Department of Agriculture and Rural Development

Grass and **Clover**

Recommended Varieties for Northern Ireland 2010/11

Department of
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Recommended Booklet

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

The Agri-Food Bioscience 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

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
Red clover flowers and leaves – There is increasing interest in Northern Ireland in the use of red clover for short term high yielding silage swards without the use of inorganic nitrogen.

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

GRASS AND CLOVER VARIETIES FOR 2010-11

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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 2010/11 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. (T = Tetraploid)

Recommended Grass and White Clover Varieties 2010/11

Perennial Ryegrass

Early Diploid	Intermediate Diploid	Late Diploid
Donard	**Spelga** (S) AberDart	**Denver** Portstewart
(S) January	**Bree** AberMagic	**(S) AberZest** Drumbo
Kilrea	**AberStar** (P) Boyne	**AberAvon** (S) AberChoice
Kimber	**Gandalf** (P) Gerrison	**Foxtrot** (S) Twytop
Genesis	Solomon (P) Bahima 1	**Pastour**
Moyola	Cashel (P) Copeland	Tyrella
	(S) Betty	Mateon1

Early Tetraploid	Intermediate Tetraploid	Late Tetraploid
AberTorch	**Malone** Glenstal	**Glencar** Fornido
	Niagara (O) Garibaldi	**Delphin** (S) Loporello
	Magician (O) Greengold	**AberCraigs** AberBite
	AberGlyn	**Navan** Astonprincess
	Trintella	**Twymax** Kintyre
	Eurostar	**Dunloy** Tivoli
	Dunluce	**Millennium** (P) Dundrum
	Astonenergy	Elgon

Italian Ryegrass

Meribel
Meryl
AberEpic
Fox
Ligrande
Litonio (T)
AberMario
(P) Dorike (T)
(P) Hunter (T)
(P) Barmultra II (T)

Hybrid Ryegrass

AberEcho (HT) Drumlin (HT)
Ligunda (HD) AberExcel (HT)
Pirol (HD) Hymer (HT)
AberEve (HT)
Foyle (HT)
Barsilo (HD)

Timothy

Early	Intermediate
Comer	**Motim**
Presto	
Promesse	
Comtal	Late
Erecta	**(S) Aber S48**
Narnia (maturity group to be confirmed)	

White Clover

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

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

Testing Procedures

Variety trials are sown annually at the Plant Testing Station, Crossnacreevy in mid-summer, and 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'.

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.

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/ha DM) 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 and hybrid ryegrasses, all yields are given as a percentage of the first year control yield.

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 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, Donard, to the latest maturing Twytop.

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 Spelga and AberMagic, than between AberMagic and the 'late' variety Denver. 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.

Recommendation changes for 2010/11:

Five early varieties had their recommended list status changed. January had its status changed from a fully recommended 'Plain Type' to "Bold Type". Genesis and Moyola were upgraded from provisional to fully recommended 'Plain Type'. Moy and the tetraploid variety, Tetramax, were removed from the list because commercialisation and supply for N. Ireland have ceased.

Twelve intermediate varieties had their recommended list status changed. In the diploids, four new provisional recommendations, Boyne, Gerrison, Bahima1 and Copeland were added to the list. Solomon and AberMagic were moved up from provisional to 'Plain Type' and AberDart was moved down from 'Bold Type' to 'Plain Type'. In the tetraploids, Trintella and Astonenergy were upgraded from 'Plain Type' to 'Bold Type', Glenstal was downgraded from 'Bold Type' to 'Plain Type' and two varieties, Garibaldi and Greengold were downgraded to 'Outclassed'.

Twelve late varieties had their recommended status changed. Two diploid varieties, AberChoice and Drumbo were upgraded from provisional status to 'Plain Type' and two varieties, Matiz and Gilford, were removed from the list. In the tetraploids, two varieties, Twymax and Dunloy were upgraded to 'Bold Type' status, whereas Loporello was downgraded from 'Bold Type' to 'Plain Type' status. AberBite, Astonprincess and Kintyre were upgraded from provisional status to fully recommended 'Plain Type' status. One new provisional recommendation, Dundrum was added to the list and Cooper, having been outclassed, was removed from the list.

Diploid Perennial Ryegrass Varieties

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.

