommended for grazing due to its very high spring grazing yields and overall good quality from very dense swards.

Kimber At the very late end of the early group, it is recommended for grazing due to its very high spring grazing yields and high grazing quality for an early diploid.

Moyola (+) This variety has similarly very high total silage and grazing yields. It has extremely high spring yields, excellent aftermath grazing and, if required, delivers a high third silage cut from erect growing swards.

Intermediate Diploids

AberDart Recommended for grazing due to having good annual grazing yields of very high quality grass in very dense swards.

AberGreen (+) This variety has very high grazing yields and the highest 2-cut digestible yield of any diploid perennial ryegrass as well as good grazing quality from dense swards.

AberMagic (+) Impressively high total grazing and silage yields, plus superb production across the main summer months and into the autumn under both management systems.

AberStar Recommended for grazing due to having high annual grazing yields of high quality grass in dense swards and strong productivity from early summer through until autumn.

AberWolf(P) (+) This new provisionally recommended variety has one of the highest grazing yields for a diploid perennial ryegrass with a high D value and very dense swards. It also produces one of the highest annual silage yields for a diploid perennial ryegrass as well as an excellent 2-cut yield.

Boyne (+) This variety has exceptionally high total silage yields and the highest two-cut silage yield of any diploid perennial ryegrass. Total grazing yields are also very high, most notably in spring, and are of high quality and delivered from dense growing swards.

Bree(O)(+) Produces good annual grazing yields, especially in the main summer growing period and good total annual and 2-cut digestible silage yields from dense swards but has now become outclassed.

Copeland (+) This variety produces similarly high silage and grazing yields. It forms very dense grazing swards that are very highly productive in spring and maintains good growth to the end of the growing season.

Gandalf Recommended for grazing due to having one of the highest sward densities as well as good grazing production with high quality.

Glenariff (+) Recommended for its similarly high silage and grazing yields and very high 2-cut digestible yield. It forms dense grazing swards that are very highly productive in spring and from late summer to the end of the growing season.

Lineker (+) This variety produces very high 2-cut digestible yields with an excellent first cut silage yield. Its high grazing yield has a strong performance through spring and into early summer.

Moira(P) (+) This new provisional variety produces the highest annual silage yield for a diploid perennial ryegrass as well as an excellent 2-cut yield and good quality grazing which performs well throughout the season.

Nifty(P) (+) A new provisionally recommended variety which produces very high yields of good quality under both silage and grazing conditions. The grazing yield is high throughout the season but strongest in late summer.

Solomon (+) A variety with very high 2-cut digestible yields that is still capable of a very high third cut, if required. Good grazing yields comprise uncharacteristically high spring yields for its maturity, followed by a consistently strong performance to the end of the grazing season.

Spelga An early member of the intermediate group recommended for its notably high silage yields, featuring a very high first cut performance and an erect growth habit.

Late Diploids

AberAvon (+) Recommended for its very high D value under grazing with yields reaching optimal production from early summer into autumn. Its high silage yields are enhanced by its high quality characteristic giving good 2-cut digestible yields from an erect open growth habit.

AberChoice (+) This variety delivers excellently high 2-cut digestible silage yields, driven by a very high second cut. Its total grazing yields are similarly excellent, providing high quantities of highly digestible grass from early summer.

AberZest (+) Produces very high total silage yields particularly in the first two cuts plus a high grazing yield with very good digestibility. Excellent late summer and autumn growth and is recommended for mixtures that balance its open growth habit.

Clanrye (+) This variety combines an excellent 2-cut digestible yield with a high quality grazing yield especially in early summer from erect growing swards.

Denver Recommended for its very high total and 2-cut silage yields with an excellent first cut and it forms one of the most dense swards on the recommended list.

Drumbo (+) This variety provides high 2-cut digestible silage yields and good total grazing yields of highly digestible grass. It also offers a high third silage cut, if required, and as a late variety has its highest seasonal grazing performance from early summer onwards.

