

Grass and Clover

Recommended List Varieties for Ireland 2014



Department of
**Agriculture,
Food and the Marine**

An Roinn
**Talmhaíochta,
Bia agus Mara**

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Notice to Publishers

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Introduction

Perennial ryegrass, Italian ryegrass and White clover account for nearly all of the agricultural grass/clover seed sold in Ireland. Of these, perennial ryegrass is by far the most important. Other species of grass and clover are not commonly used. Individual varieties differ in performance characteristics depending on maturity group and ploidy. These differences may be further exaggerated by factors such as climate, soil type and system of farming. Increased demands on grassland with regard to early spring grass, mid-season production, extended grazing in the autumn etc., mean that care needs to be taken in the selection of suitable grass seed mixtures. All grass and clover varieties listed in this booklet have a proven record of performance over a period of years at a number of different locations, and are deemed most suitable for Irish conditions.

Growers should give preference to the Recommended List varieties unless there is strong evidence that some other variety is more suited to their conditions.

Variety Maturity Groupings

Perennial Ryegrass: - This grass species accounts for approximately 95% of forage grass seed sold in Ireland. Perennial ryegrass is grouped into three maturity groups (**early**, **intermediate** and **late**), on the basis of heading date (ear emergence).

Early varieties: - Head in the first half of May. Early perennials provide very good yields of early spring grazing and first cut silage. Stemmy regrowths in early summer can be a problem where long periods of uninterrupted growth are allowed to occur without grazing or cutting. In recent years, use of this group has declined in Ireland and sales are at a very low level.

Intermediate varieties: - Head in the second half of May and are ideal for producing high quality silage cuts in late May and mid-July. Although not bulking up as soon as early perennial varieties, overall silage yields are as good. Varieties from this group are suited to a broad range of management systems, and should be included in any seed mixture. Generally their spring growth is not as good as for early perennials, but persistency is better.

Late varieties: - Head in the first half of June, and tend towards a prostrate growth habit. They are characterised by high tiller densities, exhibit good ground cover, and are well suited to long term grazing pastures. Late varieties produce good quality silage cuts in early June and late July, and are leafy in mid summer. Generally their spring growth is not as good as for 'Intermediates'. Under good grazing management, late perennials are extremely persistent and can survive very well for many years.

Italian ryegrass: - Are best suited to short-term leys of 2-3 years duration. They have early spring growth, but can be difficult to manage in mid-season because of stemmy regrowth. Italian varieties are suitable for intensive silage production and can also provide useful grazing in the spring and late autumn period. They tend to have low sward densities and are susceptible to poaching under adverse conditions.

Hybrid ryegrass: - These varieties represent the product of a cross between Italian and Perennial ryegrass types. In appearance they generally reflect one or other parental type. The Hybrid ryegrass varieties tend to yield higher than the Intermediate and Late groups of Perennial ryegrass, but lower than the Italians. Hybrids tend to be more stemmy in summer than the Intermediates and Lates, but less stemmy than the Italians.

White clovers: - Are included as a component in most grass seed mixtures for their nutritive value and their nitrogen fixing abilities. They are classified according to leaf size into very large, large, medium and small leaved types. Very large and large leaved varieties are relatively tolerant to nitrogen fertiliser usage and compete well with companion grasses, making them suitable for silage production. Medium leaved varieties are more suited to grazing, but can also be used in silage mixes. Small leaved varieties are suitable only for grazing.

Ploidy

Recently **diploid** varieties have tended to dominate mixtures in Ireland, but **tetraploid** varieties are an important component of grass seed mixtures. Compared to diploids they have higher quality and are more palatable to livestock (higher intake), and are more tolerant to drought. However, they tend to have lower tiller densities resulting in more open swards. Dry matter content also tends to be lower compared with diploids. On heavy soils subject to poaching, persistence may also suffer. Seeding rates for tetraploid grasses will need to be higher because of their larger seed size. In this publication, (T) denotes tetraploid varieties, all other varieties being diploid.

