Key DARD Contacts: Farmers, growers and processors requiring guidance on variety selection and use should contact their local DARD Agricultural Development Centre:

County Antrim	Ballyclare	Tel: 028 9332 2399
	Ballymoney	Tel: 028 2766 0160
County Armagh	Armagh	Tel: 028 3751 5659
	Newry	Tel: 028 3025 3310
County Down	Banbridge	Tel: 028 4062 9182
	Newtownards	Tel: 028 9181 3570
County Fermanagh	Enniskillen	Tel: 028 6632 5004
County Londonderry	Limavady	Tel: 028 7776 2521
	Magherafelt	Tel: 028 7930 2112
County Tyrone	Dungannon	Tel: 028 8775 4777
	Omagh	Tel: 028 8225 1020

Farmers, growers and processors requiring more specialist information on crops should contact:
CAFRE Technology & Business Division Services,
Crops and Horticulture Tel: 028 9442 6770
Greenmount College Fax: 028 9442 6777

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

AN ROINN
Talmhaíochta agus
Forbartha Tuaithe

MÄNNYSTRIE O
Fairms an
Kintra Fordèrin

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Grass and **Clover**

Recommended Varieties for Nothern Ireland 2008/09

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

afbi Agri-Food and Biosciences Institute

Recommended Booklet

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

The Agri-Food 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.

The booklet contains a summary list of the recommended varieties followed by various tables of performance results and descriptive texts that give increasing detail on variety potential in Northern Ireland.

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.

GRASS AND CLOVER VARIETIES FOR 2008-09

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Agri-Food Biosciences Institute, Plant Testing Station, Crossnacreevy
PUBLISHED 2008
RECOMMENDATIONS VALID until July 2009

CONTENTS

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 merchants 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 2008/09 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 2008/09

Perennial Ryegrass

Early Diploid

Moy
Donard
Spira
Kilrea
Kimber
(P) January

Intermediate Diploid

Spelga
AberDart
Bree
AberStar
Gandalf
Cashel
(S) Betty
(O) Glen
(O) Corbet

Late Diploid

Denver
(S) AberZest
AberAvon
Foxtrot
Pastour
(S) Gilford
Tyrella
Mateon1
Portstewart
(P) Matiz
(PS) Twytop

Early Tetraploid

AberTorch
Tetramax

Intermediate Tetraploid

Magician
AberGlyn
Glenstal
Eurostar
Garibald
Greengold
Dunluce
Niagara
Malone
Trintella
Astonenergy
(O) Fornax

Late Tetraploid

Glencar
Delphin
Loporello
AberCraigs
Navan
Millennium
Elgon
(S) Cooper
Tivoli
(P) Twymax
(P) Astonprincess
(P) Dunloy
(P) Fornido

Italian Ryegrass

Meribel
Meryl
AberEpic
Ligrande
AberMario
(P) Fox

Hybrid Ryegrass

AberStorm (HT)
AberEcho (HT)
Drumlin (HT)
Ligunda (HD)
Pirol (HD)
Foyle (Ht)
Belleek (HT)
Twyblade (HT)
AberExcel (HT)
Hymer (HT)
Barsilo (HD)
(P) AberEve (HT)

Timothy

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

White Clover

Small Leaved

AberAce
Glds. Demand

Medium Leaved

Crusader
Avoca
AberDai
Chieftain
AberHerald
Glds. Huia
Menna
AberVantage
(P) AberGuard
(P) Glds Bounty

Large Leaved

Barblanca
Alice

Very Large Leaved

Triffid
(S) Aran

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 and **Timothy** trials are grazed with cattle in the first year and measurements taken during the second and third years to assess long-term potential. 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 Fennema 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 D-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 Moy to the latest maturing Veritas.

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 Corbet, than between Corbet and the 'late' variety Gilford. 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 2008-09:

Two early varieties had their recommended status changed. January was added as a new diploid provisional recommendation and the tetraploid Session was removed from 'Bold Type' as commercialisation of this variety has ceased. All other varieties remained in the highest 'Bold Type' classification.

Six intermediate varieties had their recommended status changed. In the diploids, Corbet and Glen were downgraded to 'Outclassed'. In the tetraploids, two varieties, Astonenergy and Trintella were upgraded from provisional recommendations to 'Plain Type'. Fornax was downgraded to 'Outclassed' and Calibra was removed from the list having been 'Outclassed' in the previous publication

Five late varieties had their recommended status changed. Two diploid varieties, Matiz and Twytop were added to the list as new provisional recommendations. In the tetraploids two new provisional recommendations were added, Dunloy and Twymax. Cooper was downgraded from 'Bold' to 'Plain Type' with a specific recommendation for its use. The previously provisionally recommended variety Eurobonus changed its name to Astonprincess and remained in the provisional category along with Fornido.