Foxtrot Recommended for grazing this variety has good yields with high grazing digestibility. It is particularly productive during the main summer growth period and forms tall erect swards.

Glenveagh (+) This variety maintains very dense swards and gives good total and 2-cut digestible silage yields, shows good digestibility from grazed swards that peak in production during the main summer periods.

Majestic (+) This variety produces high total silage and grazing yields, a good 2-cut digestible yield and its very dense swards maintain excellent grazing performance from early summer into autumn.

Pastour (+) This variety forms erect swards and has a high 2-cut digestible silage yield and good grazing quality. Its grazing yields are strongest during the main summer growth period, which is typical of a late maturing variety.

Tyrella (+) Has high total annual silage yields with an exceptional first cut silage yield for a late maturing variety and may benefit from earlier cutting to raise the 2-cut digestible yield. Its high annual grazing yields are distributed relatively evenly across the growing season and it has a sward density typical of a dual-purpose type variety.

Tetraploid Perennial Ryegrass

Early Tetraploids

AberTorch A very early heading variety with an erect open growth habit and extremely high spring grazing yields with good digestibility.

Carraig This early tetraploid produces a high grazing yield of good quality from dense swards. The yields are particularly high from spring through to late summer.

Intermediate Tetraploids

AberClyde (+) This variety is a very high yielding grass under both grazing and silage managements with notably good grazing quality and a very high 2-cut digestible silage yield.

AstonEnergy (+) Produces excellent grazing yields with the highest measured quality of any perennial ryegrass on the list. This quality characteristic is also apparent in the very high 2-cut digestible silage yields. Second cut silage yield is very high plus excellent aftermath and late summer growth.

Dunluce (+) Creates a very high total grazing yield and has a high silage production output, retaining its strong productivity potential late into the season. Quality is good under grazing with a high 2-cut silage digestible yield.

Eurostar (+) A very dense variety for a tetraploid, with large annual and spring grazing yields of good quality. Silage production is consistently good across all three silage cuts.

Fintona(P) (+) This new provisional recommendation provides the highest annual yield under silage management of any perennial ryegrass on the list as well as the joint highest 2-cut yield and a very high annual yield under grazing conditions. The variety provides good sward density and grass quality and an excellent spring grazing yield.

Glenstal With its classic tetraploid sward structure this variety is recommended for silage due to its high annual yield, 2-cut yield and 2-cut digestible yield.

Magician (+) Performs strongly under both managements with very high annual silage yield, 2-cut yield and 2-cut digestible yield. Grazing yield is also high in combination with good grazing quality and very high spring growth, from classically erect tetraploid swards.

Malone (+) Impressively high silage productivity in all categories from the classically tall open tetraploid-type swards. The high grazing yields comprise excellent spring growth, with high performance in late summer and a high grass D-value.

Niagara (+) The high silage productivity is enhanced when 2-cut digestible yield is calculated. The good grazing yields comprise of very high quality herbage from impressively dense swards for a tetraploid.

Pensel(P) (+) This new variety is provisionally recommended for both grazing and silage as it provides a high annual yield under both systems with good grass quality under grazing and a very good silage 2-cut D yield.

Seagoe (+) This variety produces one of the highest 2-cut digestible silage yields and a very high total grazing yield of good quality grass with excellent spring growth.

Trintella (+) Recommended for its impressively high 2-cut total and digestible silage yields from typical tall open tetraploid-type swards. The good grazing yields of good quality grass include notably high spring yields typical of an earlier member of the intermediate maturing varieties.

Late Tetraploids

AberBite (+) This variety has impressively high total and 2-cut silage yields that continue to bulk into the third cut. Grazing quality is one of the best, with excellent total yields that are delivered most strongly from early summer to an extended high autumn productivity.

AberCraigs (+) This recommendation has very high 2-cut silage total and digestible yields plus a good sward density for its type. Grazing output is maintained at a high level throughout the main summer growing period, with an impressively high grass quality.

