Department of Agriculture and Rural Development

Grass and **Clover**

Recommended Varieties for Northern Ireland 2016

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

AN ROINN
Talmhaíochta agus
Forbartha Tuaithe

MÄNNYSTRIE O
Fairms an
Kintra Fordèrin

afbi
Agri-Food and
Biosciences Institute ®

Recommended List

This list 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 at Crossnacreevy conducts these recommended list variety trials on behalf of the Department of Agriculture and Rural Development.

The pdf 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/articles/seed-and-variety-testing-grass-and-clover

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

Perennial ryegrass varieties for the recommended list being grazed by cattle in the first year after sowing at the Plant Testing Station, AFBI Crossnacreevy.

GRASS AND CLOVER VARIETIES FOR 2016

E J MEEHAN BSc MSc PhD

Agri-Food and Biosciences Institute, Plant Testing Station, Crossnacreevy
Published 2016

CONTENTS

General Information

Performance Tables for Recommended Varieties

Variety Descriptions

Key Contacts and Services

Summary of Recommended Variety Categories

This section lists the names of the recommended grass and clover varieties for 2016 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 2016

Perennial Ryegrass

Early Diploid

Genesis
Moyola
Kilrea
Kimber
(P) Kilian

Intermediate Diploid

Solomon
Boyne
Nifty
AberStar
AberWolf
AberMagic
AberGreen
Moira
AberDart
Glenariff
Copeland
AstonLord
(P) AberZeus
(P) Gosford
(O) Gandalf

Late Diploid

AberAvon
Pastour
Clanrye
Drumbo
AberChoice
Majestic
Denver
Glenveagh
Tyrella
Glenarm
Foxtrot
(P)Timing
(P) Cavendish

Early Tetraploid

Carraig
AberTorch

Intermediate Tetraploid

Fintona
Malone
Magician
Seagoe
AberClyde
Dunluce
Pensel
AstonEnergy
Trintella
Niagara
Glenstal
Ramore
Eurostar
Caledon
(P) Nolwen
(P) Carland

Late Tetraploid

Delphin
AberCraigs
Dundrum
Aspect
AberGain
AberBite
Twymax
Xenon
AstonDiamond
Glencar
Hurricane
Youpi
AstonPrincess
Kintyre
AberPlentiful
Dunloy
(P) Messinger
(P) Meiduno
(P) Xanthus

Italian Ryegrass

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

Hybrid Ryegrass

AberEcho (HT)
Ligunda (HD)
Pirol (HD)
AstonCrusader(HT)
AberExcel (HT)
Drumlin (HT)
AberEve (HT)
Kirial (HT)
Foyle (HT)
Amalgam (HT)
Scapino (HT)
Barsilo (HD)

Timothy

Early

Presto
Comer
Dolina
Promesse
Comtal
Erecta

Intermediate

Motim

Late

(S) Aber S48
Barrett

White Clover

Small Leaved

AberAce
Gr. Demand

Medium Leaved

Crusader
Iona
Avoca
Gr. Bounty
AberDai
Chieftain
AberHerald
Buddy
AberVantage

Large & Very Large Leaved

Alice
Barblanca
Katy
Triffid
Aran
(P) Brianna

Red Clover

Milvus
AberClaret
Atlantis (T)
AberChianti
Lemmon
Merviot
Magellan (T)
Maro (T)
Amos (T)
Gr. Sensation
(P) AberRhone
(O) Avisto
(O) Rotra (T)

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 evaluated over three growing seasons.
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 420 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 420 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 120 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 is 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 which, although now outclassed, sets the standard leaf size at 100% and is similar in leaf size to Iona.

Total Yield: Total annual dry matter yields (t/ha DM) are given as a percentage of the bold type varieties in each table. The tetraploid perennials are expressed as a percentage of the diploid perennial controls.

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

Spring Growth: The yield in t/ha DM 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 Persistence: 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).

Maturity groups- early, intermediate and late

RECOMMENDED PERENNIAL RYEGRASS VARIETIES

Perennial Ryegrass Maturity Groups:

Perennial ryegrass varieties are grouped into three heading date classes (early, intermediate and late), 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, AberTorch, 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.

Spring grazing yield for the early diploid variety Genesis indicates 128% of 2.3 t DM/ha (approximately 3 tonnes DM/ ha which is approximately 6 tonnes of fresh grass per acre) whereas the latest variety AberChoice indicates 84% of 2.3 t DM/ha (page 17) (approximately 2 tonnes DM/ ha which is approximately 4 tonnes of fresh grass per acre). Both of these varieties happen to give the same yield under grazing over the growing season but the distribution of that growth is dependent on the heading date.

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. Most varieties will be dual purpose but some may be better suited to either silage or grazing.

'Mostly silage and maybe some grazing': Use silage tables pages 12-13

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 14-15

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 2016:

Silage List

Early Perennial Ryegrass

One new provisionally recommended diploid has been added to the list this year: Kilian

Intermediate Perennial Ryegrass

Diploids: Six varieties had their recommended status changed.
Two new varieties, AberZeus and Gosford, have been added as provisional recommendations.
AberWolf and Nifty, have moved up from 'Plain' to 'Bold'
AberMagic and Copeland have been moved down to 'Plain'.

Tetraploids: Eight varieties had their recommended status changed.
Two new provisional recommendations have been added: Carland and Nolwen.
Two have moved up to plain: Ramore and Caledon.
Fintona and Pensel have moved up to 'Bold'.
Trintella and Niagara were moved down to 'Plain'.