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 15.2*	2-Cut Yield 9.9*	2-Cut D-Yield 7.4*	Total Yield 12.4*	Grass Quality D-Value	Sward Density
			%	%	%	%	% D	(0-9)
	Moy	**6 May**	**101**	**98**	**102**	**97**	**70.0**	**6.8**
	Donard	**8 May**	**103**	**99**	**96**	**102**	**71.4**	**6.0**
	Spira	**12 May**	**99**	**97**	**96**	**96**	**70.4**	**6.5**
	Kilrea	**14 May**	**100**	**93**	**92**	**99**	**72.3**	**6.6**
	Kimber	**16 May**	**98**	**95**	**95**	**97**	**72.8**	**6.3**
	Spelga	**17 May**	**103**	**104**	**99**	**99**	**68.8**	**6.2**
	AberDart	**24 May**	**96**	**95**	**98**	**100**	**75.1**	**6.5**
	Bree	**24 May**	**100**	**101**	**98**	**99**	**71.8**	**6.6**
	AberStar	**25 May**	**99**	**97**	**103**	**104**	**74.7**	**6.3**
	Gandalf	**26 May**	**100**	**100**	**98**	**98**	**72.0**	**6.7**
	Denver	**31 May**	**100**	**104**	**104**	**98**	**70.8**	**6.7**
(S)	**AberZest**	**31 May**	**103**	**106**	**100**	**103**	**74.2**	**5.9**
	AberAvon	**2 Jun**	**100**	**102**	**106**	**102**	**73.9**	**6.1**
	Foxtrot	**4 Jun**	**98**	**100**	**104**	**103**	**73.3**	**6.3**
	Pastour	**5 Jun**	**101**	**105**	**109**	**102**	**72.3**	**6.2**
	Cashel	18 May	97	97	96	97	71.1	6.7
(S)	Betty	23 May	100	94	98	93	72.6	6.4
(S)	Gilford	1 Jun	94	98	107	94	72.7	6.8
	Tyrella	3 Jun	101	107	90	99	72.2	6.4
	Mateon 1	5 Jun	101	104	105	99	73.5	6.7
	Portstewart	5 Jun	98	99	100	99	70.9	6.1
(P)	January	10 May	105	105	92	98	71.9	5.8
(P)	Matiz	12 Jun	98	101	100	101	73.1	6.6
(PS)	Twytop	16 Jun	93	93	102	105	71.0	6.2
(O)	Glen	29 May	90	87	92	94	74.1	6.8
(O)	Corbet	31 May	91	91	87	98	69.2	6.4

* = Control yield as average of 'Bold Type' diploid varieties in t/ha DM [ ] = Data for Betty when tested in early maturity group. ( ) = Data comprising less than three separately sown trials should be treated with some caution.

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				Maturity Class
1st Cut	2nd Cut	3rd Cut	Aftermath Grazing	Spring	Early Summer	Late Summer	Autumn	
6.7*	3.2*	2.9*	2.4*	2.4*	4.7*	3.5*	1.9*	
%	%	%	%	%	%	%	%	
101	**91**	**104**	**107**	**114**	**90**	**95**	**98**	**Early**
100	**97**	**105**	**121**	**121**	**95**	**98**	**106**	**Early**
98	**96**	**101**	**100**	**109**	**92**	**92**	**91**	**Early**
88	**103**	**111**	**113**	**112**	**94**	**97**	**100**	**Early**
92	**103**	**97**	**106**	**110**	**91**	**96**	**98**	**Early**
109	**95**	**102**	**98**	**104**	**95**	**99**	**101**	**Inter**
92	**100**	**92**	**105**	**99**	**98**	**100**	**103**	**Inter**
102	**100**	**98**	**98**	**95**	**102**	**99**	**97**	**Inter**
96	**100**	**92**	**113**	**96**	**107**	**103**	**110**	**Inter**
101	**100**	**99**	**99**	**95**	**102**	**98**	**94**	**Inter**
106	**101**	**97**	**83**	**81**	**107**	**101**	**94**	**Late**
107	**105**	**103**	**94**	**95**	**103**	**106**	**108**	**Late**
101	**104**	**93**	**95**	**90**	**106**	**104**	**103**	**Late**
101	**100**	**103**	**83**	**87**	**110**	**107**	**100**	**Late**
105	**105**	**102**	**86**	**92**	**109**	**103**	**97**	**Late**
96	99	97	95	92	99	96	96	Inter
85	115	115	103	88	99	93	87	Inter
97	101	93	81	85	102	89	94	Late
96	107	102	84	85	105	104	93	Late
112	99	95	82	98	101	99	97	Late
99	116	100	87	79	106	102	101	Late
111	95	101	109	107	94	95	99	Early
75	130	97	88	78	117	110	100	Late
97	113	102	80	74	110	105	103	Late
79	106	93	93	86	99	91	96	Inter
81	114	97	81	83	103	100	102	Inter

* = Control yield as average of 'Bold Type' diploid varieties in t/ha DM [ ] = Data for Betty when tested in early maturity group