AberGain (+) This variety produces the highest total grazing yield, one of the highest total silage yields, the joint highest 2 cut silage yield , and the highest 2 cut digestible yield of any perennial ryegrass variety on the list. Its grazing quality is very high and it has typical open tetraploid-type swards

AberPlentiful(P) Provisionally recommended for grazing, this new variety provides a very high annual yield of good quality grass with strong productivity from early summer into autumn.

Aspect (+) With good density for a tetraploid, this variety provides an impressively high 2-cut digestible yield and very high grazing quality with a strong 2nd cut of silage or early summer grazing.

AstonDiamond(P) A new provisional recommendation for grazing which provides a high annual yield from a dense sward of good quality.

AstonPrincess (+) This late maturing variety produces very high 2-cut digestible silage yields from swards of high density for a tetraploid. Grazing quality is good and production is high, particularly in early summer.

Delphin (+) Recommended as high yielding late tetraploid variety for silage in all categories and very high 2 cut digestibility, plus a high grazing performance. It gives its strongest grazing performances in mid-season and forms tall erect open tetraploid swards.

Dundrum (+) This variety has a very high 2-cut silage yield, with high digestibility. It also maintains an impressively high grass quality for grazing combined with a notably high early summer grazing yield.

Dunloy (+) This variety has very good 2-cut digestible yields that comprise an impressively high second cut and, if required, high third cut. For a tetraploid it has very dense grazing swards, with high digestibility and reaches the highest productivity level in early summer.

Glencar (+) Recommended for its very high 2-cut yield and digestible yield. It also has good grazing yields throughout the summer from swards of high density for a tetraploid.

Kintyre (+) The good grazing yields are at their strongest after spring is over with particularly good autumn productivity for extending the grazing season. Very high 2-cut silage yield and digestibility yield, which will also give a high third cut, if required.

Navan(O) (+) Although good yields can be achieved under both silage and grazing conditions and the grass quality is maintained at a high D-value the variety has now become outclassed.

Tivoli(O) (+) This variety has good performances under silage management and grazing quality is high but the variety has now become outclassed.

Twymax (+) This recommendation has very high 2-cut digestible silage and a high annual silage yield. Grazing yields are high and of good quality and the variety forms very dense swards for a tetraploid.

Xenon(P) This new variety is provisionally recommended for grazing as it has the highest sward density of any tetraploid perennial ryegrass and one of the highest grass quality D values.

Hybrid Ryegrass

AberEcho (HT) Produces high total yields consistently over three years with a spring growth and first silage cut performance typical of an 'Italian type' hybrid, yet develops a good sward density similar to the 'perennial type' hybrids.

AberEve(HT) This variety has a dense sward typical of a perennial-type hybrid, average total annual yields plus a strong first cut yield all typical of a balanced Italian-perennial combination.

AberExcel(HT) Has performance characteristics typical of a 'perennial-type' hybrid having a high sward density relative to its yield performance, though with a good first cut of silage for its type.

Amalgam(HT) This recommendation has a perennial type growth habit forming dense swards, average total annual yields and a strong first cut of silage.

AstonCrusader(HT) (P) This new provisional recommendation has good persistence and typical annual yields of a hybrid ryegrass and produces an excellent first cut of silage.

Barsilo(HD) A diploid variety and the latest maturing of all the recommended hybrids. It provides good total annual yields in all harvest years, seasonal yields distributed towards excellent late season outputs and has an open 'Italian-type' sward structure.

Drumlin(HT) A very 'perennial-type' variety that has a sward structure similar to a perennial tetraploid and a lower tendency to produce secondary seed heads than the 'Italian-types'. It is slow to awaken in spring but produces one of the highest first cut silage yields.

Foyle(HT) Another particularly 'perennial-type' recommendation that has very similar characteristics to Drumlin, being slow in spring, highly productive at the first silage cut and giving a good sward structure and reduced mid-season heading.