	VARIETY	Heading Date	Silage			Grazing		
			Total Yield 15.5*	2-Cut Yield Total 10.1*	2-Cut Yield Digest Yield 7.4*	Total Yield 12.1*	Grass Quality D-Value	Sward Density
			%	%	%	%	%D	(0-9)
	Donard	**7 May**	**104**	**99**	**95**	**104**	**72.0**	**6.3**
(S)	**January**	**9 May**	**105**	**101**	**95**	**98**	**72.3**	**5.9**
	Kilrea	**13 May**	**100**	**92**	**93**	**99**	**72.9**	**6.5**
	Kimber	**15 May**	**98**	**95**	**95**	**98**	**73.4**	**6.3**
	Spelga	**17 May**	**102**	**104**	**101**	**98**	**69.6**	**6.2**
	Bree	**24 May**	**98**	**99**	**98**	**99**	**72.5**	**6.5**
	AberStar	**24 May**	**98**	**98**	**103**	**104**	**75.4**	**6.3**
	Gandalf	**25 May**	**98**	**100**	**99**	**98**	**72.7**	**6.7**
	Denver	**30 May**	**101**	**105**	**104**	**98**	**71.5**	**6.6**
(S)	**AberZest**	**31 May**	**105**	**108**	**100**	**103**	**74.8**	**5.8**
	AberAvon	**1 Jun**	**100**	**103**	**106**	**101**	**74.6**	**6.2**
	Foxtrot	**3 Jun**	**98**	**101**	**104**	**103**	**73.9**	**6.3**
	Pastour	**4 Jun**	**103**	**106**	**110**	**102**	**72.9**	**6.1**
	Genesis	9 May	110	104	96	106	72.7	6.3
	Moyola	11 May	107	101	98	108	72.0	6.0
	Solomon	17 May	103	104	109	102	72.5	6.3
	Cashel	18 May	97	98	97	96	71.7	6.7
(S)	Betty	22 May	97	95	106	94	71.5	6.4
(S)	AberDart	23 May	95	95	98	97	75.7	6.6
	AberMagic	27 May	107	105	104	109	72.9	6.2
	Tyrella	2 Jun	103	109	96	99	72.8	6.3
	Mateon 1	4 Jun	102	106	106	97	74.6	6.5
	Portstewart	4 Jun	100	101	103	99	71.7	6.1
	Drumbo	4 Jun	100	101	110	100	74.6	6.3
(S)	AberChoice	9 Jun	102	101	108	107	73.9	5.9
(S)	Twytop	15 Jun	96	98	103	104	71.7	6.2
(P)	Boyne	19 May	111	111	111	107	73.1	6.5
(P)	Gerrison	23 May	101	102	106	102	72.5	6.1
(P)	Bahima 1	24 May	107	109	107	102	70.8	6.0
(P)	Copeland	28 May	101	99	98	102	72.0	6.7

* = Control yield as average of 'Bold Type' diploid varieties in t/ha DM

Seasonal Yields of Diploid Perennial Ryegrass

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'.

Seasonal Silage Yields				Seasonal Grazing Yields				
1st Cut 6.9*	2nd Cut 3.2*	3rd Cut 3.1*	Aftermath Grazing 2.3*	Spring 2.3*	Early Summer 4.6*	Late Summer 3.3*	Autumn 1.8*	Maturity Class
%	%	%	%	%	%	%	%	
100	**93**	**107**	**125**	**128**	**96**	**97**	**105**	**Early**
107	**89**	**109**	**114**	**115**	**91**	**97**	**95**	**Early**
87	**99**	**111**	**120**	**114**	**94**	**98**	**99**	**Early**
92	**99**	**98**	**113**	**112**	**91**	**97**	**97**	**Early**
108	**97**	**99**	**91**	**105**	**93**	**99**	**100**	**Inter**
98	**100**	**99**	**92**	**96**	**101**	**101**	**97**	**Inter**
95	**104**	**96**	**108**	**96**	**105**	**102**	**109**	**Inter**
98	**103**	**98**	**94**	**95**	**101**	**97**	**93**	**Inter**
108	**102**	**98**	**83**	**81**	**107**	**100**	**94**	**Late**
109	**107**	**102**	**94**	**95**	**103**	**105**	**109**	**Late**
104	**104**	**93**	**96**	**89**	**106**	**103**	**104**	**Late**
102	**99**	**99**	**85**	**86**	**110**	**105**	**102**	**Late**
107	**106**	**103**	**86**	**92**	**108**	**102**	**98**	**Late**
108	98	119	121	130	98	103	101	Early
106	93	114	124	130	97	107	106	Early
106	102	104	94	115	98	100	98	Inter
96	100	101	90	92	98	97	94	Inter
93	102	102	97	88	98	94	87	Inter
92	102	93	100	96	96	97	99	Inter
102	113	111	110	100	109	112	114	Inter
113	101	95	83	95	99	100	98	Late
103	115	100	86	77	104	100	96	Late
99	108	106	83	87	105	103	95	Late
97	112	105	84	85	107	100	101	Late
89	128	106	97	88	117	106	108	Late
81	134	93	89	76	117	110	101	Late
112	108	111	106	117	102	107	103	Inter
103	101	107	83	109	99	103	98	Inter
114	98	100	102	108	97	107	99	Inter
98	101	108	98	108	96	105	102	Inter

* = Control yield as average of 'Bold Type' diploid varieties in t/ha DM

Tetraploid Perennial Ryegrass Varieties

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.

	VARIETY	Heading Date	Silage			Grazing		
			Total Yield 15.5*	2-Cut Yield Total 10.1*	2-Cut Yield Digest Yield 7.4*	Total Yield 12.1*	Grass Quality D-Value	Sward Density
			%	%	%	%	%D	(0-9)
	AberTorch (T)	**6 May**	**103**	**100**	**99**	**103**	**74.8**	**5.6**
	Malone (T)	**17 May**	**111**	**112**	**117**	**104**	**75.0**	**5.2**
	Niagara (T)	**17 May**	**104**	**104**	**109**	**102**	**76.6**	**6.2**
	Magician (T)	**18 May**	**109**	**113**	**117**	**103**	**74.2**	**5.4**
	Trintella (T)	**18 May**	**106**	**110**	**118**	**100**	**74.1**	**5.4**
	AberGlyn (T)	**18 May**	**105**	**110**	**108**	**99**	**72.9**	**5.5**
	Eurostar (T)	**23 May**	**105**	**106**	**106**	**103**	**74.5**	**6.0**
	Dunluce (T)	**28 May**	**107**	**105**	**115**	**109**	**75.4**	**5.6**
	Astonenergy (T)	**31 May**	**102**	**100**	**109**	**106**	**77.4**	**5.3**
	Glencar (T)	**31 May**	**109**	**116**	**113**	**101**	**73.5**	**5.8**
	Delphin (T)	**31 May**	**110**	**118**	**116**	**106**	**73.7**	**5.0**
	AberCraigs (T)	**2 Jun**	**107**	**115**	**111**	**103**	**77.0**	**5.7**
	Navan (T)	**3 Jun**	**107**	**109**	**109**	**104**	**75.9**	**5.4**
	Twymax (T)	**5 Jun**	**107**	**111**	**114**	**103**	**73.7**	**5.9**
	Dunloy (T)	**7 Jun**	**104**	**105**	**111**	**102**	**75.8**	**6.0**
	Millennium (T)	**10 Jun**	**103**	**104**	**102**	**102**	**74.5**	**5.8**
	Glenstal (T)	19 May	107	111	109	104	72.0	5.5
	Elgon (T)	2 Jun	104	107	106	103	75.9	5.7
(S)	Loporello (T)	2 Jun	101	105	104	95	73.2	6.4
	AberBite (T)	4 Jun	111	114	110	107	76.9	5.5
	Astonprincess (T)	5 Jun	104	108	115	101	75.7	5.9
	Fornido (T)	6 Jun	105	108	106	99	75.3	6.1
	Kintyre (T)	6 Jun	107	111	112	103	75.0	5.6
	Tivoli (T)	9 Jun	105	107	111	101	75.9	5.6
(P)	Dundrum (T)	2 Jun	108	116	110	102	76.2	5.5
(O)	Garibaldi (T)	26 May	103	103	109	99	74.2	5.8
(O)	Greengold (T)	29 May	103	102	105	103	75.3	5.7