<p>IMPORTANT NOTICE: - The Department of Agriculture, Food and the Marine (DAFM) has taken all due care in evaluating the performance in Ireland of the listed varieties, for yield, heading date, ground cover and other agronomic characters (for a minimum period of 3 years) over a range of locations, soils and environmental conditions. DAFM cannot, however accept responsibility for any loss or inconvenience arising from any future variation in absolute or relative varietal performance.</p>

Protocol for Recommended List

Trials and trial sites

Varieties are evaluated over a minimum of two separate sowings, with each sowing being harvested for two years after the sowing year. Trials are conducted at Backweston Farm, Leixlip, Co. Kildare (Headquarters); Fermoy, Co. Cork; Raphoe, Co. Donegal; Athenry, Co. Galway, and Piltown, Co. Kilkenny. All new varieties are assessed against control varieties within their own maturity groups. Trials are grown on very good quality mineral soils in a manner conducive to selection of varieties most suited to good commercial farming practices.

Grasses

Perennial ryegrasses (Early, Intermediate and Late heading groups), Italian ryegrasses and Hybrid ryegrasses trials are sown in May/August and establish during for the remainder of that year. (In recent years, all the sowings were carried out in the May period). The trials are then assessed over the following two-year period under two different systems; a 6 cut system and an 8 to 10 cut system, using a trial-plot harvesting machine. Individual trials remain on one system for the two-year period. The 6 cut system is referred to in this publication as the **General Purpose** system and involves one spring grazing cut, followed by two silage cuts and then three grazing cuts.

The 8 – 10 cut system is referred to in this publication as the **Frequent Cutting** system and involves that number of cuts taken at periods corresponding to normal commercial rotational grazing practice. This Frequent Cutting system was introduced by DAFM in its 2010 sowings. Its purpose is to provide variety performance data suitable for situations where grass is grazed throughout the growing season. Provisional results from this one sowing (two harvest years) are presented in this publication on Main Table relating to this system. The number of Recommended List varieties having this information will increase in coming years. Also, the dependability of this information will increase in coming years as the data for more varieties will be based on four or more harvest years.

White clover varieties are sown in a mixture with an intermediate perennial ryegrass in May/August, and following an establishment year are assessed over the subsequent two years under a 7-8 cut system. White clovers are tested under a low fertiliser nitrogen input regime, where the total yearly application is 50kg Nitrogen per hectare (50kg N/ha) applied in the spring.

Heading date is based on the first heading date in spring. It is determined by examination of individual grass plants sown in the previous summer/autumn. It is carried out over a number of years at different sites. Heading date indicates the earliness or lateness of a

variety in reaching maturity in spring. Dates listed should be used as a guide only as actual heading date will vary with location, climate and date of the last grazing.

Total yield for each variety is given as a percentage of control varieties indicated. In the tables, the mean relative yield for these control varieties does not always equate to 100, as historically not all control varieties were sown in each year from which data has been abstracted. The tables also show the average yields in tonnes dry matter per hectare (tDM/ha) for the control varieties. Annual yield tDM/ha can vary considerably between years and trial sites, due mainly to differences in soil quality and climatic conditions. Where grass is commercially grown on lower quality land, considerably lower annual yields can be expected.

Ground Cover Score data presented in the Main Tables indicates the degree of ground cover or *sward density* at the end of the second harvest year, and is based on a visual assessment. A low figure indicates a very open sward, which may be prone to poaching or trafficability problems. However, since most varieties are sown as a mixture, the degree that this will influence the longevity of the sward can be minimised by including varieties with high ground cover scores.

Spring growth production figures are given for all ryegrass varieties. These figures are important indicators of early grass production and are expressed as a percentage of the control yields over the same period. Spring growth data is based on the yield of cuts taken before mid-April. (These are cut 1 in the General Purpose system, and cut 1 or cuts 1 and 2 in the Frequent Cutting system, depending on earliness of growth). Spring growth data is influenced by growing conditions during the period from the latest autumn cut in the previous harvest year. Yearly variations in those conditions can be considerable and can significantly influence varietal performance in individual years. Accordingly, particularly for this trait, an accurate assessment of performance requires use of data obtained over several harvest years.

Summer growth figures in the Frequent Cutting system indicate production differences between varieties in this period. They are expressed as a percentage of the control yields over the same period and are presented in the Main Table regarding Frequent Cutting. Summer growth data is based on the combined yield of the cuts taken from mid April to mid August as a measure of growth during that period.