Hymer(HT) (O) Produces good total yields and a strong first cut of silage and retains its performance relative to other varieties in the second and third years. The swards are of lower persistence and more typical of an 'Italian-type hybrid and the variety is now outclassed.

Kirial(HT) This variety maintains good yields and persistence over three years and a very good first cut of silage.

Ligunda(HD) This diploid 'Italian-type' hybrid ryegrass has the typical open growth habit, yet maintains excellently high yields into the third year and features exceptional spring, second cut and autumn productivity.

Pirol(HD) This diploid variety produces exceptionally high total yields in all three harvest years, yet is also very dense. Seasonal performance comprises of high spring vigour and strongest silage performance delivered in the second cut.

Scapino(HT) This variety produces high total yields and a good sward density relative to other perennial-type varieties and also has an excellent first cut silage yield.

Italian Ryegrass

Barmultra II (T) This recommendation is for a variety with first and second year yields similar to Meribel but with a higher early spring growth and an exceptionally high first silage cut. The sward density is typical of a tetraploid variety.

Bartrento(T) A tetraploid variety which gives a very high first year DM yield consisting of exceptional spring grazing performance and first cut silage whilst also maintaining good persistence.

Dorike(T) This tetraploid variety gives a good total silage yield in both first and second year and has an exceptional first cut silage yield with an open sward density typical of a tetraploid Italian ryegrass.

Fox This is a high performing diploid variety with good spring growth and density, but with a notably high first cut silage yield and high total annual yields in both years.

Hunter(T) Good spring grazing and first and second year yields typical of other tetraploids, it also has a high sward density for a tetraploid variety.

Javorio (P) This new provisionally recommended diploid variety produces the joint highest first year yield of any grass on the list and produces consistently good yields throughout the season from its dense swards.

Litonio(T) This variety has a good first year yield and first silage cut and is very dense for a tetraploid.

Meribel One of the more dense Italian ryegrasses with a high yield ranking in both harvest years. Seasonal production is distributed more towards the latter part of the growing season.

Shakira This diploid variety produces the joint highest first year yield of any grass on the list and maintains exceptionally high spring grazing and first cut silage yields.

Timothy

Early

Comer Notably high total annual grazing and silage yields, produces the highest spring grazing yields of Timothys and excellent 2-cut silage yields from swards of a typical erect type for an early Timothy.

Comtal Delivers high total annual yields under grazing management from erect growing swards. Seasonal grazing growth is best in spring and again towards late summer and autumn. First and third silage cuts produce high yields and there is a high aftermath grazing in autumn.

Dolina Creates a combination of high grazing and silage yields. It has a sward structure similar to Comer and its seasonal grazing yield distribution remains very high throughout most of the growing year.

Erecta A reliable variety for many years, it is capable of achieving good yield performances for grazing production from erect growing swards. Silage and grazing production peaks in spring and again in the late summer period.

Presto A consistently high yielding variety under both management systems, it forms swards of a higher density than most other early varieties and its spring grazing yield performance is also very high.

Promesse Forms swards of a very high density for an early maturing variety, produces good grazing yields that are most productive during the spring and early summer.

Intermediate & Late

Motim Produces good annual yields from dense swards with a particularly good second cut of silage and steady production throughout the grazing season.

Aberystwyth S48 (S) A specialist very late maturing variety, with very dense prostrate growth, that provides average annual yields but displays an excellent early summer grazing performance and a very high second silage cut and high aftermath grazing.

Barrett (P) This new provisional variety provides strong yields from dense swards under both grazing and silage management and, being late maturing, can produce a good third cut of silage and late summer grazing.

White Clover

Small Leaved

AberAce The smallest recommended variety, it has excellent grazing persistency at low nitrogen levels and while having the low yield potential expected of such a very small clover variety, it supports a high grass yield.

Grasslands Demand With a leaf size at the upper end of the small group, it produces a predictably excellent grazing persistency at low nitrogen levels and a higher than expected performance at high-N plus good yields for its leaf size.