Late Perennial Ryegrass

Diploids: Two varieties had their recommended status changed: Glenarm has moved up to 'Plain' and Timing has been added as a new provisional recommendation.

Tetraploids: Five varieties had their recommended status changed.
Three new provisional recommendations have been added: Meiduno, Xanthus and Messinger
And two varieties have moved up from provisional to 'Plain': Hurricane and Youpi.

Recommendation changes for 2016:

Grazing List

Early Perennial Ryegrass

One new provisionally recommended diploid has been added to the list this year: Kilian

Intermediate Perennial Ryegrass

Diploids: Eight varieties had their recommended status changed.
Two new varieties, AberZeus and Gosford, have been added as provisional recommendations.
AstonLord has moved up to 'Plain'.
Nifty, and AberWolf have moved up from 'Plain' to 'Bold'.
Glenariff and Boyne have moved down from 'Bold' to 'Plain' and Gandalf has moved down to 'Outclassed'.

Tetraploids: Six varieties had their recommended status changed.
One new provisional recommendation has been added: Nolwen.
Ramore and Caledon have moved up from provisional to plain.
Fintona has moved up to 'Bold'.
Niagara and Eurostar have moved down from 'Bold' to Plain.

Late Perennial Ryegrass

Diploids: Timing and Cavendish have been added as provisional recommendations and Glenarm has moved up to 'Plain'.

Tetraploids: Five varieties had their recommended status changed. Hurricane and Youpi have been added as provisional recommendations.
Xenon has moved up to 'Bold' and Twymax and Kintyre have moved down from 'Bold' to 'Plain'.

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, late August for the intermediate 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		
			16.4*	10.3*	7.8*	6.3*	4.0*	3.5*	2.6*		
			%	%	%	%	%	%	%	(0-9)	
+	Genesis	9 May	103	99	93	103	93	103	117	6.3	Early
+	Moyola	11 May	103	98	96	102	92	102	121	6.1	Early
+	Solomon	17 May	99	101	102	106	93	99	93	6.2	Inter
+	Boyne	18 May	104	109	106	110	106	96	98	6.2	Inter
+	Nifty	22 May	104	104	101	101	108	104	107	6.1	Inter
+	AberWolf	26 May	104	105	99	99	116	102	105	6.6	Inter
+	AberGreen	28 May	98	97	106	87	114	98	104	6.5	Inter
+	Pastour	3 Jun	97	101	100	106	93	95	83	6.1	Late
+	Clanrye	3 Jun	99	101	99	101	101	102	86	6.3	Late
+	AberChoice	8 Jun	98	99	104	94	108	99	93	6.0	Late

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

'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		
				16.4*	10.3*	7.8*	6.3*	4.0*	3.5*	2.6*		
				%	%	%	%	%	%	%	(0-9)	
	+	Moira	22 May	105	105	97	109	99	107	103	6.3	Inter
	+	Glenariff	25 May	99	98	102	98	99	102	96	6.3	Inter
	+	Copeland	27 May	98	96	98	95	99	100	98	6.7	Inter
	+	AberMagic	27 May	101	99	96	96	102	105	107	6.2	Inter
	+	Majestic	29 May	98	101	97	109	88	99	87	6.6	Late
		Denver	30 May	97	103	97	111	89	93	82	6.7	Late
	+	Glenveagh	31 May	96	98	97	104	87	99	84	6.6	Late
	+	AberAvon	1 Jun	94	96	97	102	88	89	92	6.3	Late
	+	Tyrella	2 Jun	98	103	96	116	83	92	84	6.4	Late
	+	Glenarm	2 Jun	99	101	97	111	85	101	92	6.5	Late
	+	Drumbo	3 Jun	94	94	99	94	94	98	89	6.3	Late
(P)	+	Kilian	14 May	99	95	88	89	105	97	116	6.2	Early
(P)	+	AberZeus	25 May	105	107	105	107	106	102	103	6.2	Inter
(P)	+	Gosford	27 May	103	106	101	99	115	99	101	6.0	Inter
(P)	+	AstonLord	29 May	97	96	100	95	98	98	100	6.2	Inter
(P)	+	Timing	04 Jun	98	98	100	97	99	102	90	6.7	Late

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		
			16.4*	10.3*	7.8*	6.3*	4.0*	3.5*	2.6*		
			%	%	%	%	%	%	%	(0-9)	
+	Fintona(T)	19	110	111	106	109	113	112	103	6.0	Inter
+	Malone(T)	19	105	106	109	109	100	109	98	5.3	Inter
+	Magician(T)	19	102	106	107	108	104	95	94	5.7	Inter
+	Seagoe(T)	21	102	105	111	106	102	98	97	5.4	Inter
+	AberClyde(T)	23	106	109	108	110	105	103	96	5.6	Inter
+	Pensel(T)	29	104	109	108	111	105	103	91	5.6	Inter
+	Delphin(T)	31	103	109	108	120	91	96	92	5.3	Late
+	Dundrum(T)	2 Jun	103	109	106	115	97	97	87	5.6	Late
+	AberGain(T)	3 Jun	111	117	118	126	103	105	96	5.5	Late
+	AberBite(T)	4 Jun	105	107	108	112	99	105	99	5.6	Late
+	Twymax(T)	5 Jun	103	107	108	112	97	104	86	6.1	Late