* = Control yield as average of 'Bold Type' diploid varieties in t/ha D

Seasonal Yields of Tetraploid Perennial Ryegrass

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.

Seasonal Silage Yields				Seasonal Grazing Yields				
1st Cut 6.9*	2nd Cut 3.2*	3rd Cut 3.1*	Aftermath Grazing 2.3*	Spring 2.3*	Early Summer 4.6*	Late Summer 3.3*	Autumn 1.8*	Maturity Class
%	%	%	%	%	%	%	%	
103	**91**	**106**	**115**	**128**	**94**	**99**	**96**	**Early**
113	**111**	**116**	**100**	**122**	**97**	**103**	**100**	**Inter**
104	**106**	**107**	**99**	**109**	**98**	**101**	**101**	**Inter**
112	**117**	**100**	**98**	**115**	**100**	**104**	**96**	**Inter**
111	**109**	**104**	**94**	**112**	**96**	**101**	**96**	**Inter**
114	**103**	**96**	**90**	**119**	**94**	**96**	**91**	**Inter**
107	**106**	**106**	**93**	**110**	**102**	**100**	**97**	**Inter**
94	**130**	**114**	**107**	**109**	**108**	**108**	**107**	**Inter**
92	**118**	**105**	**106**	**100**	**106**	**110**	**106**	**Inter**
118	**113**	**102**	**83**	**98**	**104**	**102**	**95**	**Late**
121	**113**	**100**	**88**	**107**	**108**	**106**	**100**	**Late**
114	**116**	**101**	**83**	**101**	**105**	**103**	**98**	**Late**
107	**115**	**114**	**88**	**94**	**106**	**111**	**105**	**Late**
111	**113**	**106**	**85**	**93**	**112**	**101**	**96**	**Late**
100	**118**	**108**	**90**	**89**	**110**	**101**	**101**	**Late**
99	**115**	**105**	**92**	**92**	**108**	**101**	**101**	**Late**
110	115	103	94	116	101	104	100	Inter
109	102	107	82	105	104	104	97	Late
104	110	97	83	83	103	95	91	Late
111	120	112	94	88	112	108	114	Late
109	108	100	87	93	110	100	94	Late
104	116	108	85	84	107	103	95	Late
106	122	106	92	88	107	104	109	Late
102	121	113	83	89	108	100	99	Late
115	118	100	84	85	111	101	101	Late
102	107	109	91	101	97	98	99	Inter
93	121	106	101	101	103	105	104	Inter

* = Control yield as average of 'Bold Type' diploid varieties in t/ha D

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 2010/11:

Two hybrid ryegrasses, Belleek and Twyblade, were removed from the list this year, because commercialisation and seed supply for N. Ireland have ceased.

VARIETY	Heading Date	Silage Yields			Sward Density (0-9)
		1st Year 19.7*	2nd Year 17.8*	3rd Year 16.8*	
		%	%	%	%
AberEcho (HT)	**14 May**	**99**	**98**	**98**	**5.0**
Ligunda (HD)	**17 May**	**101**	**101**	**100**	**4.7**
Pirol (HD)	**19 May**	**99**	**101**	**102**	**5.3**
Drumlin (HT)	18 May	91	88	90	5.0
AberExcel (HT)	18 May	90	89	92	4.9
Hymer (HT)	19 May	92	94	94	4.6
AberEve (HT)	20 May	94	93	93	5.0
Foyle (HT)	20 May	90	90	89	4.9
Barsilo (HD)	23 May	96	96	94	4.5

* = 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 2.1*	1st Cut Silage 5.6*	2nd Cut Silage 4.1*	Aftermath Grazing 6.4*
	%	%	%	%
AberEcho (HT)	**99**	**107**	**89**	**97**
Ligunda (HD)	**103**	**96**	**103**	**103**
Pirol (HD)	**98**	**97**	**107**	**100**
Drumlin (HT)	63	112	73	90
AberExcel (HT)	81	103	80	89
Hymer (HT)	88	106	83	92
AberEve (HT)	76	104	85	95
Foyle (HT)	58	108	75	93
Barsilo (HD)	86	90	98	102

* = 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 utilized 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 2010/11:

Four Italian ryegrass varieties had their recommended list status changed this year. Litonio moved up from provisional recommendation to 'Plain Type' and is the only tetraploid Italian ryegrass fully recommended for use in Northern Ireland. Three provisionally recommended tetraploid varieties have been added to the list this year: Dorike, Hunter and Barmultra II.