Medium Leaved:

AberDai Produces very high clover yields, is at its most vigorous in the main summer periods and maintains a good persistency rating for its leaf size.

AberHerald Its good clover yield performance supports a good overall sward production, maintains good clover persistence and retains high clover content throughout the season but particularly in late summer period.

AberVantage Achieves a high output of grass and clover and a similarly high total sward output, supported by a good clover content and good grazing persistence, though survives best when applied nitrogen levels are low.

Avoca This variety has a very high grazing persistency for its leaf size. Given its medium leaf size, it also has high clover and total herbage yields, plus it maintains a high clover content in the grazing diet.

Chieftain Produces the highest clover yield of all and consistently throughout the season. Clover persistency scores are consistent with its leaf size.

Crusader This variety produces very high yields with a dense, highly persistent growth under both nitrogen levels plus an exceptional spring vigour for a medium-leaf variety.

Grasslands Bounty This variety supports very high grass yields and also high total yields of grass and clover. It has good persistency for its leaf size and has good spring productivity.

Grasslands Huia Known as 'New Zealand White Clover', it produces moderate clover yields but supports a good grass yield with a good grazing persistence.

Iona This variety can produce a high white clover and total grass and clover yield and also exhibits good persistence especially under higher nitrogen levels.

Large Leaved

Alice Produces high total sward and excellent clover yields, which are maintained at a high level throughout the growing season. It also achieves a high clover content and has a high grazing persistency given its large leaf size.

Barblanca Achieves very high clover yield performance results typical of its large leaf size, with highest productivity in spring and again in autumn. Its grazing persistence scores are atypically high for such a large leaved variety.

Very Large Leaved

Aran A very high yielding variety that maintains notably high clover productivity throughout the late summer and autumn, although not highly persistent when tightly grazed, it is excellent for conservation use as it has a high tolerance of tall grass canopy competition.

Triffid This very large leaved variety produces an impressively high spring yield and performs consistently well throughout the remainder of the season whilst maintaining a relatively high persistence for its leaf size.

Red Clover

AberChianti Produces good yields especially in the second and third years and maintains the highest average persistence over the three year period.

AberClaret This variety maintains good persistence with a strong average yield over the three years and very high yields in the second year.

Amos(T) This tetraploid variety has very good yields each year and has a good average persistence when taken over the three years.

Atlantis(T) This tetraploid has one of the highest average yields over three years and one of the highest yields in the third year while maintaining strong persistence.

Avisto This variety produces good yields and is strong in the second year maintaining good persistence throughout.

Grasslands Sensation Produces a stronger yield in second and third year with a good three year average yield and persistence.

Lemmon This diploid variety produces one of the highest three year average yields and one of the highest yields in the third year with a good average persistence.

Maro(T) This tetraploid variety maintains consistently good yields over three years and has one of the highest third year yields.

Mercury Produces good yields in the first two years with good persistence but production decreases relative to the other varieties in the third year.

Merviot This diploid variety is one of the consistently high yielding good persistence varieties with best performances in the first two years.

Milvus An impressive performance throughout the three years in terms of both persistence and yield with very high yields in the second year.

Rotra(T) A tetraploid variety with a good average yield over the three year period.

Red clover in trial at The Plant Testing Station, AFBI-Crossnacreevy. Varieties have a high protein content when compared with ryegrasses and average over16t DM/ha for three years after sowing.

This section provides contact information for merchants and growers.