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

'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		
				16.4*	10.3*	7.8*	6.3*	4.0*	3.5*	2.6*		
				%	%	%	%	%	%	%	(0-9)	
	+	Trintella(T)	18 May	99	102	105	105	96	97	92	5.4	Inter
	+	Niagara(T)	18 May	99	99	103	100	97	102	98	6.3	Inter
		Glenstal(T)	20 May	100	103	102	104	102	96	91	5.8	Inter
	+	Ramore(T)	22 May	107	108	106	106	109	112	99	6.0	Inter
	+	Dunluce(T)	28 May	101	100	105	88	118	109	99	5.7	Inter
	+	Caledon(T)	29 May	106	112	111	105	122	94	100	5.4	Inter
	+	Glencar(T)	31 May	101	107	105	114	95	98	84	6.0	Late
	+	AberCraigs(T)	1 Jun	101	106	103	113	94	98	86	5.8	Late
	+	Hurricane(T)	2 Jun	102	106	108	112	96	103	86	6.0	Late
	+	Aspect(T)	3 Jun	101	106	105	109	101	100	88	5.9	Late
	+	Youpi(T)	5 Jun	101	107	106	106	107	98	79	5.6	Late
	+	AstonPrincess(T)	5 Jun	99	103	105	109	94	96	87	6.1	Late
	+	Kintyre(T)	5 Jun	101	104	104	106	100	102	91	5.8	Late
	+	Dunloy(T)	6 Jun	98	99	104	100	99	102	90	6.1	Late
(P)	+	Nolwen(T)	21 May	99	101	113	99	104	97	99	6.1	Inter
(P)		Carland(T)	29 May	99	98	106	97	101	102	101	6.2	Inter
(P)	+	Messinger(T)	31 May	101	108	111	116	96	92	89	5.5	Late
(P)		Meiduno(T)	1 Jun	99	103	107	113	86	97	87	5.4	Late
(P)		Xanthus(T)	5 Jun	98	103	105	110	91	94	84	6.4	Late

Perennial Ryegrass

'Bold Type' Diploids for Grazing

	Diploid Variety	Heading Date	Total Yield	Grass Quality	Seasonal grazing yields				Sward Density	Maturity Class
					Spring	Early Summer	Late Summer	Autumn		
			12.3*	D Value	2.3*	4.8*	3.5*	1.6*		
			%	%D	%	%	%	%	(0-9)	
+	Genesis	9 May	102	74	128	95	97	97	6.3	Early
+	Moyola	11 May	104	74	128	94	104	104	6.1	Early
+	Nifty	22 May	102	75	104	100	103	102	6.1	Inter
	AberStar	25 May	99	76	94	101	96	100	6.4	Inter
+	AberWolf	26 May	104	76	106	105	106	98	6.6	Inter
+	AberMagic	27 May	103	74	96	103	106	107	6.2	Inter
+	AberGreen	28 May	105	75	107	102	107	105	6.5	Inter
+	AberAvon	1 Jun	95	76	78	102	97	98	6.3	Late
+	Drumbo	3 Jun	95	76	82	101	95	96	6.3	Late
+	AberChoice	8 Jun	102	75	84	110	102	103	6.0	Late

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

'Plain Type' Diploids for Grazing

		Diploid Variety	Heading Date	Total Yield	Grass Quality	Seasonal grazing yields				Sward Density	Maturity Class
						Spring	Early Summer	Late Summer	Autumn		
				* 12.3	D Value	2.3*	4.8*	3.5*	1.6*		
				%	%D	%	%	%	%	(0-9)	
		Kilrea	12 May	95	74	108	91	91	94	6.7	Early
		Kimber	15 May	93	74	107	88	89	92	6.5	Early
	+	Solomon	17 May	95	73	106	94	93	91	6.2	Inter
	+	Boyne	18 May	97	73	106	95	96	91	6.2	Inter
	+	Moira	22 May	97	75	105	95	95	96	6.3	Inter
		AberDart	23 May	94	76	97	94	93	94	6.6	Inter
	+	Glenariff	25 May	98	73	98	96	100	99	6.3	Inter
	+	Copeland	27 May	94	73	101	93	94	93	6.7	Inter
	+	AstonLord	29 May	100	74	99	104	97	100	6.2	Inter
	+	Majestic	29 May	95	74	83	101	97	95	6.6	Late
	+	Glenveagh	31 May	94	75	84	100	94	86	6.6	Late
	+	Tyrella	2 Jun	93	74	91	95	92	92	6.4	Late
	+	Glenarm	2 Jun	94	74	84	100	92	96	6.5	Late
	+	Pastour	3 Jun	94	74	82	101	95	96	6.1	Late
		Foxtrot	3 Jun	94	74	77	101	96	95	6.4	Late
	+	Clanrye	3 Jun	94	74	76	102	96	90	6.3	Late
(P)	+	Kilian	14 May	100	75	115	97	97	97	6.2	Early
(P)	+	AberZeus	25 May	107	75	110	103	111	103	6.2	Inter
(P)	+	Gosford	27 May	99	75	107	97	101	96	6.0	Inter
(P)		Cavendish	4 Jun	93	74	74	102	95	89	6.9	Late
(P)	+	Timing	4 Jun	95	75	76	104	95	99	6.7	Late
(O)		Gandalf	25 May	91	74	90	95	90	85	6.7	Inter