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 15.2*	2-Cut Yield 9.9*	2-Cut D-Yield 7.4*	Total Yield 12.4*	Grass Quality D-Value	Sward Density
			%	%	%	%	% D	(0-9)
	AberTorch(T)	**7 May**	**103**	**100**	**98**	**101**	**74.2**	**5.5**
	Tetramax(T)	**15 May**	**101**	**99**	**102**	**98**	**73.2**	**5.7**
	Magician(T)	**18 May**	**108**	**110**	**116**	**105**	**73.6**	**5.5**
	AberGlyn(T)	**19 May**	**105**	**110**	**107**	**101**	**72.3**	**5.5**
	Glenstal(T)	**20 May**	**107**	**111**	**108**	**105**	**71.4**	**5.5**
	Eurostar(T)	**24 May**	**104**	**105**	**104**	**103**	**73.9**	**6.1**
	Garibaldi(T)	**26 May**	**103**	**105**	**110**	**99**	**73.6**	**5.8**
	Greengold(T)	**29 May**	**103**	**102**	**105**	**105**	**74.7**	**5.8**
	Dunluce(T)	**29 May**	**108**	**105**	**114**	**109**	**74.8**	**5.6**
	Glencar(T)	**31 May**	**109**	**119**	**113**	**101**	**72.9**	**5.8**
	Delphin(T)	**1 Jun**	**109**	**117**	**116**	**105**	**73.1**	**5.2**
	Loporello(T)	**2 Jun**	**100**	**104**	**104**	**97**	**72.6**	**6.4**
	AberCraigs(T	**3 Jun**	**106**	**113**	**111**	**103**	**76.4**	**5.6**
	Navan(T)	**4 Jun**	**105**	**108**	**108**	**104**	**75.3**	**5.4**
	Millennium(T)	**11 Jun**	**101**	**102**	**101**	**103**	**73.9**	**5.8**
	Niagara(T)	17 May	103	104	111	103	75.9	6.3
	Malone(T)	17 May	113	114	120	105	74.3	5.2
	Trintella(T)	20 May	106	110	123	101	74.1	5.3
	Astonenergy(T)	31 May	103	101	112	106	76.8	5.2
	Elgon(T)	3 Jun	101	106	107	103	75.1	5.7
(S)	Cooper(T)	6 Jun	99	99	99	107	71.8	5.5
	Tivoli(T)	10 Jun	102	105	111	101	75.1	5.6
(P)	Twymax(T)	6 Jun	101	105	109	103	72.8	6.0
(P)	Astonprincess(T)	6 Jun	103	106	115	102	73.6	5.8
(P)	Dunloy(T)	8 Jun	103	104	111	102	74.7	6.0
(P)	Fornido(T)	8 Jun	103	106	105	101	73.8	6.1
(O)	Fornax(T)	24 May	101	104	108	99	74.8	5.9

* = Control yield as average of 'Bold Type' diploid varieties in t/ha. ( ) = Data comprising less than three separately sown trials should be treated with some caution.

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				Maturity Class
1st Cut	2nd Cut	3rd Cut	Aftermath Grazing	Spring	Early Summer	Late Summer	Autumn	
6.7*	3.2*	2.9*	2.4*	2.4*	4.7*	3.5*	1.9*	
%	%	%	%	%	%	%	%	
102	**97**	**108**	**108**	**124**	**93**	**99**	**98**	**Early**
95	**111**	**101**	**104**	**108**	**97**	**97**	**91**	**Early**
105	**122**	**105**	**101**	**109**	**102**	**106**	**101**	**Inter**
115	**101**	**95**	**95**	**118**	**96**	**97**	**93**	**Inter**
111	**113**	**102**	**98**	**115**	**102**	**105**	**101**	**Inter**
107	**103**	**106**	**97**	**109**	**103**	**101**	**98**	**Inter**
106	**105**	**106**	**92**	**97**	**100**	**99**	**100**	**Inter**
93	**123**	**104**	**105**	**102**	**105**	**107**	**107**	**Inter**
95	**128**	**114**	**111**	**107**	**109**	**109**	**108**	**Inter**
121	**113**	**100**	**84**	**98**	**104**	**103**	**94**	**Late**
120	**113**	**100**	**86**	**102**	**108**	**108**	**98**	**Late**
102	**108**	**97**	**83**	**84**	**104**	**96**	**91**	**Late**
114	**112**	**100**	**85**	**98**	**105**	**107**	**96**	**Late**
105	**114**	**109**	**90**	**90**	**106**	**112**	**103**	**Late**
96	**116**	**107**	**90**	**91**	**109**	**105**	**100**	**Late**
105	104	105	99	110	99	103	102	Inter
117	111	116	104	122	98	103	100	Inter
92	120	104	111	97	106	111	108	Inter
112	107	101	97	113	97	101	99	Inter
101	116	105	85	87	108	102	97	Late
108	103	99	82	104	104	105	95	Late
95	110	106	86	95	114	112	98	Late
106	105	102	85	92	113	102	95	Late
98	117	109	91	89	110	102	97	Late
102	116	109	84	85	108	103	95	Late
105	110	103	86	95	110	102	91	Late
104	106	95	94	101	104	95	93	Inter

* = Control yield as average of 'Bold Type' diploid varieties from the previous table, in t/ha DM

Recommended Hybrid Ryegrass Varieties

Hybrid Ryegrass Types:

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

Recommendation changes for 2008-09:

One hybrid ryegrass variety was added to the recommended list this year as a new provisional recommendation. All other varieties remained in either the highest 'Bold Type' or intermediary 'Plain Type' classifications.