	VARIETY	Heading Date	Silage Yields		Early Spring Growth (t/ha DM)	Sward Density (0-9)
			1st Year 20.4*	2nd Year 20.4*		
			%	%		
	Meribel	**18 May**	**99**	**90**	**2.1**	**4.9**
	Meryl	**20 May**	**101**	**91**	**2.3**	**4.8**
	AberEpic	**21 May**	**101**	**89**	**2.6**	**5.1**
	Fox	18 May	99	87	2.2	4.7
	Ligrande	19 May	96	86	2.2	4.7
	Litonio (T)	19 May	99	87	2.3	4.6
	AberMario	20 May	98	89	2.5	4.8
P	Dorike (T)	15 May	100	88	2.4	4.3
P	Hunter (T)	16 May	99	90	2.4	4.5
P	Barmultra II (T)	17 May	99	90	2.3	4.4

* = 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 2.4*	1st Cut Silage 5.5*	2nd Cut Silage 4.4*	Aftermath Grazing 7.2*
		%	%	%	%
	Meribel	**89**	**99**	**102**	**100**
	Meryl	**99**	**102**	**101**	**100**
	AberEpic	**112**	**99**	**97**	**99**
	Fox	97	104	95	95
	Ligrande	94	104	95	91
	Litonio (T)	98	103	96	96
	AberMario	107	98	95	97
P	Dorike (T)	100	108	97	93
P	Hunter (T)	100	104	102	94
P	Barmultra II (T)	99	110	98	93

* = 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.

Recommendation changes for 2010/11:

One Timothy variety, Dolina, was removed from the list because commercialisation and seed supply for N. Ireland have ceased. All other varieties remained with the same recommended list status.

	VARIETY	Heading Date	Silage		Grazing		Maturity Class
			Total Yield 14.1*	2-Cut Silage 9.1*	Total Yield 11.8*	Sward Density (0-9)	
			%	%	%		
	Presto	**8 Jun**	**101**	**99**	**102**	**5.6**	**Early**
	Comer	**9 Jun**	**104**	**105**	**104**	**5.5**	**Early**
	Motim	**17 Jun**	**96**	**98**	**99**	**6.1**	**Inter**
(S)	**Aber S48**	**23 Jun**	**95**	**98**	**90**	**7.3**	**Late**
	Promesse	10 Jun	92	91	98	5.9	Early
	Comtal	10 Jun	95	92	101	5.3	Early
	Erecta	10 Jun	95	92	100	5.5	Early
	Narnia	16 Jun	101	102	99	7.2	TBC

* = Average yield of 'Bold Type' varieties in t/ha DM TBC-to be confirmed

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 5.6*	2nd Cut 3.5*	3rd Cut 2.8*	Autumn Grazing 2.2*	Spring 2.5*	Early Summer 4.4*	Late Summer 3.6*	Autumn 1.3*
		%	%	%	%	%	%	%	%
	Presto	**111**	**79**	**112**	**97**	**115**	**94**	**102**	**98**
	Comer	**113**	**91**	**107**	**98**	**120**	**93**	**105**	**105**
	Motim	**97**	**100**	**92**	**96**	**100**	**100**	**100**	**98**
(S)	**Aber S48**	**71**	**142**	**73**	**112**	**48**	**115**	**87**	**95**
	Promesse	99	78	93	98	100	98	97	92
	Comtal	101	78	101	100	106	97	101	103
	Erecta	101	77	105	94	106	96	102	96
	Narnia	89	123	96	100	90	101	101	109

* = 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 2010/11:

Four White Clover varieties had their recommended list status changed this year. Grasslands Bounty has moved up from the fully recommended 'Plain Type' status to 'Bold Type'. AberGuard, Menna and Triffid have been removed from the list because commercialisation and seed supply for N. Ireland has ceased. All other varieties remained in either the highest 'Bold Type' or intermediary 'Plain Type' categories.

VARIETY	Relative leaf size (% Huia)	Grazing Yield Potential			Grazing Persistence	
		Total 12.9*	Clover 4.3*	Grass 8.6*	Low N (0-9)	High N (0-9)
	%	%	%	%		
AberAce	**39**	**90**	**57**	**106**	**6.5**	**4.6**
Glds. Demand	**74**	**97**	**84**	**104**	**6.3**	**5.2**
Crusader	**84**	**100**	**99**	**101**	**5.8**	**4.9**
Glds. Bounty	**87**	**101**	**98**	**102**	**5.9**	**4.7**
Avoca	**91**	**102**	**101**	**103**	**5.9**	**5.1**
AberDai	**96**	**100**	**105**	**98**	**5.4**	**4.7**
Chieftain	**101**	**104**	**121**	**95**	**5.3**	**4.5**
Alice	**118**	**103**	**113**	**97**	**5.1**	**4.2**
Barblanca	**122**	**104**	**119**	**97**	**5.6**	**4.6**
AberHerald	87	99	103	98	5.0	4.5
Glds. Huia	94	97	86	103	5.8	4.6
AberVantage	98	102	103	101	5.2	3.7
Aran	155	101	120	92	4.3	3.4

* = 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 depend 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) at 250 kg/ha N.