Perennial Ryegrass

'Bold Type' Tetraploids for Grazing

	Tetraploid Variety	Heading Date	Total Yield	Grass Quality	Seasonal grazing yields				Sward Density	Maturity Class
					Spring	Early Summer	Late Summer	Autumn		
			12.3*	D Value	2.3*	4.8*	3.5*	1.6*		
			%	%D	%	%	%	%	(0-9)	
	Carraig(T)	13 May	103	75	112	102	104	96	6.2	Early
+	Fintona(T)	19 May	100	76	115	97	99	92	6.0	Inter
+	Malone(T)	19 May	99	76	117	94	96	93	5.3	Inter
+	Magician(T)	19 May	99	76	111	96	100	92	5.7	Inter
+	Seagoe(T)	21 May	103	75	111	98	106	98	5.4	Inter
+	AberClyde(T)	23 May	102	77	112	102	100	90	5.6	Inter
+	Dunluce(T)	28 May	102	76	99	105	103	95	5.7	Inter
	AstonEnergy(T)	30 May	100	78	95	101	102	100	5.4	Inter
+	AberCraigs(T)	1 Jun	96	78	88	102	95	91	5.8	Late
+	Dundrum(T)	2 Jun	96	77	81	105	95	95	5.6	Late
+	Aspect(T)	3 Jun	98	77	91	103	98	95	5.9	Late
+	AberGain(T)	3 Jun	107	77	107	109	107	100	5.5	Late
+	AberBite(T)	4 Jun	101	78	88	106	103	103	5.6	Late
	Xenon(T)	6 Jun	96	78	85	103	98	91	6.5	Late

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

'Plain Type' Tetraploids for Grazing

		Tetraploid Variety	Heading Date	Total Yield	Grass Quality	Seasonal grazing yields				Sward Density	Maturity Class
						Spring	Early Summer	Late Summer	Autumn		
				12.3*	D Value	2.3*	4.8*	3.5*	1.6*		
				%	%D	%	%	%	%	(0-9)	
		AberTorch(T)	6 May	97	75	123	90	91	91	5.9	Early
	+	Trintella(T)	18 May	95	75	108	92	95	88	5.4	Inter
	+	Niagara(T)	18 May	96	77	105	93	95	93	6.3	Inter
	+	Ramore(T)	22 May	99	76	110	98	98	93	6.0	Inter
		Eurostar(T)	24 May	97	76	104	98	95	88	97	Inter
	+	Caledon(T)	29 May	98	76	93	100	103	87	5.4	Inter
	+	Pensel(T)	29 May	99	75	104	97	102	90	5.6	Inter
		AstonDiamond(T)	30 May	97	76	91	101	96	97	5.8	Late
	+	Delphin(T)	31 May	98	76	90	102	97	98	5.3	Late
	+	Twymax(T)	5 Jun	97	76	87	106	96	90	6.1	Late
	+	AstonPrincess(T)	5 Jun	94	76	88	103	92	87	6.1	Late
	+	Kintyre(T)	5 Jun	98	76	88	102	98	99	5.8	Late
		AberPlentiful(T)	6 Jun	102	76	91	104	104	104	5.5	Late
	+	Dunloy(T)	6 Jun	95	76	81	104	94	93	6.1	Late
(P)	+	Nolwen(T)	21 May	95	76	104	92	97	89	6.1	Inter
(P)	+	Hurricane(T)	2 Jun	97	76	91	102	99	89	6.0	Late
(P)	+	Youpi(T)	5 Jun	99	76	82	107	102	89	5.6	Late

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.

There have been no Recommendation changes to hybrid ryegrasses for 2016.

VARIETY	Heading Date	Silage Yields			Sward Density
		1st Year	2nd Year	3rd Year	
		20.2*	18.4*	17.0*	
		%	%	%	(0-9)
AberEcho(HT)	**14 May**	**98**	**99**	**99**	**5.0**
Ligunda(HD)	**18 May**	**102**	**101**	**100**	**4.7**
Pirol(HD)	**20 May**	**99**	**100**	**101**	**5.3**
AstonCrusader (HT)	17 May	90	91	98	5.2
AberExcel(HT)	18 May	91	86	92	4.9
Drumlin(HT)	18 May	89	88	92	5.0
AberEve(HT)	20 May	92	91	95	5.0
Kirial(HT)	21 May	90	89	92	4.8
Foyle(HT)	21 May	88	89	92	4.9
Amalgam(HT)	22 May	88	87	91	5.4
Scapino(HT)	22 May	93	92	95	4.9
Barsilo(HD)	23 May	97	96	98	4.6

* = Average yield of 'Bold Type' varieties in t/ha DM (HD, HT) Hybrid diploid or 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	1st Cut Silage	2nd Cut Silage	Aftermath Grazing
	1.8*	5.6*	4.4*	6.8*
	%	%	%	%
AberEcho(HT)	**95**	**107**	**91**	**98**
Ligunda(HD)	**108**	**94**	**105**	**103**
Pirol(HD)	**98**	**98**	**104**	**100**
AstonCrusader (HT)	83	110	78	92
AberExcel(HT)	74	102	85	87
Drumlin(HT)	61	106	80	90
AberEve(HT)	73	102	88	94
Kirial(HT)	74	102	80	91
Foyle(HT)	57	103	82	92
Amalgam(HT)	68	103	82	87
Scapino(HT)	86	109	84	90
Barsilo(HD)	90	94	98	101

*** = Average yield of 'Bold Type' varieties in t/ha DM (HD, HT) Hybrid diploid or 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 2016:

Two Italian ryegrass varieties have had their recommended list status changed this year. Javorio has moved up from 'plain type' to 'Bold' and Yacht has been added as a new provisional type.