	VARIETY	Heading Date	Silage Yields 1ST Year 18.7*	2ND Year 16.8*	3RD Year 15.7*	Sward Density
			%	%	%	(0-9)
	AberStorm (HT)	**7 May**	**96**	**95**	**94**	**5.2**
	AberEcho(HT)	**13 May**	**105**	**104**	**104**	**5.0**
	Drumlin(HT)	**17 May**	**94**	**94**	**95**	**4.9**
	Ligunda(HD)	**17 May**	**105**	**107**	**106**	**4.6**
	Pirol(HD)	**19 May**	**106**	**106**	**108**	**5.3**
	Foyle(HT)	**20 May**	**93**	**95**	**93**	**5.0**
	Belleek(HT)	15 May	96	93	95	4.9
	Twyblade(HT)	16 May	96	98	100	4.5
	AberExcel(HT)	18 May	94	95	96	4.8
	Hymer(HT)	19 May	97	99	100	4.5
	Barsilo(HD)	23 May	101	99	102	4.5
(P)	AberEve(HT)	20 May	100	98	98	5.0

* = Average first year 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 1.9*	1st Cut Silage 5.8*	2nd Cut Silage 3.6*	Aftermath Grazing 5.9*
		%	%	%	%
	AberStorm (HT)	**112**	**93**	**92**	**96**
	AberEcho(HT)	**115**	**104**	**102**	**102**
	Drumlin(HT)	**74**	**109**	**84**	**93**
	Ligunda(HD)	**118**	**93**	**117**	**108**
	Pirol(HD)	**114**	**94**	**122**	**106**
	Foyle(HT)	**67**	**106**	**84**	**96**
	Belleek(HT)	88	100	86	95
	Twyblade(HT)	100	104	89	96
	AberExcel(HT)	94	100	90	93
	Hymer(HT)	103	102	95	96
	Barsilo(HD)	99	86	110	107
(P)	AberEve(HT)	88	102	96	100

* = Average second year 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 2008-09:

Five Italian ryegrass varieties had there recommended list status changed this year. AberEpic moved up to 'Bold Type', AberMario moved up to 'Plain Type' and Fox entered the list as a new provisional recommendation. Ligrande was downgraded to 'Plain Type' and Zarastro was removed as commercialisation has ceased.

	VARIETY	Heading Date	Silage Yields 1ST Year 20.3*	Silage Yields 2ND Year 20.3*	Early Spring Growth	Sward Density
			%	%	(t/ha DM)	(0-9)
	Meribel	**17 May**	**100**	**91**	**2.1**	**4.8**
	Meryl	**20 May**	**101**	**92**	**2.3**	**4.9**
	AberEpic	**21 May**	**102**	**90**	**2.6**	**5.1**
	Ligrande	18 May	**99**	**87**	2.2	4.8
	AberMario	20 May	**99**	**90**	2.5	4.8
(P)	Fox	17 May	**100**	**88**	2.2	4.7

* = Average first year yield of all the 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 2.2*	1st Cut Silage 5.7*	2nd Cut Silage 4.5*	Aftermath Grazing 6.8*
		%	%	%	%
	Meribel	**95**	**97**	**103**	**104**
	Meryl	**105**	**99**	**101**	**103**
	AberEpic	**118**	**97**	**98**	**103**
	Ligrande	99	104	96	93
	AberMario	114	97	96	100
(P)	Fox	101	102	95	99

* = Average second year yield of all 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 2008-09:

One Timothy variety was added to the recommended list this year as a new provisional recommendation. All other varieties remained in either the highest 'Bold Type' or intermediary 'Plain Type' classifications.

	VARIETY	Heading Date	Silage		Grazing		Maturity Class
			Total Yield 14.2*	2-Cut Silage 9.1*	Total Yield 12.4*	Sward Density	
			%	%	%	(0-9)	
	Comer	**9 Jun**	**103**	**103**	**101**	**5.5**	**Early**
	Dolina	**9 Jun**	**102**	**100**	**102**	**5.5**	**Early**
	Presto	**9 Jun**	**100**	**99**	**100**	**5.7**	**Early**
	Motim	**19 Jun**	**95**	**98**	**97**	**6.2**	**Inter**
	Promesse	10 Jun	93	92	96	6.0	Early
	Comtal	10 Jun	96	92	99	5.3	Early
	Erecta RvP	11 Jun	94	91	97	5.6	Early
	Aber S48	27 Jun	96	100	91	6.9	Late
(P)	Narnia	15 Jun	103	106	100	7.8	Early