Breeder and UK Agent Details:

The breeder, country of origin and UK Agent of each variety is presented below. These are normally not retail outlets to growers but are provided to assist local merchants in procuring supplies of seed to meet the market needs in Northern Ireland. *(Addresses of UK agents are listed overleaf)*

Variety	Breeder (country)	UK Agent
ITALIAN RYEGRASS		
Barmultra II (T)	Barenbrug BV (NL)	Bar
Bartrento (T)	Barenbrug BV (NL)	Bar
Dorike (T)	DSV (NL)	GS
Fox	Limagrain (FR)	DLF
Hunter (T)	DSV (D)	DLF
Javorio (P)	DSV (NL)	DSV
Litonio (T)	DSV (D)	DSV
Meribel	ILVO (B)	LMG
Shakira	DSV (FR)	DSV
WHITE CLOVER VARIETIES		
AberAce	IBERS (UK)	GS
AberDai	IBERS (UK)	GS
AberHerald	IBERS (UK)	GS
AberVantage	IBERS (UK)	GS
Alice	IBERS (UK)	Bar
Aran	Teagasc (RoI)	GS
Avoca	Teagasc (RoI)	DLF
Barblanca	AgResearch (NZ)	Bar
Chieftain	Teagasc (RoI)	DLF
Crusader	AgResearch (NZ)	Bar
Gr. Bounty	AgResearch (NZ)	LMG
Gr. Demand	AgResearch (NZ)	LMG
Gr. Huia	AgResearch (NZ)	Open
Iona	Teagasc (RoI)	DLF
Triffid	AgResearch (NZ)	Bar

Gr. = Grasslands

Variety	Breeder (country)	UK Agent
HYBRID RYEGRASS		
AberEcho (HT)	IBERS (UK)	GS
AberEve (HT)	IBERS (UK)	GS
AberExcel (HT)	IBERS (UK)	GS
Amalgam (HT)	DLF Trifolium (DK)	LMG
AstonCrusader (HT) (P)	DSV (UK)	DSV
Barsilo (HD)	Barenbrug BV (NL)	Bar
Drumlin (HT)	DARD (UK)	Bar
Foyle (HT)	DARD (UK)	Bar
Hymer (HT) (O)	ILVO (B)	LMG
Kirial (HT)	R2N (FR)	RAGT
Ligunda (HD)	BfAL (A)	DLF
Pirol (HD)	Saatzucht Steinach (D)	GS
Scapino (HT)	DLF Trifolium (DK)	LMG
TIMOTHY VARIETIES		
Aber S48 (S)	IBERS (UK)	GS
Barrett (P)	DARD (UK)	Bar
Comer	ILVO (B)	LMG
Comtal	DLF Trifolium (DK)	LMG
Dolina	ILVO (B)	DLF
Erecta	ILVO (B)	LMG
Motim	DLF Trifolium (DK)	LMG
Presto	DSV (NL)	GS
Promesse	Cebeco Seeds BV (NL)	DLF
RED CLOVER VARIETIES		
AberChianti	IBERS (UK)	GS
AberClaret	IBERS (UK)	GS
Amos (T)	Šlechtitelskà stanice (CZ)	DLF
Atlantis (T)	NPZ (D)	LSPB
Avisto	ILVO (B)	Bar
Gr. Sensation	AgResearch (NZ)	PGG*
Lemmon	ILVO (B)	Bar
Maro (T)	NPZ (D)	LMG
Mercury	ILVO (B)	Car*
Merviot	ILVO (B)	LMG
Milvus	DSV (NL)	GS
Rotra (T)	ILVO (B)	ILVO*

Variety	Breeder (country)	UK Agent
DIPLOID PERENNIAL RYEGRASS		
AberAvon	IBERS (UK)	GS
AberChoice	IBERS (UK)	GS
AberDart	IBERS (UK)	GS
AberGreen	IBERS (UK)	GS
AberMagic	IBERS (UK)	GS
AberStar	IBERS (UK)	GS
AberWolf (P)	IBERS (UK)	GS
AberZest	IBERS (UK)	GS
Boyne	DLF Trifolium (DK)	DLF
Bree (O)	Cebeco Seeds BV (NL)	DLF
Clanrye	DARD (UK)	Bar
Copeland	DARD (UK)	Bar
Denver	DLF Trifolium (DK)	LMG
Drumbo	DARD (UK)	Bar
Foxtrot	Limagrain Genetics (NL)	DLF
Gandalf	DLF Trifolium (DK)	LMG
Genesis	Teagasc (RoI)	DLF
Glenariff	DARD (UK)	Bar
Glenveagh	Teagasc (RoI)	DLF
Kilrea	DARD (UK)	Bar
Kimber	DLF Trifolium (DK)	DLF
Lineker	DLF Trifolium (DK)	DLF
Majestic	Teagasc (RoI)	DLF
Moira (P)	DARD (UK)	Bar
Moyola	DARD (UK)	Bar
Nifty (P)	DLF Trifolium (DK)	DLF
Pastour	Limagrain Genetics (NL)	DLF
Solomon	Teagasc (RoI)	DLF
Spelga	DARD (UK)	Bar
Tyrella	DARD (UK)	Bar