	VARIETY	Heading Date	Silage Yields		Early Spring Growth	Sward Density
			1st Year	2nd Year		
			20.3*	18.4*		
			%	%	(t DM/ha)	(0-9)
	Shakira	**15 May**	**102**	**98**	**2.1**	**4.6**
	Dorike(T)	**15 May**	**100**	**100**	**2.0**	**4.5**
	Hunter(T)	**16 May**	**99**	**101**	**2.1**	**4.6**
	Bartrento(T)	**17 May**	**101**	**99**	**2.1**	**4.8**
	Meribel	**18 May**	**100**	**102**	**1.9**	**5.0**
	Barmultra II(T)	**18 May**	**100**	**101**	**2.1**	**4.4**
	Fox	**18 May**	**99**	**100**	**2.0**	**4.8**
	Litonio(T)	**20 May**	**99**	**99**	**2.0**	**4.7**
	Javorio	**22 May**	**101**	**97**	**2.0**	**5.0**
(P)	Yacht(T)	16 May	101	98	1.9	4.5

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

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	1st Cut Silage	2nd Cut Silage	Aftermath Grazing
		2.0*	5.9*	4.5*	7.0*
		%	%	%	%
	Shakira	**105**	**102**	**101**	**97**
	Dorike(T)	**100**	**103**	**99**	**99**
	Hunter(T)	**102**	**98**	**103**	**99**
	Bartrento(T)	**100**	**100**	**97**	**101**
	Meribel	**92**	**95**	**105**	**105**
	Barmultra II(T)	**104**	**103**	**99**	**98**
	Fox	**100**	**101**	**97**	**100**
	Litonio(T)	**97**	**98**	**98**	**100**
	Javorio	**97**	**98**	**101**	**100**
(P)	Yacht (T)	91	107	101	95

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

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.

There have been no Recommendation changes to timothy varieties for 2016.

	VARIETY	Heading Date	Silage		Grazing		Maturity Class
			Total Yield 14.1*	2-Cut Silage 9.0 *	Total Yield 11.3*	Sward Density	
			%	%	%	(0-9)	
	Comer	**9 Jun**	**103**	**101**	**104**	**5.3**	**Early**
	Presto	**9 Jun**	**102**	**101**	**103**	**5.6**	**Early**
	Dolina	**10 Jun**	**101**	**98**	**103**	**5.5**	**Early**
	Motim	**18 Jun**	**99**	**102**	**99**	**6.1**	**Inter**
(S)	**Aber S 48**	**23 Jun**	**95**	**98**	**91**	**7.0**	**Late**
	Promesse	10 Jun	95	91	99	5.8	Early
	Comtal	11 Jun	94	90	101	5.2	Early
	Erecta	11 Jun	97	94	102	5.6	Early
	Barrett	19 Jun	97	95	101	6.0	Late

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

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 4.9*	2nd Cut 4.1*	3rd Cut 2.9*	Autumn Grazing 2.2*	Spring 2.6*	Early Summer 4.2*	Late Summer 3.4*	Autumn 1.1*
		%	%	%	%	%	%	%	%
	Comer	**115**	**84**	**113**	**99**	**120**	**93**	**106**	**106**
	Presto	**114**	**86**	**110**	**99**	**110**	**100**	**103**	**98**
	Dolina	**108**	**86**	**110**	**98**	**115**	**96**	**101**	**102**
	Motim	**94**	**110**	**93**	**97**	**96**	**104**	**98**	**96**
(S)	**Aber S 48**	**69**	**133**	**75**	**107**	**59**	**108**	**92**	**98**
	Promesse	102	78	100	99	102	99	100	87
	Comtal	98	79	100	103	99	102	101	99
	Erecta	103	83	108	96	103	100	103	98
	Barrett	93	98	102	100	94	104	104	96

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

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 2016:

There have been three changes to the white clover list this year. Brianna has been added as a new provisional variety and Buddy and Katy have been moved up to 'plain type'.

	VARIETY	Relative leaf size (% Gr. Huia)	Grazing Yield Potential			Grazing Persistence	
			Total 13.1*	Clover 4.6*	Grass 8.5*	Low N 120 kg/ha	High N 200 kg/ha
		%	%	%	%	(0-9)	(0-9)
	AberAce	**42**	**94**	**73**	**105**	**6.2**	**4.4**
	Grasslands Demand	**85**	**97**	**85**	**104**	**6.2**	**5.0**
	Crusader	**92**	**100**	**97**	**101**	**5.8**	**5.0**
	Iona	**93**	**101**	**105**	**98**	**5.9**	**4.7**
	Avoca	**95**	**101**	**100**	**101**	**6.1**	**5.1**
	Grasslands Bounty	**98**	**100**	**97**	**102**	**5.9**	**4.6**
	AberDai	**99**	**100**	**104**	**97**	**5.5**	**4.7**
	Chieftain	**112**	**103**	**116**	**97**	**5.3**	**4.4**
	Alice	**122**	**102**	**111**	**97**	**5.2**	**4.2**
	Barblanca	**126**	**103**	**113**	**98**	**5.7**	**4.5**
	AberHerald	91	99	99	99	5.2	4.6
	Buddy	96	100	98	102	6.0	4.3
	AberVantage	102	101	101	101	5.2	3.8
	Katy	120	102	117	95	5.4	4.0
	Triffid	135	100	101	100	5.2	4.0
	Aran	166	102	118	93	4.5	3.5
(P)	Brianna	184	100	112	94	5.3	4.6

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

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) and given 200 kg/ha N.