* = 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 5.9*	2nd Cut 3.2*	3rd Cut 2.9*	Autumn Grazing 2.2*	Spring 3.0*	Early Summer 4.2*	Late Summer 3.9*	Autumn 1.3*
		%	%	%	%	%	%	%	%
	Comer	**105**	**100**	**101**	**102**	**105**	**97**	**100**	**103**
	Dolina	**100**	**99**	**108**	**101**	**104**	**101**	**102**	**102**
	Presto	**104**	**89**	**106**	**100**	**102**	**98**	**100**	**97**
	Motim	**91**	**112**	**85**	**97**	**89**	**104**	**97**	**97**
	Promesse	93	89	91	102	88	102	97	90
	Comtal	94	89	99	104	94	100	100	102
	Erecta RvP	95	83	101	96	93	100	98	96
	Aber S48	70	154	65	116	54	117	88	99
(P)	Narnia	82	149	89	105	82	105	103	108

* = 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 2008-09:

Two Clover varieties were added to the recommended list this year as new provisional recommendations. All other varieties remained in either the highest 'Bold Type' or intermediary 'Plain Type' classifications.

	VARIETY	Relative leaf size (% Huia)	Grazing Yield Potential			Grazing Persistence	
			Total 12.8*	Clover 4.2*	Grass 8.6*	Low N	High N
		%	%	%	%	(0-9)	(0-9)
	AberAce	**39**	**91**	**55**	**108**	**6.5**	**4.7**
	Glds. Demand	**75**	**97**	**81**	**105**	**6.3**	**5.1**
	Crusader	**84**	**101**	**101**	**101**	**5.7**	**4.9**
	Avoca	**92**	**101**	**100**	**101**	**5.9**	**5.0**
	AberDai	**98**	**101**	**107**	**99**	**5.4**	**4.7**
	Chieftain	**104**	**104**	**124**	**94**	**5.3**	**4.5**
	Barblanca	**126**	**104**	**121**	**95**	**5.6**	**4.6**
	Alice	**126**	**102**	**111**	**98**	**5.1**	**4.2**
	AberHerald	89	98	97	99	4.9	4.4
	Glds. Huia	100	98	83	104	5.7	4.6
	Menna	101	100	96	103	5.5	4.4
	AberVantage	102	101	98	102	5.2	3.7
	Triffid	131	102	104	101	5.2	3.9
(S)	Aran	152	101	116	94	4.3	3.3
(P)	AberGuard	69	92	62	107	6.5	4.5
(P)	Glds. Bounty	89	101	96	104	5.8	4.7

* = 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.

	VARIETY	Clover Content	Seasonal Clover Yields				Leaf Size Class
			Spring 0.45*	Early Summer 1.36*	Late Summer 1.49*	Autumn 0.96	
		%	%	%	%	%	
	AberAce	**20**	**20**	**66**	**74**	**49**	**Small**
	Glds. Demand	**27**	**73**	**83**	**84**	**76**	**Small**
	Crusader	**33**	**159**	**100**	**94**	**113**	**Medium**
	Avoca	**33**	**86**	**99**	**99**	**111**	**Medium**
	AberDai	**35**	**88**	**111**	**110**	**102**	**Medium**
	Chieftain	**39**	**134**	**122**	**127**	**121**	**Medium**
	Barblanca	**38**	**137**	**111**	**100**	**122**	**Large**
	Alice	**36**	**104**	**108**	**112**	**105**	**Large**
	AberHerald	32	75	95	102	98	Medium
	Glds. Huia	28	73	82	90	80	Medium
	Menna	31	77	93	104	97	Medium
	AberVantage	32	88	95	100	103	Medium
	Triffid	34	137	107	105	105	Very Large
(S)	Aran	38	101	103	118	133	Very Large
(P)	AberGuard	22	57	80	72	44	Small
(P)	Glds. Bounty	31	88	86	96	102	Medium

* = 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 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.

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.

Kilrea Although a late maturing member of the early group, it has very high Spring grazing yields, and creates excellent grass quality from swards of a good grazing density. Total silage yields are very high with excellent aftermath growth.

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 maintains a high grazing grass quality for an early diploid.

Moy A very early maturing, high density variety with large Spring yields, high total silage yields particularly in digestible yield over two cuts and an excellent aftermath production.

Spira Forms erect though dense swards well suited to silage use and delivers a good first cut performance, supplemented by a high aftermath grazing to follow. In a grazing mixture it will contribute most to the early Spring growth of the sward.

January (P) A new provisional recommendation with very high silage yields particularly at the first cut. Excellent Spring grazing followed by high autumn or aftermath growth.

Intermediate Diploids

AberDart Produces high annual grazing yields of very high quality grass at a high sugar content for a diploid. It has a large Spring growth for its maturity and excellent late summer/autumn seasonal grazings and excellent aftermath grazing yields.

AberStar Capable of producing exceptionally high grazing yields throughout the season at a high digestibility, high sugar level. Also delivers high digestible yields over the first two silage cuts and has an erect growth habit.

Betty (S) Produces high total annual silage yields and although total grazing yields are only moderate to low, the early summer growth is high as is grass quality.

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 early summer grazing from dense swards or high second silage cut yields and has good third cut productivity.

Corbet (O) Forms erect persistent swards with good grazing yields but its very poor silage yield means it has been downgraded to 'Outclassed'.

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

Glen (O) Forms very dense grazing swards but its overall low yield potential has downgraded it to 'OutClassed'.