Variety	Breeder (country)	UK Agent
TETRAPLOID PERENNIAL RYEGRASS		
AberBite	IBERS (UK)	GS
AberClyde	IBERS (UK)	GS
AberCraigs	IBERS (UK)	GS
AberGain	IBERS (UK)	GS
AberPlentiful (P)	IBERS (UK)	GS
AberTorch	IBERS (UK)	GS
Aspect	DLF Trifolium (DK)	LMG
AstonDiamond (P)	DSV (UK)	GS
AstonEnergy	DSV (UK)	GS
AstonPrincess	DSV (UK)	GS
Carraig	Teagasc (RoI)	DLF
Delphin	NPZ Lembke (D)	DLF
Dundrum	DARD (UK)	Bar
Dunloy	DARD (UK)	Bar
Dunluce	DARD (UK)	Bar
Eurostar	DLF Trifolium (DK)	LMG
Fintona (P)	DARD (UK)	Bar
Glencar	Teagasc (RoI)	DLF
Glenstal	Teagasc (RoI)	DLF
Kintyre	Teagasc (RoI)	DLF
Magician	Teagasc (RoI)	DLF
Malone	DARD (UK)	Bar
Navan (O)	DARD (UK)	Bar
Niagara	DLF Trifolium (DK)	LMG
Pensel (P)	DLF Trifolium (DK)	LMG
Seagoe	DARD (UK)	Bar
Tivoli (O)	DLF Trifolium (DK)	DLF
Trintella	DLF Trifolium (DK)	LMG
Twymax	DLF Trifolium (DK)	LMG
Xenon (P)	DLF Trifolium (DK)	LMG

Country Codes

A - Austria; B Belgium; CZ - Czech Republic;
D - Germany; DK - Denmark; FR - France;
NL - Netherlands; NZ - New Zealand;
RoI - Ireland; UK - United Kingdom.

Addresses of UK (and non UK*) Agents/ Maintainers:

- Bar, Barenbrug UK Ltd 33 Perkins Road, Rougham industrial Estate, Rougham, Bury St Edmunds, Suffolk IP30 9NW
- Car*, SA Carneau Freres Eurogazon, 21 ZAC Carrière Dorée, BP No 2008, 59358 Orchies, France
- DLF, DLF Trifolium UK & N. Ireland Ltd, 9-14 Bellevue Mansions, Bellevue Road, Clevedon, N. Somerset BS21 7NU
- DSV*, Deutsche Saatveredelung AG Weissenburger Straße 5, 59557 Lippstadt, Germany
- GS, Germinal Seeds NI Ltd. , Commercial Road, Banbridge, Co Down, BT32 3ES
- ILVO*, ILVO Plant (Applied Genetics +Breeding) Caritasstraat 21, 9090 Melle, Belgium
- LMG, Limagrain UK Ltd, Rothwell, Market Rasen, Lincs, LN7 6DT
- LSPB, LS Plant Breeding, North Barn, Manor Farm, Milton Road Cambridge CB24 9NF
- PGG* PGG Wrightson Seeds, Kimihia Research Centre, Tancreds Road, PO Box 175, Lincoln 7640, New Zealand
- RAGT Grange Road, Icketon, Essex, CB10 1TA