First and Second Cut Silage growth figures in the General purpose system indicate production differences between varieties when they are grown for this purpose. First Cut Silage is based on approximately six weeks growth after an initial spring growth cut is taken in early April. Second Cut Silage is based on approximately six weeks growth after the harvesting of the First Cut Silage. The figures are expressed as a percentage of the control yields over the same period.

Autumn growth figures indicate production differences between varieties in this period. They are expressed as a percentage of the control yields. Autumn growth data is based on the combined yield of cuts taken from mid-August to late October.

Grass Quality

Two measures of grass quality are presented: Dry Matter Digestibility (DMD), and Water Soluble Carbohydrate content (WSC). Results (presented on the two Main Tables) are based on testing of plot samples from cuts taken during the growing season at one trial site. Forage will provide more energy to the animal if its DMD is high. High DMD forage increases the DM intake of animals where feeding is not restricted. This increase in intake has a big effect on animal performance. Actual DMD levels can vary considerably and are influenced by several factors including growth stage and climate. The relative DMD values for individual varieties are presented in the Tables. Small differences in these values are considered relevant. The Water Soluble Carbohydrate content of grass is a measure of its 'sugar content'. Actual WSC levels vary widely, and are greatly influenced by the intensity and duration of sunlight in the preceding hours and days. The relative WSC values for individual varieties are presented in the Tables. Higher WSC levels are considered beneficial to animal performance. Large differences in the WSC values presented are considered relevant.

DAFM acknowledge the assistance of Teagasc, Grange, in carrying out laboratory analysis of grass samples for quality determinations.

Summary of all Recommended List Varieties 2014 of Italian ryegrass, Hybrid ryegrass and White Clover varieties in alphabetical order

Italian ryegrass	Group	Breeder	Origin	Year 1st Listed
Davinci	Italian	ILVO	BE	2011
Fabio (T)	Italian	Euro Grass	NL	1998
Nabucco (T)	Italian	Euro Grass	NL	2007

Hybrid ryegrass	Group	Breeder	Origin	Year 1st Listed
AberEcho (T)	Hybrid	IBERS	UK	2013
Alliance (T)	Hybrid	Limagrain	NL	2011
Pirol	Hybrid	Euro Grass	DE	2009

White clover	Group	Breeder	Origin	Year 1st Listed
AberHerald	Medium	IBERS	UK	2003
Alice	Large	IBERS	UK	1995
Avoca	Medium	Teagasc	IRL	1995
Barblanca	Large	Barenbrug	NL	2009
Chieftain	Medium	Teagasc	IRL	2005
Crusader	Medium	Barenbrug	NL	2009
Iona	Medium	Teagasc	IRL	2014

In the above tables and on the table on page 10, varieties are listed in alphabetical order.

White clover varieties are shown in order of decreasing leaf size.

Summary of all Recommended List Varieties 2014 of Perennial ryegrass (Early, Intermediate and Late varieties) in alphabetical order

Variety Name	Maturity Group	Breeder	Origin	Year 1st Listed
AberChoice	Late	IBERS	UK	2012
AberCraigs (T)	Late	IBERS	UK	1999
AberGain (T)	Late	IBERS	UK	2013
AberMagic	Intermediate	IBERS	UK	2010
AberPlentiful (T)	Late	IBERS	UK	2014
Aspect (T)	Late	DLF	DK	2014
Boyne	Intermediate	DLF	DK	2013
Carraig (T)	Intermediate	Teagasc	IRL	2012
Clanrye	Late	AFBI	NI	2014
Delphin (T)	Late	NPZ	DE	2002
Denver	Late	Advanta	NL	2003
Drumbo	Late	AFBI	NI	2011
Dunluce (T)	Intermediate	AFBI	NI	2007
Genesis	Early	Teagasc	IRL	2012
Giant (T)	Intermediate	Teagasc	IRL	2011
Glencar (T)	Late	Teagasc	IRL	2005
Glenveagh	Late	Teagasc	IRL	2012
Kintyre (T)	Late	Teagasc	IRL	2012
Magician (T)	Intermediate	Teagasc	IRL	1999
Majestic	Late	Teagasc	IRL	2012
Malambo	Late	Euro Grass	UK	2010
Mezquita	Late	Euro Grass	DE	2008
Moyola	Early	AFBI	NI	2012
Navan (T)	Late	AFBI	NI	1999
Piccadilly	Late	Euro Grass	DE	2012
Portstewart	Late	AFBI	NI	1994
Rodrigo	Intermediate	Euro Grass	DE	2013
Rosetta	Intermediate	AFBI	NI	2013
Seagoe (T)	Intermediate	AFBI	NI	2014
Solomon	Intermediate	Teagasc	IRL	2011
Soriento	Late	Euro Grass	DE	2005
Stefani	Late	DLF	DK	2012
Trend (T)	Intermediate	NPZ	DE	2007
Twymax (T)	Late	CPB	UK	2007
Tyrella	Late	AFBI	NI	2008