Spelga One of the highest silage yielding diploids on the list, featuring a very high first cut performance and an erect growth habit, plus high grazing yields in Spring and autumn.

Late Diploids

AberAvon Produces a very high annual grazing yield at a high digestibility level with a high sugar content. Its high silage yields are enhanced by its high quality characteristic giving excellent 2-cut digestible yield from an erect open growth habit.

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 high total silage yields and excellent 2-cut digestible yields. Grazing performance is best during the main summer growing period and forms swards of good density.

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

Gilford (S) Produces below average total grazing and silage yields but is specifically recommended for its very high 2-cut digestible silage yield and its very dense grazing growth habit.

Mateon 1 Similarly high yielding under both grazing and silage managements. It provides an excellent 2-cut digestible silage yield and its good quality grazing output is delivered through the summer and into the autumn from dense swards.

Matiz (P) This new provisional recommendation has high 2-cut silage yields, high total grazing yields, good summer production and excellent grass quality for dense swards.

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

Portstewart 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, forms erect silage swards.

Twytop (PS) A new provisional listing, specifically recommended on account of its excellent grazing yields and exceptional summer production. Also valuable for including in the second silage cutting cycle.

Tyrella Has high total annual yields for both grazing and silage use. Its first cut silage yield is exceptional for a late maturing variety and it forms swards of a good density typical of a dual purpose type variety.

Tetraploid Perennial Ryegrass

Early Tetraploids

AberTorch A very early heading variety with extremely high Spring grazing yields at a high grazing digestibility. Total annual silage yields also high, excellent aftermath grazing, has an erect open growth habit.

Tetramax High annual silage production is delivered mostly at the second cut, partly due to it being late heading in the group. It also produces good annual grazing yields with good Spring growth

Intermediate Tetraploids

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

Astonenergy Produces extremely high 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.

Fornax (O) A dense growing tetraploid, but with overall yield performances more typical of a standard diploid variety, it has been downgraded to 'Outclassed'.

Garibaldi Produces good grazing and high silage yields, especially when 2-cut digestible yield examined, and has a typical erect tetraploid growth habit. Seasonal grazing yield distribution is consistently high through the early season to the late summer.

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. Grazing yields are high, especially in Spring and has a classic tetraploid sward structure.

Greengold Achieves superb all round total annual grazing performances from high density swards for a tetraploid, enhanced by an impressively high grass quality. As a late member of the group, silage yields are distributed towards the second and later cuts.

Magician High total silage yields that are enhanced when digestibility over two cuts is considered, and is followed by high growth to the end of the season. Grazing yield also high in production with good grazing quality and high Spring growth.

Malone Impressively high silage productivity in all categories from the classically tall open tetraploid-type swards. The high grazing yields comprise excellent Spring growth and a high grass quality 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 high grazing yields of good quality grass include impressive Spring yields for an intermediate maturing variety.

Late Tetraploids

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 (P) (previously called Eurobonus) A provisionally recommended variety with notably high 2-cut digestible silage yield from swards of high density for a tetraploid. Grazing production is also high particularly in early summer.

Cooper (S) Specifically recommended on account of its high total annual

grazing yields that are delivered throughout the main summer period. Although grazing digestibility is below average, silage quality is good. Its second silage cut justifies it being brought into the cutting cycle at that time.

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

Dunloy (P) A new provisionally recommended variety with excellent 2-cut digestible yields that comprise an impressively high second cut. The dense grazing swards are of good quality and at 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 gives it a 2-cut digestible yield and a high grazing D-value from a classical bold tetraploid sward structure.

Fornido (P) Another provisionally recommended variety with similarly high total and silage productivity from very dense tetraploid-type swards. Gives its strongest performances during the main summer growth period.

Glencar The highest total silage yielding variety listed for 2-cut bulk, plus high grazing yields through Spring and summer from swards of a good density. Such excellent high productivity is partially offset when digestibility is considered.

Loporello This variety has exceptionally dense swards for a tetraploid and achieves its highest performance under silage during the first two cuts, with its best grazing performance delivered in early summer.

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 Consistently high yielding under both sward managements, 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 high D-value.

Tivoli The generally average 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 held from Spring through summer from a good sward density for a tetraploid.

Twymax (P) Another new provisional recommendation with very high 2-cut digestible silage yields that are evenly distributed across both cuts. Grazing yields are high, particularly in early summer and forms very dense swards for a tetraploid.

Hybrid Ryegrass

AberEcho (HT) Produces very high total yields consistently over three years with a Spring growth typical of an 'Italian type' hybrid, yet develops a good sward density similar to the 'perennial type' varieties

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

AberExcel (HT) Has performance characteristics typical of a equal perennial to Italian balance, having a good sward density and a more 'perennial-type' yield performance, though with a good first cut of silage for its type.

AberStorm (HT) Expresses strongly its perennial ryegrass lineage, forms very dense tetraploid swards, has a good annual yield potential and exceptional Spring yields for a perennial type hybrid

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

Belleek (HD) A perennial-type hybrid with productivity similar to other perennial-type varieties, though with not quite as dense a sward but similar to Drumlin and Foyle in seasonal yield distribution.