VARIETY	Clover Content	Seasonal Clover Yields				Leaf Size Class
		Spring 0.45*	Early Summer 1.39*	Late Summer 1.50*	Autumn 0.91*	
	%	%	%	%	%	
AberAce	**21**	**33**	**73**	**72**	**47**	**Small**
Glds. Demand	**29**	**77**	**84**	**85**	**78**	**Small**
Crusader	**33**	**145**	**96**	**93**	**116**	**Medium**
Glds. Bounty	**32**	**106**	**89**	**96**	**101**	**Medium**
Avoca	**33**	**88**	**100**	**100**	**109**	**Medium**
AberDai	**35**	**97**	**110**	**107**	**100**	**Medium**
Chieftain	**39**	**128**	**118**	**123**	**120**	**Medium**
Alice	**37**	**108**	**111**	**116**	**105**	**Large**
Barblanca	**38**	**123**	**108**	**103**	**125**	**Large**
AberHerald	34	88	101	109	100	Medium
Glds. Huia	29	75	85	92	80	Medium
AberVantage	34	106	101	105	102	Medium
Aran	39	108	109	124	135	V. Large

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

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 in comparing varieties and selecting 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.

Diploid Perennial Ryegrass

Early Diploids

Donard Very high total silage and grazing yields, exceptional aftermath as well as excellent spring and autumn production from erect swards.

Genesis This variety provides extremely high total silage yields and very high total grazing yields, one of the two highest spring yields as well as very high production after the second silage cut.

January (S) Specifically recommended for very high silage yields with a large early first cut. It also has excellent spring grazing followed by high autumn or aftermath growth.

Kilrea Although a late maturing member of the early group, it provides very high spring grazing yields and creates good grass quality from swards of a good grazing density. Total silage yields are high for an early variety, with excellent growth following the second silage cut.

Kimber At the very late end of the early group, it produces high second cut silage yields. It will also deliver very high spring grazing yields and maintain a high grazing grass quality for an early diploid.

Moyola This variety has similarly 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 (S) Specifically recommended for producing good annual grazing yields of very high quality grass at a high sugar content for a diploid. It has a similarly high grazing production ranking throughout the growing season and forms erect but dense swards.

AberStar Capable of producing notably high grazing yields throughout the summer/autumn season at a high digestibility, high sugar level. It also delivers high digestible yields over the first two silage cuts and has an erect growth habit.

AberMagic This variety has exceptionally high grazing yields and very high total silage yields, plus superb production across the main summer months and into the autumn, under both management systems.

Bahima 1 (P) This new provisional recommendation produces very high total silage yields, a high 2-cut digestible yield and has an excellent first cut silage yield, plus spring growth is high for an erect growing intermediate variety.

Betty (S) Produces high total annual silage yields with high second and if required third silage cuts. Although total grazing yields, grass quality and the early summer growth are only moderate to low, the mid-summer grazing yields are good in comparison to similar varieties.

Boyne (P) This provisional recommendation has exceptionally high total and two-cut silage yields, which are driven by an exceptionally high first cut. Total grazing yields are also extremely high, most notably in spring, are of high quality and delivered from dense swards.

Bree Produces high annual grazing yields, especially in the main summer growing period; high total annual and 2-cut digestible silage yields, and has an erect though dense growth habit.

Cashel Performs similarly well under grazing or silage use, provides high summer grazing from dense swards or high second silage cut yields and has good third cut productivity.

Copeland (P) A provisional recommendation with similarly high silage and grazing yields. It forms dense grazing swards that are very highly productive in spring and from late summer to the end of the growing season.

Gandalf High total silage yields at both first and particularly second cuts, plus good grazing production that is maintained through the summer and it forms very dense grazing swards.

Gerrison (P) This recommendation has high silage yields that deliver extremely high two-cut digestible yields. Its grazing yields are similarly high, as its dense swards deliver very high production in spring and from late summer to the end of the growing season.

Solomon A variety with remarkably high 2-cut digestible yields that is still capable of a very high third cut, if required. Its high 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 with notably high silage yields, featuring a very high first cut performance and an erect growth habit, plus high grazing yields in spring and for late season grazing.

Late Diploids

AberAvon Its high annual grazing yield at a very high digestibility level and high sugar content reaches optimal production during early summer to autumn. Its high silage yields are enhanced by its high quality characteristic giving excellent 2-cut digestible yields from an erect open growth habit.

AberChoice (S) 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. Its open growth makes it specifically recommended for use on drier ground or mixed with dense diploids.

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

Denver Produces excellent 2-cut total and digestible silage yields, followed by a high third cut, if required. Grazing performance is best during the main summer growing period and forms swards of good density.

Drumbo This variety shows exceptionally high 2-cut digestible silage yields and high total grazing yields of highly digestible grass. It also offers a high third silage cut, if required, and has its highest seasonal grazing performance in early summer.

Foxtrot One of the higher yielding diploid varieties when grazed, with a high grazing digestibility, and is particularly productive during the main summer growth period. Produces very good 2-cut digestible silage yields and forms tall erect growing swards.

Mateon 1 Produces high total silage yields that are at their greatest during the first two silage cuts. It also produces excellent quality grazing grass from dense swards, particularly during the main summer growing periods.

Pastour Forms erect swards and delivers high silage yields that become extremely high when digestible yield in the first two silage cuts is considered. Its high total annual grazing yields are strongest during the main summer growth period.

Portstewart Forms erect silage swards, produces a high 2-cut digestible yield, provides good total annual grazing yields distributed mostly in the main summer period with less production in Spring and autumn.

Twytop (S) This, the latest maturing diploid variety, is specifically recommended on account of its excellent grazing yields and exceptional summer production. Also valuable for contributing to the second silage cutting cycle.