INTRODUCTION TO RECOMMENDED LIST 2014 MAIN TABLES

In Main Tables 1, 2 and 3 varieties within each group are listed in order of heading date and ploidy, with those heading earliest at the top of the list and those with the latest heading date at the bottom.

Appendices 1 – 4 included at the back of this publication provide some supporting information.

RECOMMENDED ITALIAN, HYBRID and EARLY PERENNIAL RYEGRASSES 2014

Main Table 1 - General Purpose (6 cuts including 2 silage cuts)

Italian Ryegrass

Variety Name	Heading Date	Total Yield	Ground Cover 1-9	Spring Growth	Silage Yield	*DMD %	*WSC %
Control Mean t DM/ha		16.2	5.1	1.4	8.6	78.2	19.2
Fabio (T)	18-May	99	4.9	98	100	100.7	101
Nabucco (T)	20-May	101	5.1	100	101	100.1	100
Davinci	22-May	102	5.5	103	99	98.6	85

Hybrid Ryegrass

Variety Name	Heading Date	Total Yield	Ground Cover 1-9	Spring Growth	Silage Yield	*DMD %	*WSC %
Control Mean t DM/ha		16.0	5.3	1.2	8.6	79.2	18.9
AberEcho (T)	18-May	99	5.6	95	102	(104.7)	(129)
Alliance (T)	20-May	102	5.2	100	103	100.7	107
Pirol	22-May	103	5.6	98	105	(98.0)	(90)

() indicates provisional data.

Early Ryegrass

Variety Name	Heading Date	Total Yield	Ground Cover 1-9	Spring Growth	Autumn Growth	*DMD %	*WSC %
Control Mean t DM/ha		14.8	6.0	1.3	3.1	80.4	18.4
Moyola	11-May	105	6.4	109	107	100.0	102
Genesis	12-May	103	6.7	118	102	99.7	103

*DMD and WSC controls data is shown as g/100g on this Table.

Italian, Hybrid and Early PRG variety descriptions can be found on Page 14

Control varieties can be found in Appendix 1 Page 19.

RECOMMENDED INTERMEDIATE & LATE PERENNIAL RYEGRASS 2014

Main Table 2 - General Purpose (6 cuts including 2 silage cuts)

Variety Name	Heading Date	Total Yield	Ground Cover 1-9	Spring Growth	1st Cut Silage	2nd Cut Silage	Autumn Growth	*DMD %	*WSC %
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Intermediate PRG Group

Control Mean (t DM/ha)		14.9	6.4	1.0	5.3	3.5	3.1	81.4	19.6
Boyne	22-May	104	6.8	111	105	108	104	98.6	92
Solomon	22-May	100	6.6	118	98	100	101	99.5	96
Rosetta	23-May	102	6.6	118	100	97	105	100.0	96
Rodrigo	26-May	99	6.8	102	97	99	99	99.5	92
AberMagic	30-May	100	6.9	91	90	111	113	101.8	123
Giant (T)	19-May	101	6.6	104	101	96	101	100.0	105
Magician (T)	21-May	102	6.1	107	101	105	102	100.5	100
Carraig (T)	23-May	103	6.7	112	103	105	104	100.7	107
Trend (T)	24-May	103	6.0	100	105	103	101	100.8	104
Seagoe (T)	28-May	102	6.0	104	104	106	102	101.2	107
Dunluce (T)	29-May	103	6.1	94	92	120	108	102.2	115