	VARIETY	Clover Content	Seasonal Clover Yields				Leaf Size Class
			Spring 0.5*	Early Summer 1.5*	Late Summer 1.6*	Autumn 1.0*	
		%	%	%	%	%	
	AberAce	**27**	**66**	**86**	**75**	**59**	**Small**
	Grasslands Demand	**31**	**79**	**85**	**90**	**82**	**Small**
	Crusader	**34**	**118**	**90**	**87**	**110**	**Medium**
	Iona	**36**	**104**	**113**	**102**	**95**	**Medium**
	Avoca	**35**	**90**	**102**	**104**	**105**	**Medium**
	Grasslands Bounty	**34**	**107**	**93**	**96**	**99**	**Medium**
	AberDai	**36**	**100**	**106**	**107**	**98**	**Medium**
	Chieftain	**39**	**109**	**111**	**117**	**120**	**Medium**
	Alice	**38**	**104**	**108**	**115**	**106**	**Large**
	Barblanca	**38**	**122**	**107**	**106**	**126**	**Large**
	AberHerald	35	82	99	107	98	Medium
	Buddy	34	122	104	99	79	Medium
	AberVantage	35	103	99	108	99	Medium
	Katy	40	102	118	126	102	Large
	Triffid	35	104	97	99	108	V. Large
	Aran	41	105	106	123	132	V. Large
(P)	Brianna	39	102	104	120	116	V. Large

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

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/ha DM 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/ha DM in their first harvest year, falling to around 15 t/ha DM 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 2016: There have been four changes to the list this year: AberRhone has been added as a new provisional variety, Magellan has moved up to 'plain' and two varieties, Avisto and Rotra, have been moved down to outclassed.

	VARIETY	Three Year Average		Harvest Year 1	Harvest Year 2	Harvest Year 3
	Control Yields (t/Ha)	DM Yield 16.5	Rel. Pers.	DM Yield 17.7	DM Yield 17.5	DM Yield 14.4
		%	(0-9)	%	%	%
	Milvus	**104**	**4.9**	**102**	**104**	**106**
	AberClaret	**102**	**4.7**	**101**	**103**	**103**
	Atlantis(T)	**100**	**4.3**	**101**	**100**	**100**
	AberChianti	**99**	**5.1**	**94**	**100**	**104**
	Lemmon	**98**	**4.6**	**102**	**96**	**96**
	Merviot	**97**	**97**	**4.5**	**101**	**97**
	Magellan	97	4.4	95	99	96
	Maro(T)	97	3.8	100	94	96
	Amos(T)	95	4.1	98	93	94
	Gr. Sensation	95	4.3	95	95	94
(P)	AberRhone	105	4.8	96	108	113
(O)	Avisto	94	4.5	99	96	87
(O)	Rotra(T)	95	3.7	97	93	96

* = Control yield as average of 'Bold Type' diploid varieties in t/ha DM
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 joint highest spring grazing yield of all varieties as well as very high production after the second silage cut.

Kilian (P) (+)This new provisionally recommended variety is late within the early group, has a very good grazing D value, good yields over all for silage and grazing and, under silage management, a particularly high aftermath grazing.

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 one of the highest 2-cut digestible yields of diploid perennial ryegrass as well as good grazing quality from dense swards.

AberMagic (+) 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 (+) High grazing yields with a high D value and very dense swards. It also produces very high annual silage yields for a diploid perennial ryegrass as well as having an excellent 2-cut yield.

AberZeus(P) (+) This new provisionally recommended variety has the highest grazing and joint

highest silage yields for a diploid perennial ryegrass with a high D value and excellent spring grazing.

AstonLord (P) (+) This variety is fully recommended for grazing due to its high grazing yields throughout the season with a good D value. It is also provisionally recommended for silage use due to its good 2-cut digestible yield and dense swards.

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 good, most notably in spring, and are of high quality and delivered from dense growing swards.

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 (O) Recommended for grazing due to having one of the highest sward densities but now outclassed.

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.

Gosford (P)(+) This new provisional variety produces very high total and 2-cut silage yields as well as good grazing yields, especially in spring and late summer, and with a good D value.

Moira (+) This variety produces the joint highest annual silage yield for a diploid perennial ryegrass as well as an excellent 2-cut yield and good quality grazing, especially in spring, from swards of good density.

Nifty (+) This variety produces very high yields of good quality under both silage and grazing conditions. The grazing yield is consistently high throughout the season.

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.

Late Diploids

AberAvon (+) Recommended for its very high D value under grazing with yields reaching optimal production in early summer. It produces 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.

Cavendish (P) This new provisional variety is recommended for grazing as it provides good yields of high quality throughout the season. It forms the densest swards of any recommended perennial ryegrass.

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

Denver Recommended for silage use due to 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.

Glenarm (+) Produces good yields under both silage and grazing management with high quality and very dense swards. Particularly good first cut of silage.

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.

Timing (P) (+) This new provisional variety is recommended for both silage and grazing. It has very dense swards and produces high quality grass with good early summer grazing and can produce an excellent 2-cut digestible yield.

Tyrella (+) Has high total annual silage yields with the highest first cut silage yield for any diploid variety although it 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 (+) Recommended for grazing as it produces excellent grazing yields with the joint highest measured quality. Grass production is strong from early summer through until the autumn.

Caledon (+) Excellent silage yields and 2- cut digestible yield along with high quality grazing which is strongest in summer.

Carland (P) Provisionally recommended for silage use due to its very high 2-cut digestible yield and having very dense swards for a tetraploid.

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 (+) Recommended for grazing this is a very dense variety for a tetraploid, with large annual and spring grazing yields of good quality.

Fintona (+) This variety has one of the highest annual yield under silage management as well as one of the highest 2-cut yields 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 erect tetraploid swards.