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 at a high grazing digestibility. Total annual silage yields are also good partly due to a very high third cut potential and excellent aftermath grazing.

Intermediate Tetraploids

AberGlyn Produces excellent silage yields comprising of an enormous first cut, and it has a good grazing yield supplemented by an exceptional spring performance.

Astonenergy Produces excellent grazing yields of very high quality herbage and this high 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 the highest total grazing yield on the list, has one of the highest silage production outputs, retains its high productivity potential late into the season and maintains a high herbage quality in both management systems.

Eurostar A very dense variety for a tetraploid, with large annual and spring grazing yields and high silage production in all categories, plus very good herbage quality characteristics.

Garibaldi (O) Produces a high 2-cut digestible silage yield and has a typical erect though dense tetraploid growth habit however it's combined total yields are now below the average expected for a tetraploid and it has become outclassed.

Glenstal Excellent production of a large 2-cut bulk of grass for silage or very high total grazing yields, though digestibility levels offset some of this advantage. Typical of its maturity, grazing yields are particularly high in spring and it has a classic tetraploid sward structure.

Greengold (O) Achieves good all round total annual grazing performances from high density swards for a tetraploid, enhanced by very good grass quality. However, this variety is not competing as well with the new varieties and so has become outclassed.

Magician High total silage yields that are enhanced greatly when digestibility over two cuts is considered. 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, high performance in late summer and a high grass D-value.

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

Trintella Produces extremely high 2-cut total and digestible silage yields from typical tall open tetraploid-type swards. The good grazing yields of good quality grass include impressive 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 impressively high, with excellent total yield that is delivered most strongly from early summer to an extended high autumn productivity.

AberCraigs Excellent 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 exceptionally high grass quality.

Astonprincess This late maturing variety produces notably high 2-cut digestible silage yields from swards of high density for a tetraploid. Grazing production is also high particularly in early summer.

Delphin One of the highest performing late tetraploid varieties for silage in all categories plus a high grazing performance. It gives its strongest grazing performances in mid-season and forms tall erect open tetraploid swards.

Dundrum (P) This provisionally recommended variety has excellent 2-cut silage, total and digestible yields. It maintains an impressively high grass quality for grazing combined with a notably high early summer grazing yield.

Dunloy This variety has excellent 2-cut digestible yields that comprise an impressively high second cut and, if required, high third cut. The very dense grazing swards, for a tetraploid, have high grazing digestibility and are at their highest productivity levels in early summer.

Elgon Produces strong total annual grazing and silage yields which are enhanced by its high grass quality characteristics. This maintains its high 2-cut silage yield when digestible yield is measured and gives it a high grazing D-value from a classical bold tetraploid sward structure.

Fornido This variety has a consistently high yielding silage performance in the 'total', '2-cut' and '2-cut digestible' categories. It also forms highly dense swards for a tetraploid and gives its strongest grazing performances during the main summer growth period.

Glencar One of the highest total silage yielding varieties for 2-cut bulk yield. It also has high grazing yields throughout the summer from swards of a good density. Such excellent high productivity is partially offset when digestibility is considered.

Kintyre A variety with notably excellent 2-cut silage performances, which will continue to a high third cut, if required. The good grazing yields are at their strongest after spring is over with particularly excellent autumn productivity for extending the grazing season.

Loporello (S) This variety has exceptionally dense swards for a tetraploid and achieves its highest performance under silage during the first two cuts. While its best grazing performance occurs in early summer, it is specifically recommended for silage use.

Millennium This, the latest maturing variety, forms high density swards for a tetraploid, delivers similarly high silage yields in all categories, with an excellent summer grazing performance from within a high total season grazing yield.

Navan High yielding under both sward managements, it maintains its high productivity across all three silage cuts. Grazing performance is at an optimum during the main summer season while the grass quality is maintained at a very high D-value.

Tivoli The generally good total silage yield is greatly enhanced by its quality of production to give an excellent 2-cut digestible yield. The quality of the grazing grass is also high with productivity maintained through summer from a good sward density for a tetraploid.

Twymax Another variety with very high 2-cut digestible silage yields that are evenly distributed across both cuts. Grazing yields are high, particularly in early summer and it forms excellently dense swards for a tetraploid.

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' varieties.

AberEve (HT) This variety has a dense sward typical of a perennial-type hybrid, yet has high total seasonal yields plus a strong first cut yield for this type of hybrid.

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.

Barsilo (HD) A diploid variety and the latest maturing of all the recommended hybrids. It provides very good total annual yields in all harvest years, has 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 outperforms all other varieties for first cut silage.

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) Produces high total yields which improve relative to other varieties in the second and third years from swards that are more typical of an 'Italian-type hybrid.

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

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

Italian Ryegrass

AberEpic Overall, one of the three highest yielding 'Bold-type' varieties and forms swards of a better density than the other varieties. It also has a spring yield potential that substantially exceeds all the other recommended varieties and a good aftermath grazing performance.

AberMario Has an excellent spring growth and a similar sward structure to most of the other varieties, with a yield potential similar to the 'Bold-type' varieties.

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

Dorike (T) (P) This provisionally recommended variety enters the list with first year total and spring grazing yields equivalent to the 'Bold-types'. It has a first cut silage yield that exceeds them all and an open sward density typical of a tetraploid Italian ryegrass.

Fox This variety has very similar first year yields to the 'Bold-type' varieties, but a higher first cut silage yield. Its spring growth and density are similar to the best of the other 'Plain-types'.

Hunter (T) (P) This new provisional variety has good spring grazing and first and second year yields similar to the 'Bold types', with a high sward density for a tetraploid variety.