Late PRG Group

Controls Mean (t DM/ha)		14.5	6.5	0.9	4.9	3.7	3.1	82.0	19.2
Stefani	01-Jun	99	6.8	96	100	98	100	99.9	97
Majestic	02-Jun	100	6.8	99	96	96	105	98.9	93
Glenveagh	02-Jun	99	7.4	85	100	97	104	99.7	102
Denver	02-Jun	98	6.9	86	99	98	97	99.5	91
Piccadilly	03-Jun	100	6.9	96	106	93	102	99.0	94
Soriento	03-Jun	97	7.0	88	97	100	95	99.5	95
Tyrella	03-Jun	98	6.6	113	100	91	97	100.0	105
Clanrye	05-Jun	102	7.0	90	97	111	100	99.6	100
Portstewart	05-Jun	97	6.7	84	94	101	100	100.2	102
Mezquita	06-Jun	97	7.1	91	96	101	97	99.1	93
Drumbo	07-Jun	99	6.7	104	90	102	106	101.0	112
AberChoice	09-Jun	102	6.8	95	91	111	109	102.0	128
Malambo	10-Jun	99	6.8	94	92	108	104	99.1	95
Delphin (T)	01-Jun	104	6.1	106	104	101	103	101.1	107
Glencar (T)	02-Jun	102	6.1	101	100	105	103	100.1	102
AberCraigs (T)	04-Jun	103	6.2	105	101	104	104	100.9	110
Aspect (T)	05-Jun	(102)	(6.7)	(105)	(95)	(107)	(104)	(101.6)	(111)
Navan (T)	06-Jun	102	6.3	84	95	106	112	101.1	112
AberGain (T)	06-Jun	107	6.3	125	103	105	110	102.6	123
Twymax (T)	06-Jun	101	6.4	87	97	110	102	101.1	112
Kintyre (T)	07-Jun	105	6.0	101	95	108	114	101.5	110
AberPlentiful (T)	07-Jun	106	6.2	102	97	108	112	101.2	112

Data shown in brackets () is based on only one sowing year (2009).

*DMD and WSC controls data is shown as g/100g on this Table.

Intermediate and Late PRG variety descriptions Pages 14 and 15 Control varieties Page 19.

RECOMMENDED INTERMEDIATE & LATE PERENNIAL RYEGRASS 2014

Main Table 3 - Frequent Cutting (8 to 10 cuts per year)

Variety Name	Heading Date	Total Yield	Ground Cover 1-9	Spring Yield	Summer Yield	Autumn Yield	*DMD %
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Intermediate PRG Group

Control Mean (t DM/ha)		(11.0)	(6.3)	(1.6)	(7.1)	(2.3)	(82.5)
Boyne	22-May						
Solomon	22-May						
Rosetta	23-May						
Rodrigo	26-May						
AberMagic	30-May	(108)	(6.6)	(101)	(106)	(117)	(101.5)
Giant (T)	19-May						
Magician (T)	21-May	(100)	(6.1)	(99)	(99)	(101)	(100.3)
Carraig (T)	23-May						
Trend (T)	24-May	(101)	(5.7)	(92)	(104)	(96)	(100.3)
Seagoe (T)	28-May						
Dunluce (T)	29-May	(103)	(6.1)	(96)	(104)	(106)	(101.4)