Malone (+) Impressively high silage productivity in all categories from 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.

Nolwen (P)(+) This new variety is provisionally recommended due to its good yields for silage and grazing. It has an excellent 2- cut digestible yield, high grazing quality and also maintains a dense sward.

Pensel (+) 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.

Ramore (+) Very high total yield, 2 -cut yield and 2- cut D yields and performs well under grazing with high quality and excellent spring growth from dense swards.

Seagoe (+) This variety produces a very high 2-cut digestible silage yield 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 the joint highest on the list, 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, a good sward density for its type and the joint highest measured quality under grazing. Grazing output is maintained at a high level throughout the main summer growing period.

AberGain (+) This variety produces the highest total grazing yield and the highest total silage yield, the 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 Recommended for grazing, this 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 Recommended for grazing, this variety 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 good digestibility. It also maintains good grass quality for grazing combined with a 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.

Hurricane (+) Fully recommended for its excellent silage yields and provisionally recommended for grazing due to its good quality and 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.

Meiduno (P) This new provisional variety is recommended for silage use having an excellent 2-cut yield and 2-cut digestible yield.

Messinger (P) A new provisional variety which is recommended for silage use due to its very high 2-cut yield and 2-cut digestible yield.

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.

Xanthus (P) This new provisional variety is recommended for silage use due to its very high 2-cut yield and 2-cut digestible yield and it has one of the highest sward densities for tetraploid grass. having an excellent 2-cut yield and 2-cut digestible yield.

Xenon This variety is recommended for grazing as it has the highest sward density of any tetraploid perennial ryegrass and the joint highest measured quality value.

Youpi (+)Fully recommended for its excellent silage yields and provisionally recommended for grazing due to its good quality and strong yields in summer.

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) This variety 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.

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 This diploid variety produces a very high first year total yield, consistently good 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 highest first year yield of any grass on the list and maintains exceptionally high spring grazing and first cut silage yields.

Yacht (T) (P) This new provisionally recommended tetraploid variety gives a very high first year DM yield consisting of exceptional first cut silage whilst also maintaining good persistence.

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 An early variety which 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 This 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 the 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.

Buddy Produces a good output of grass and clover with strong persistence at low nitrogen levels. Clover production is strongest in early summer.

Chieftain Produces one of the highest clover yields 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.

Iona This variety can produce a high white clover and total grass and clover yield and also exhibits good persistence and strong growth in early summer..

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.

Katy Excellent white clover yield from early summer through until autumn and with good persistence.

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.

Brianna (P) This new provisionally recommended variety is the largest leaf clover on the list and provides strong white clover yields throughout the season but especially in late summer and autumn. Its persistence is good and much better than might be expected given its leaf size.

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.

AberRhone (P) This new provisionally recommended variety has the highest average yield over the three year testing period and also exhibits good persistence. The yields are slightly lower than average in the first year but these are more than compensated for by the variety having the highest yield in both second year and third 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 very high average yields over three years and in each individual year while maintaining strong persistence.

Avisto (O) This variety produces good yields and is strong in the second year maintaining good persistence throughout but is now outclassed as higher yielding varieties have come on to the list.

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.

Magellan(T) Exhibits good persistence and strong yields over the three year period.

Maro(T) This tetraploid variety maintains consistently good yields over three years with its strongest performance in the first 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 both second and third year.

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

KEY CONTACTS and SERVICES

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)	G
Fox	Limagrain (FR)	DLF
Hunter (T)	DSV (D)	DLF
Javorio	DSV (NL)	DSV
Litonio (T)	DSV (D)	DSV
Meribel	ILVO (B)	LMG
Shakira	DSV (FR)	DSV
Yacht (P)	NPZ (D)	DLF?
TIMOTHY VARIETIES		
Aber S48 (S)	IBERS (UK)	G
Barrett	AFBI (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)	G
Promesse	Cebeco Seeds BV (NL)	DLF
RED CLOVER VARIETIES		
AberChianti	IBERS (UK)	G
AberClaret	IBERS (UK)	G
AberRhone (P)	IBERS (UK)	G
Amos (T)	Šlechtitelskà stanice (CZ)	DLF
Atlantis (T)	NPZ (D)	LSPB
Avisto (O)	ILVO (B)	Bar
Gr. Sensation	AgResearch (NZ)	PGG*
Lemmon	ILVO (B)	Bar
Magellan (T)	NPZ (D)	DLF
Maro (T)	NPZ (D)	LMG
Merviot	ILVO (B)	LMG
Milvus	DSV (NL)	G
Rotra (T) (O)	ILVO (B)	ILVO*

Variety	Breeder (country)	UK Agent
HYBRID RYEGRASS		
AberEcho (HT)	IBERS (UK)	G
AberEve (HT)	IBERS (UK)	G
AberExcel (HT)	IBERS (UK)	G
Amalgam (HT)	DLF Trifolium (DK)	LMG
AstonCrusader (HT)	DSV (UK)	DSV
Barsilo (HD)	Barenbrug BV (NL)	Bar
Drumlin (HT)	AFBI (UK)	Bar
Foyle (HT)	AFBI (UK)	Bar
Kirial (HT)	R2N (FR)	RAGT
Ligunda (HD)	BfAL (A)	DLF
Pirol (HD)	Saatzucht Steinach (D)	G
Scapino (HT)	DLF Trifolium (DK)	LMG
WHITE CLOVER VARIETIES		
AberAce	IBERS (UK)	G
AberDai	IBERS (UK)	G
AberHerald	IBERS (UK)	G
AberVantage	IBERS (UK)	G
Alice	IBERS (UK)	Bar
Aran	Teagasc (Ire)	G
Avoca	Teagasc (Ire)	DLF
Barblanca	AgResearch (NZ)	Bar
Brianna (P)	Teagasc (Ire)	DLF
Buddy	Teagasc (Ire)	DLF
Chieftain	Teagasc (Ire)	DLF
Crusader	AgResearch (NZ)	Bar
*Gr. Bounty	AgResearch (NZ)	LMG
Gr. Demand	AgResearch (NZ)	LMG
Iona	Teagasc (Ire)	DLF
Katy	AFBI (UK)	Bar
Triffid	AgResearch (NZ)	Bar
**Gr. = Grasslands*		