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.

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

Twyblade (HT) Another 'Italian-type' tetraploid hybrid, forming swards with a density similar to Ligunda and delivering improving yields into the second and third year.

Italian Ryegrass

AberEpic Overall, one of the two highest yielding recommended 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 or better than Ligrande.

Fox (P) A new provisionally recommended variety, with very similar first year yields, Spring growth and density to Ligrande, and this includes a notably high first cut silage yield.

Ligrande Creates a similar sward structure to most other recommended varieties, has a good yield potential in both harvest years and clearly a higher first cut performance than any other variety.

Meribel Has a classical Italian ryegrass sward structure, a high yield performance in both harvest years, which are 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 excellent Spring yields, followed by a consistently high performance throughout the year.

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 similar type to Erecta.

Comtal Delivers high total annual yields under the grazing management from erect growing swards. Despite being an early Timothy, seasonal grazing growth is best in late summer and autumn and similarly excellent for aftermath grazing in autumn.

Dolina Creates higher grazing and silage yields than any other fully recommended variety. Its sward structure is similar to Erecta and its seasonal yield distribution remains very high throughout 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. Although an early member of its maturity group, production peaks in the main summer period.

Presto A consistently high yielding variety under both management systems, it forms swards of a good density similar to Comer 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 early summer period.

Narnia (P) This new provisional recommendation enters the list with the highest 2-cut silage yield and the most dense sward structure. Its grazing yields are also high and are delivered from early summer to an excellent autumn production.

Intermediate & Late

Aberystwyth S48 A very late maturing, very dense prostrate growing variety 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, forms a very compact dense sward. Seasonal grazing yields feature a high early summer performance and a very high second cut silage productivity.

White Clover

Small Leaved

AberAce The smallest recommended variety, it has very high grazing persistency scores particularly at low nitrogen levels plus the yield potential expected of such a very small clover variety.

AberGuard (P) This very small provisionally recommended variety has a leaf size between Grasslands Demand and AberAce. It has a similar growth profile to AberAce with the same Low-N persistency, but has higher clover yields in Spring and early summer.

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 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 a good clover persistence and retains a high clover content throughout the season but particularly in late summer.

AberVantage Achieves a high output of grass and a 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 is close to the top of the list for grazing persistency at both 'Low N' and 'High N' and for its size class 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 The largest of the small leaf varieties, produces very high yields with a dense, highly persistent growth under both nitrogen levels plus an exceptional Spring vigour.

Grasslands Bounty (P) This new provisionally recommended variety is similar in leaf size to Crusader and Avoca. It has higher grass yields than either and similar Low-N persistency but a seasonal growth pattern more similar to Avoca.

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

Menna Supports high grass yields and high late summer clover contents, has a good total sward yield and a grazing persistency characteristic of its leaf size.

Large Leaved

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

Barblanca Achieves very high yield performance results typical of its large leaf size, these are highest in Spring, early summer and again in autumn, plus its grazing persistent scores are atypically high for such a large leaved variety.

Very Large Leaved

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

Triffid This very large leaved variety has similar performance characteristics to Aran, giving very high yields throughout the grazing season and exceeding Aran for High-N grazing persistence.

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 6–6.5. 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	Harvest Year 1		Harvest Year 2		Harvest Year 3	
	DM Yield 18.0	Persistence	DM Yield 16.2	Persistence	DM Yield 14.6	Persistence
	%	(0-9)	%	(0-9)	%	(0-9)
Britta	92	5.5	97	4.5	90	3.8
Broadway	85	7.9	78	3.2	ut	ut
Grasslands Pawera	93	3.0	92	4.2	95	3.4
Grassland Sensation	111	4.4	118	4.6	ut	ut
Lemmon	115	6.1	111	5.1	ut	ut
Marco	103	3.8	107	4.1	105	3.6
Mercury	105	4.1	109	3.9	96	3.4
Merviot	112	5.1	117	4.5	109	3.6
Rotra	108	4.9	111	3.5	111	3.3
Sara	96	4.2	95	3.8	93	3.0