Late PRG Group

Controls Mean (t DM/ha)		(10.5)	(6.4)	(1.3)	(7.1)	(2.1)	(82.4)
Stefani	01-Jun						
Majestic	02-Jun						
Glenveagh	02-Jun						
Denver	02-Jun	(98)	(7.2)	(93)	(99)	(95)	(99.3)
Piccadilly	03-Jun						
Soriento	03-Jun	(96)	(7.2)	(93)	(97)	(93)	(99.2)
Tyrella	03-Jun	(99)	(6.2)	(113)	(95)	(101)	(99.9)
Clanrye	05-Jun						
Portstewart	05-Jun	(98)	(7.1)	(93)	(99)	(100)	(100.0)
Mezquita	06-Jun	(98)	(7.7)	(99)	(99)	(95)	(99.2)
Drumbo	07-Jun						
AberChoice	09-Jun						
Malambo	10-Jun	(99)	(6.7)	(94)	(100)	(98)	(99.3)
Delphin (T)	01-Jun	(104)	(5.1)	(102)	(104)	(104)	(100.5)
Glencar (T)	02-Jun	(102)	(6.3)	(103)	(101)	(105)	(100.3)
AberCraigs (T)	04-Jun	(100)	(6.1)	(92)	(102)	(101)	(100.8)
Aspect (T)	05-Jun	(105)	(6.6)	(107)	(105)	(105)	(101.4)
Navan (T)	06-Jun	(106)	(6.1)	(101)	(104)	(117)	(101.0)
AberGain (T)	06-Jun						
Twymax (T)	06-Jun	(103)	(6.0)	(89)	(106)	(101)	(101.1)
Kintyre (T)	07-Jun						
AberPlentiful (T)	07-Jun						

Data shown in brackets () is based on only one sowing year (2010).

*DMD controls data is shown as g/100g on this Table.

GRASS VARIETY DESCRIPTIONS

Introduction

The variety descriptions in this booklet are based on the information provided in the Main Tables. The descriptions are based on information provided in Main Tables 1 & 2, relating to the General Purpose 6 cut system. Information in Main Table 3 relating to the Frequent Cutting 8-10 cut system does not cover all the varieties and the data is provisional as it is based on 2 harvest years, rather than a minimum of 4.

The descriptions are generally confined to pointing out cases where a variety's performance relative to other varieties in the same group differs considerably regarding a particular characteristic. The descriptions are not intended to give an overview of the value of a variety as regards all of its characteristics. They do not include reference to silage yields. All the varieties on the recommended list are those that performed best in trials conducted by the Department of Agriculture, Food and the Marine in Ireland and for which commercial quantities of seed have been produced by the seed industry. The trials included large numbers of varieties put forward by breeders from many countries.

ITALIAN RYEGRASS:

- Fabio (T):** A tetraploid variety. Dry matter digestibility is very good.
- Nabucco (T):** A tetraploid variety with well balanced production over the growing period.
- Davinci:** Its annual yield and ground cover are the best of the Italian Group. Dry matter digestibility is moderate.

HYBRID RYEGRASS:

- AberEcho (T):** Its quality results are promising but are provisional.
- Alliance (T):** Good annual yield. Ground cover is the poorest in the group. Spring growth is very good. Dry matter digestibility is good.
- Pirol:** Good annual yield with very good silage yield. Its quality results are moderate but are provisional.

EARLY PERENNIAL RYEGRASS:

Moyola: Good annual yield and autumn growth.

Genesis: Excellent spring growth.

INTERMEDIATE PERENNIAL RYEGRASS: DIPLOIDS

Boyne: Highest total yield and very good spring growth. Its ground cover score is very good.

Solomon: Total yield is good. Spring growth is excellent.

Rosetta: Very good total yield. Spring growth is excellent.

Rodrigo: Very good ground cover score. Good spring growth.

AberMagic: Good annual yield and very good autumn growth. Ground cover and dry matter digestibility are very good. Its heading date is the latest in the group.

INTERMEDIATE PERENNIAL RYEGRASS: TETRAPLOIDS

Giant: Spring growth is very good. Ground cover is very good.

Magician: Spring growth is very good.

Carraig: Good total yield combined with excellent spring growth. Ground cover is very good.

Trend: Its total yield and spring growth are good. The variety is becoming outclassed by newer improved varieties.

Seagoe: A new variety with good total yield combined with very good spring yield. Dry matter digestibility is good

Dunluce: Dry matter digestibility is exceptionally good. Its autumn growth is the best of the tetraploids. It is the latest heading tetraploid variety in the group.

LATE PERENNIAL RYEGRASS: DIPLOIDS

Stefani: Good annual and spring yield. Good ground cover.

Majestic: Good annual, spring and autumn yield. Good ground cover.

Glenveagh: Good annual yield. Its ground cover is excellent. Spring growth is moderate.