Ligrande This diploid variety has a very high first cut performance and creates a similar sward structure to most other recommended varieties. It also has a good yield potential in both harvest years.

Litonio (T) This variety has a first year yield, plus a first silage cut similar to the 'Bold-types' and is very dense for a tetraploid. Its other performance figures are more typical of the performance levels of the other 'Plain-type' varieties.

Meribel Is 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.

Meryl Produces very high first harvest year and second harvest year total annual yield results, plus very good spring yields, followed by a consistently high performance throughout the year, from swards of a good density for a tetraploid.

Timothy

Early

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

Comtal Delivers high total annual yields under the 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.

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 peak 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 others of a similar maturity 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.

Narnia This recent listing has one of the highest 2-cut silage yields and one of the most dense sward structures among the Timothy varieties, regardless of maturity. Its grazing yields are also high and are delivered from early summer to an excellent autumn production.

Intermediate & Late

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.

Motim An intermediate maturing variety that achieves good annual yields under both management systems and forms a compact dense sward. Seasonal grazing yields feature a consistently high performance throughout and high second cut silage productivity.

White Clover

Small Leaved

AberAce The smallest recommended variety, it has very high 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 a 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 This variety has production results comprising the highest clover yield, total yield and overall clover content of any listed variety. 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.

Grasslands Bounty The leaf size of this variety lies between Crusader and Avoca and has total and grass yields exactly between these two varieties. Its Low-N persistency is also comparable with these two varieties, with a seasonal growth distribution more similar to Crusader.

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

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, these are highest in Spring and again in autumn, plus its grazing persistent 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.

Guidance on Alternative Forage Legumes

Trial Results for Red Clover Varieties: Red Clover is grown mainly for conservation and divides into early and late varieties. Early varieties have high spring growth, a large first cut and smaller subsequent cuts. Late varieties are two weeks later flowering, are slower in spring, give their main yield at the first cut and are more persistent and suited to medium-term use. Red clover will perform best on well drained, fertile soils with a pH of 6.0–6.5. The table below shows the average yields and persistency of a selection of varieties currently undergoing assessment at Crossnacreevy. As the work is not as yet complete, no variety recommendations have been made and the results are for information only. There may also be other varieties in commerce that have yet to be assessed in these local trials.

VARIETY (alphabetical order) Control Yields (t/Ha)	Harvest Year 1		Harvest Year 2		Harvest Year 3		Three Year Average	
	DM Yield 18.2	Relative Persis-tence (0-9 high)	DM Yield 18.1	Relative Persis-tence (0-9 high)	DM Yield 14.7	Relative Persis-tence (0-9 high)	DM Yield 17.0	Relative Persis-tence (0-9 high)
	%		%		%		%	
Glds. Sensation	97	3.6	106	4.2	94	5.2	99	4.3
Lemmon	104	5.1	103	4.4	91	5.0	100	4.8
Maro	99	3.6	99	3.4	110	2.9	103	3.3
Mercury	99	4.4	101	3.9	101	2.7	100	3.7
Merviot	103	4.6	105	4.1	103	3.5	104	4.1
Rotra	102	4.2	99	3.3	105	3.2	102	3.5
Sara	94	3.7	85	3.5	98	2.4	92	3.2

Note - varieties listed in alphabetical order

These yields were achieved without nitrogen fertilizer, 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. Furthermore, in experimental studies at Crossnacreevy, red clover/Italian ryegrass mixtures yielded 75% of the yield of pure Italian ryegrass swards receiving over 300 kg/ha nitrogen.

Notes on Alternative Forage Legumes: In addition to white and red clover there are several other pasture legumes that may be of value in exceptional circumstances or in some organic systems. Lucerne is best cut for conservation on approximately a 40 day rotation, giving 3-4 cuts per year. (Vertus is the only UK registered variety but Capri, Daisy, Diane, Europe, Euver, Marshal, Mercedes, Pondus and Vela may be available) Alsike clover is an alternative to red clover but is much lower yielding. Sainfoin is a much lower yielding alternative to Lucerne and is for specialist use particularly on chalk or limestone soils. EU varieties include Aigaion, Bellante, Carmen, Corona, Grimaldi and S. Omero.

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	Variety	Breeder (country)	UK Agent
Italian Ryegrass			Hybrid Ryegrass		
AberEpic	IBERS (UK)	BSH	AberEcho (HT)	IBERS (UK)	BSH
AberMario	IBERS (UK)	BSH	AberEve (HT)	IBERS (UK)	BSH
Barmultra II (T) (P)	Barenbrug BV (NL)	Bar	AberExcel (HT)	IBERS (UK)	BSH
Dorike (T) (P)	Euro Grass (D)	BSH	Barsilo (HD)	Barenbrug BV (NL)	Bar
Fox	Limagrain (FR)	DLF	Drumlin (HT)	DARD (UK)	Bar
Hunter (T) (P)	Euro Grass (D)	DLF	Foyle (HT)	DARD (UK)	Bar
Ligrande	Euro Grass (D)	EG	Hymer (HT)	D.v.P. (B)	DLF
Meribel	D.v.P. (B)	DLF	Ligunda (HD)	BfAL (A)	DLF
Meryl	D.v.P. (B)	EG	Pirol (HD)	Saatzucht Steinach (D)	BSH
Litonio (T)	Euro Grass (D)	EG			
White Clover Varieties			Timothy Varieties		
AberAce	IBERS (UK)	BSH	Aber S48 (S)	IBERS (UK)	BSH
AberDai	IBERS (UK)	BSH	Comer	D.v.P. (B)	DLF
AberHerald	IBERS (UK)	BSH	Comtal	Advanta Seeds BV (NL)	DLF
AberVantage	IBERS (UK)	BSH	Erecta	D.v.P. (B)	DLF
Alice	IBERS (UK)	Bar	Motim	Advanta Seeds BV (NL)	DLF
Aran	Teagasc (RoI)	BSH	Narnia	DLF Trifolium (DK)	DLF
Avoca	Teagasc (RoI)	DLF	Presto	Euro Grass (D)	BSH
Barblanca	AgResearch (NZ)	Bar	Promesse	Cebeco Seeds BV (NL)	DLF
Chieftain	Teagasc (RoI)	DLF			
Crusader	AgResearch (NZ)	Bar			
Glds. Bounty	Wrightson (NZ)	DLF			
Glds. Demand	AgResearch (NZ)	DLF			
Glds. Huia	AgResearch (NZ)	DLF			