Variety	Breeder (country)	UK Agent
DIPLOID PERENNIAL RYEGRASS		
AberAvon	IBERS (UK)	G
AberChoice	IBERS (UK)	G
AberDart	IBERS (UK)	G
AberGreen	IBERS (UK)	G
AberMagic	IBERS (UK)	G
AberStar	IBERS (UK)	G
AberWolf	IBERS (UK)	G
AberZeus (P)	IBERS (UK)	G
AstonLord	DSV (UK)	DSV
Boyne	DLF Trifolium (DK)	DLF
Cavendish (P)	DLF Trifolium (DK)	DLF
Clanrye	AFBI (UK)	Bar
Copeland	AFBI (UK)	Bar
Denver	DLF Trifolium (DK)	LMG
Drumbo	AFBI (UK)	Bar
Foxtrot	Limagrain Genetics (NL)	DLF
Gandalf (O)	DLF Trifolium (DK)	LMG
Genesis	Teagasc (Ire)	DLF
Glenariff	AFBI (UK)	Bar
Glenarm	AFBI (UK)	Bar
Glenveagh	Teagasc (Ire)	DLF
Gosford (P)	AFBI (UK)	Bar
Kilian (P)	R2N (FR)	RAGT
Kilrea	AFBI (UK)	Bar
Kimber	DLF Trifolium (DK)	DLF
Majestic	Teagasc (Ire)	DLF
Moira	AFBI (UK)	Bar
Moyola	AFBI (UK)	Bar
Nifty	DLF Trifolium (DK)	DLF
Pastour	Limagrain Genetics (NL)	DLF
Solomon	Teagasc (Ire)	DLF
Timing (P)	DLF Trifolium (DK)	LMG
Tyrella	AFBI (UK)	Bar

Variety	Breeder (country)	UK Agent
TETRAPLOID PERENNIAL RYEGRASS		
AberBite	IBERS (UK)	G
AberClyde	IBERS (UK)	G
AberCraigs	IBERS (UK)	G
AberGain	IBERS (UK)	G
AberPlentiful	IBERS (UK)	G
AberTorch	IBERS (UK)	G
Aspect	DLF Trifolium (DK)	LMG
AstonDiamond	DSV (UK)	DSV
AstonEnergy	DSV (UK)	G
AstonPrincess	DSV (UK)	DSV
Caledon	AFBI (UK)	Bar
Carland (P)	AFBI (UK)	Bar
Carraig	Teagasc (Ire)	DLF
Delphin	NPZ Lembke (D)	DLF
Dundrum	AFBI (UK)	Bar
Dunloy	AFBI (UK)	Bar
Dunluce	AFBI (UK)	Bar
Eurostar	DLF Trifolium (DK)	LMG
Fintona	AFBI (UK)	Bar
Glencar	Teagasc (Ire)	DLF
Glenstal	Teagasc (Ire)	DLF
Hurricane	Carneau Freres (Fr)	Car
Kintyre	Teagasc (Ire)	DLF
Magician	Teagasc (Ire)	DLF
Malone	AFBI (UK)	Bar
Meiduno (P)	DLF Trifolium (DK)	DLF
Messinger (P)	DLF Trifolium (DK)	DLF
Niagara	DLF Trifolium (DK)	LMG
Nolwen (P)	R2N (FR)	RAGT
Pensel	DLF Trifolium (DK)	LMG
Ramore	AFBI (UK)	Bar
Seagoe	AFBI (UK)	Bar
Trintella	DLF Trifolium (DK)	LMG
Twymax	DLF Trifolium (DK)	LMG
Xanthus (P)	NPZ Lembke (D)	DLF
Xenon	DLF Trifolium (DK)	LMG
Youpi	R2N (FR)	RAGT

Country Codes

A - Austria; B Belgium; CZ - Czech Republic; D - Germany; DK - Denmark; FR – France; Ire - Ireland; NL - Netherlands; NZ - New Zealand; 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 N° 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
G, Germinal NI Ltd. , Commercial Road, Banbridge, Co Down, BT32 3ES
ILVO*, ILVO Plant (Applied Genetics +Breeding) Caritasstraat 21, 9090 Melle, Belgium
LG, Limagrain UK Ltd, Rothwell, Market Rasen, Lincs, LN7 6DT
LSPB, LS Plant Breeding, North Barn, Manor Farm, Milton Road Cambridge CB24 9NF
RAGT Grange Road, Icketon, Essex, CB10 1TA

AFBI Crossnacreevy CONTACTS and SERVICES

The Plant Testing Station produces the following variety performance lists:

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

Online copies of 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:

E. Meehan (AFBI) (Chair)
G. Hoppé (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 Headquarters,
Newforge Lane,
Belfast BT9 5PX,
Northern Ireland, UK.

Tel: +44 (0)28 90 255 636
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