ut = variety continuing 'Under Test' to complete the third harvest year in 2008

- 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
Diploid Perennial Ryegrass			**Tetraploid Perennial Ryegrass**		
AberAvon	IGER (UK)	BSH	AberCraigs	IGER (UK)	BSH
AberDart	IGER (UK)	BSH	AberGlyn	IGER (UK)	BSH
AberStar	IGER (UK)	BSH	AberTorch	IGER (UK)	BSH
AberZest (S)	IGER (UK)	BSH	Astonenergy	Eurograss (D)	BSH
Betty (S)	Euro Grass (D)	EG	AstonPrincess (P)	Eurograss (D)	EG
Bree	Cebeco Seeds BV (NL)	DLF	Cooper (S)	Limagrain Genetics (NL)	DLF
Cashel	Teagasc (ROI)	DLF	Delphin	CPB Twyford Ltd (UK)	DLF
Corbet (O)	DARD (UK)	Bar	Dunloy (P)	DARD (UK)	Bar
Denver	Advanta Seeds BV (NL)	DLF	Dunluce	DARD (UK)	Bar
Donard	DARD (UK)	DLF	Elgon	Advanta Seeds BV (NL)	DLF
Foxtrot	Limagrain Genetics (NL)	DLF	Eurostar	Advanta Seeds BV (NL)	DLF
January (P)	Teagasc (ROI)	DLF	Fornax (O)	Advanta Seeds BV (NL)	DLF
Kilrea	DARD (UK)	Bar	Fornido (P)	Eurograss (D)	EG
Kimber	Advanta Seeds BV (NL)	DLF	Garibaldi	DLF Trifolium (DK)	DLF
Gandalf	Advanta Seeds BV (NL)	DLF	Glencar	Teagasc (ROI)	DLF
Gilford (S)	DARD (UK)	BSH	Glenstal	Teagasc (ROI)	DLF
Glen (O)	DARD (UK)	Bar	Greengold	Teagasc (ROI)	DLF
Mateon 1	Cebeco Seeds BV (NL)	DLF	Loporello	Euro Grass (D)	EG
Matiz (P)	DLF Trifolium (DK)	DLF	Magician	Teagasc (ROI)	DLF
Moy	DARD (UK)	Bar	Malone	DARD (UK)	Bar
Pastour	Limagrain Genetics (NL)	DLF	Millennium	Teagasc (ROI)	DLF
Portstewart	DARD (UK)	Bar	Niagara	Advanta Seeds BV (NL)	DLF
Spelga	DARD (UK)	Bar	Navan	DARD (UK)	Bar
Spira	DLF Trifolium (DK)	DLF	Tetramax	DLF Trifolium (DK)	DLF
Tyrella	DARD (UK)	Bar	Tivoli	DLF Trifolium (DK)	DLF
Twytop (P)	Advanta Seeds BV (NL)	DLF	Twymax (P)	Advanta Seeds BV (NL)	DLF
			Trintella	DLF Trifolium (DK)	DLF

Variety	Breeder (country)	UK Agent
Italian Ryegrass		
AberEpic	IGER (UK)	BSH
AberMario	IGER (UK)	BSH
Fox (P)	DLF Limigrain (FR)	DLF
Ligrande	Eurograss (D)	EG
Meribel	D.v.P. (B)	DLF
Meryl	D.v.P. (B)	DSV
White Clover Varieties		
AberAce	IGER (UK)	BSH
AberDai	IGER (UK)	BSH
AberHerald	IGER (UK)	BSH
AberGuard (P)	IGER (UK)	BSH
AberVantage	IGER (UK)	BSH
Alice	IGER (UK)	Bar
Aran (S)	Teagasc (ROI)	BSH
Avoca	Teagasc (ROI)	DLF
Barblanca	Barenbrug BV (NL)	Bar
Chieftain	Teagasc (ROI)	DLF
Crusader	AgResearch (NZ)	Bar
Glds Bounty (P)	Wrightson (NZ)	DLF
Glds. Demand	AgResearch (NZ)	DLF
Glds. Huia	AgResearch (NZ)	DLF
Menna	IGER (UK)	Bar
Triffid	AgResearch (NZ)	Bar

Variety	Breeder (country)	UK Agent
Hybrid Ryegrass		
AberEcho (HT)	IGER (UK)	BSH
AberEve (HT) (P)	IGER (UK)	BSH
AberExcel (HT)	IGER (UK)	BSH
AberStorm (HT)	IGER (UK)	BSH
Belleek (HT)	DARD (UK)	Bar
Barsilo (HD)	Barenbrug BV (NL)	Bar
Drumlin (HT)	DARD (UK)	Bar
Foyle (HT)	DARD (UK)	Bar
Hymer (HT)	D.v.P. (B)	DLF
Ligunda (HD)	BAL (A)	DLF
Pirol (HD)	Saatzucht Steinach (D)	BSH
Twyblade (HT)	CPB Twyford Ltd (UK)	DLF
Timothy Varieties		
Aber S48	IGER (UK)	BSH
Comer	D.v.P. (B)	DLF
Comtal	Advanta Seeds BV (NL)	DLF
Dolina	D.v.P. (B)	DLF
Erecta	D.v.P. (B)	DLF
Motim	Advanta Seeds BV (NL)	DLF
Narnia (P)	DLF Trifolium (DK)	DLF
Presto	Euro Grass (D)	BSH
Promesse	Cebeco Seeds BV (NL)	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

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E-mail: info@afbini.gov.uk

Agri-Food and Biosciences Institute
Contacts and Services

Applied Plant Science Division: The Applied Plant Science and Biometrics Division of AFBI offers a range of technical services for farmers and growers. The main services include:
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Cereal Take-all test
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Potato cyst nematode (PCN) service
Mushroom compost and casing analyses

The **Plant Testing Station** also produces the following booklets:
Cereals - Recommended Varieties For Northern Ireland
Potatoes - Recommended Varieties For Northern Ireland
Forage Maize - Recommended Varieties For Northern Ireland

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

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