Variety	Breeder (country)	UK Agent
Diploid Perennial Ryegrass		
AberAvon	IBERS (UK)	BSH
AberChoice (S)	IBERS (UK)	BSH
AberDart (S)	IBERS (UK)	BSH
AberMagic	IBERS (UK)	BSH
AberStar	IBERS (UK)	BSH
AberZest (S)	IBERS (UK)	BSH
Bahima 1 (P)	Cebeco Seeds BV (NL)	DLF
Betty (S)	Euro Grass (D)	EG
Boyne (P)	DLF Trifolium (DK)	DLF
Bree	Cebeco Seeds BV (NL)	DLF
Cashel	Teagasc (RoI)	DLF
Copeland (P)	DARD (UK)	Bar
Denver	Advanta Seeds BV (NL)	DLF
Donard	DARD (UK)	DLF
Drumbo	DARD (UK)	Bar
Foxtrot	Limagrain Genetics (NL)	DLF
Genesis	Teagasc (RoI)	DLF
Gerrison (P)	DLF Trifolium (DK)	DLF
January (S)	Teagasc (RoI)	DLF
Kilrea	DARD (UK)	Bar
Kimber	Advanta Seeds BV (NL)	DLF
Gandalf	Advanta Seeds BV (NL)	DLF
Mateon 1	Cebeco Seeds BV (NL)	DLF
Moyola	DARD (UK)	Bar
Pastour	Limagrain Genetics (NL)	DLF
Portstewart	DARD (UK)	Bar
Solomon	Teagasc (RoI)	DLF
Spelga	DARD (UK)	Bar
Tyrella	DARD (UK)	Bar
Twytop (S)	Advanta Seeds BV (NL)	DLF

Variety	Breeder (country)	UK Agent
Tetraploid Perennial Ryegrass		
AberBite	IBERS (UK)	BSH
AberCraigs	IBERS (UK)	BSH
AberGlyn	IBERS (UK)	BSH
AberTorch	IBERS (UK)	BSH
Astonenergy	Euro Grass (D)	EG
Astonprincess	Euro Grass (D)	EG
Delphin	CPB Twyford Ltd (UK)	DLF
Dundrum (P)	DARD (UK)	Bar
Dunloy	DARD (UK)	Bar
Dunluce	DARD (UK)	Bar
Elgon	Advanta Seeds BV (NL)	DLF
Eurostar	Advanta Seeds BV (NL)	DLF
Fornido	Euro Grass (D)	EG
Garibaldi (O)	DLF Trifolium (DK)	DLF
Glencar	Teagasc (RoI)	DLF
Glenstal	Teagasc (RoI)	DLF
Greengold (O)	Teagasc (RoI)	DLF
Kintyre	Teagasc (RoI)	DLF
Loporello (S)	DLF Trifolium (DK)	DLF
Magician	Teagasc (RoI)	DLF
Malone	DARD (UK)	Bar
Millennium	Teagasc (RoI)	DLF
Niagara	Advanta Seeds BV (NL)	DLF
Navan	DARD (UK)	Bar
Tivoli	DLF Trifolium (DK)	DLF
Twymax	Advanta Seeds BV (NL)	DLF
Trintella	DLF Trifolium (DK)	DLF

Country Codes

A – Austria B – Belgium; D – Germany; DK – Denmark; NL – Netherlands; NZ - New Zealand; RoI- Ireland; UK – United Kingdom

Addresses of UK Agents/maintainers:

- **Bar** Barenbrug UK Ltd 33 Perkins Road, Rougham industrial Estate, Rougham, Bury St Edmunds, Suffolk IP30 9NW
- **EG** Eurograss Unit 1 Apple Tree Business Park, Appletree, Nr. Daventree, Northants, NN11 6UG
- **BSH** British Seed Houses Ltd, Portview Road, Avonmouth, Bristol BS11 9JH
- **DLF** DLF Trifolium UK & N. Ireland Ltd, 9-14 Bellevue Mansions, Bellevue Road, Clevedon, N. Somerset BS21 7NU

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 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
trevor.gilliland@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

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To find out what AFBI can do for your business, contact:
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Belfast BT9 5PX, Northern Ireland, UK.
Tel: +44 (0)28 90 255051
Fax: +44 (0)28 90 255035
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	0845 30 44 500
Education and Training	0845 30 44 501
Environment	0845 30 44 502
Farming	0845 30 44 503
Fisheries	0845 30 44 504
Flood Defence and Drainage	0845 30 44 505
Food	0845 30 44 506
Forests	0845 30 44 507
Grants and Funding	0845 30 44 508
Rural Development	0845 30 44 509
DARD Corporate Services	0845 30 44 510
Textphone	0845 30 44 511
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

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