AFBI Crossnacreevy CONTACTS and SERVICES

The Plant Testing Station produces the following variety performance booklets:

Cereals - Recommended Varieties for Northern Ireland
Forage Maize - Recommended Varieties for Northern Ireland
Potatoes - Varieties for Northern Ireland

Online copies of all these lists produced by AFBI-Crossnacreevy are available at www.afbini.gov.uk/recommendedlists

Farmers and growers wanting guidance on selection and use of varieties from these lists should contact CAFRE Technology & Business Division Services, Tel: 028 9442 6770

Plant breeders, merchants and other specialists requiring technical data on trials, testing procedures and variety details should contact:

Agri-Food and Biosciences Institute
Plant Testing Station,
Crossnacreevy
Castlereagh
Belfast BT6 9SH

Tel: +44 (0) (28 90) 548000
Fax: +44 (0) (28 90) 548001
Email: info@afbini.gov.uk
eamonn.meehan@afbini.gov.uk

Applied Plant Science and Biometrics Division: An extensive range of technical services is available on request to farmers, growers, public sector bodies and industry. The main services include:

Seed germination, purity and wild oat check
Variety performance and identity testing
Cereal Take-all test
Pest and disease identification and control
Potato cyst nematode (PCN) service
Mushroom compost and casing analyses

The DARD Grass and Clover Recommended List varieties are selected by a committee consisting of:

T. Gilliland (AFBI) (Chair)
E. Meehan (AFBI)
M. Mulholland (Senior Dairying Technologist, CAFRE, DARD)

Agri-Food and Biosciences Institute

AFBI's mission:
"Supporting government policy and industry innovation across the agri-food and rural sector through the provision of high quality scientific services, advice and expertise"

AFBI provides research and development, analytical and diagnostic services, and scientific advice in agriculture, food, animal and plant health, marine and fresh water ecosystem management and the agri-environment.

AFBI's expertise includes:

Veterinary diagnostics; animal health and welfare; food science; crop and livestock systems; biometric traceability; plant breeding; biometrics and statistics; agricultural economics; renewable energy and non-food crop agronomy; oceanography; aquatic and land based ecosystem management of natural resources.

Technologies include:

Molecular technologies; light and electron microscopy; mass spectrometry; pathogenesis studies; biosensor technology; seabed mapping and minimal processing technologies.

If you have a problem in agri-food or biosciences, AFBI offers a high quality, cost-effective solution.

To find out what AFBI can do for your business, contact:
AFBI Innovations
AFBI Headquarters, Newforge Lane, Malone Upper,
Belfast BT9 5PX, Northern Ireland, UK.
Tel: +44 (0)28 90 255 051
Fax: +44 (0)28 90 255 035
Email: info@afbini.gov.uk

www.afbini.gov.uk

Key DARD Contacts: Farmers, growers and processors requiring guidance on variety selection and use should contact their local CAFRE Development Adviser on 0845 30 44 503.

New DARD telephone numbers:

Animal Health & Welfare and Veterinary Public Health	0300 200 7840
Cattle Registration line	0300 200 7855
Education and Training	0300 200 7841
Environment	0300 200 7842
Farming	0300 200 7843
Fisheries	0300 200 7844
Flood Defence and Drainage	0300 200 7845
Food	0300 200 7846
Forests	0300 200 7847
Grants and Funding	0300 200 7878
Rural Development	0300 200 7849
DARD Corporate Services	0300 200 7850
Textphone	0300 200 7851
Calls from non-UK numbers or networks/ International Calls	+44(0)28 9037 8418

Farmers, growers and processors requiring more specialist information on crops should contact:

CAFRE Development Service, Greenmount College Tel: 028 9442 6770
Fax: 028 9442 6777

Department of
Agriculture and Rural Development
www.dardni.gov.uk

AN ROINN
Talmhaíochta agus Forbartha Tuaithe

MÄNNYSTRIE O
Fairms an Kintra Fordèrin

ISBN 978-1-84807-481-1