Denver: Spring and autumn growth are moderate. Good ground cover. The variety is becoming outclassed by newer improved varieties.

Piccadilly: Good annual yield and spring growth. Good ground cover.

Soriento: Ground cover is very good. Spring and autumn growth are moderate. The variety is becoming outclassed by newer improved varieties.

Tyrella: Its spring growth is excellent and is much better than that of other late diploid varieties.

Clanrye: A new variety with very good annual yield and ground cover.

Portstewart: Spring growth is moderate. It is the oldest grass variety on the recommended list and is becoming outclassed by newer improved varieties.

Mezquita: Its ground cover is very good. Autumn growth is moderate. The variety is becoming outclassed by newer improved varieties.

Drumbo: Spring growth is very good. Autumn growth is good. Dry matter digestibility is very good.

AberChoice: Annual yield and autumn yield are very good. Ground cover is good. Dry matter digestibility is excellent, being the highest in the group.

Malambo: Good annual yield and autumn growth. Ground cover is good. The variety is becoming outclassed by newer improved varieties.

LATE PERENNIAL RYEGRASS: TETRAPLOIDS

Delphin: Annual yield and spring growth are good. Dry matter digestibility is very good.

Glencar: Good annual yield.

AberCraigs: Annual yield and spring growth are good. Dry matter digestibility is very good. The variety is becoming outclassed by newer improved varieties.

Aspect: A new variety with good annual yield and spring yield. Ground cover is the best of the late tetraploids. Dry matter digestibility is very good.

Navan: Good annual yield. Spring growth is moderate. Autumn growth and dry matter digestibility are very good.

AberGain: Highest annual yield. Spring growth is exceptional, being considerably better than other varieties. Dry matter digestibility is excellent.

Twymax: Ground cover is one of the highest of the tetraploids. Spring growth is moderate. Very good dry matter digestibility.

Kintyre: Annual yield, autumn growth and dry matter digestibility are all very good.

AberPlentiful: A new variety with very good annual yield. Spring growth is good and autumn growth is very good. Dry matter digestibility is very good.

RECOMMENDED WHITE CLOVER VARIETIES 2014

Variety Name	Total Yield	Leaf Size*	Average Clover %	Year 1 st Listed	Breeder	Origin
Control Mean t DM/ha	9.1					
Barblanca	102	L (0.78)	52	2009	Barenbrug	NL
Alice	103	L (0.74)	51	1995	IBERS	UK
Chieftain	101	M (0.66)	46	2005	Teagasc	IRL
Avoca	102	M (0.60)	47	1995	Teagasc	IRL
Iona	96	M (0.56)	48	2014	Teagasc	IRL
Crusader	95	M (0.54)	43	2009	Barenbrug	NL
AberHerald	98	M (0.53)	46	2003	IBERS	UK

In the table above varieties are listed in order of decreasing leaf size.

* In the table above, **L** indicates Large leaf size and **M** indicates Medium leaf size. Values in brackets indicate leaf size compared to the variety Aran (i.e. Aran = 1.00), based on data from UK D.U.S. tests.

Control varieties are shown in Appendix 1 on page 19.

WHITE CLOVER VARIETY DESCRIPTIONS

Barblanca: A large leaved variety. Very good annual yield. Considered suitable for silage production and unsuitable for hard grazing.

Alice: A large leaved variety. Very good annual yield. Considered suitable for silage production and unsuitable for hard grazing.

Chieftain: A medium leaved variety with good yield. It is the largest of the medium-leaved category. Considered suitable for grazing.

Avoca: A medium leaved variety with very good yield. Considered suitable for grazing.

Iona: A new medium leaved variety with a good ability to compete with the accompanying grass. Considered suitable for grazing.

Crusader: A medium leaved variety. Considered suitable for grazing.

AberHerald: A medium leaved variety. Considered suitable for grazing.

Appendix 1: Control varieties

	EARLY PRG* Control Varieties
Trial Sown 2006	Anaconda (T), January
Trial Sown 2008	Anaconda (T), January

	INTERMEDIATE PRG* Control Varieties
Trial Sown 2009	Cashel, Premium, Shandon, Magician (T), Malone (T), Trend (T)
Trial Sown 2010	AberStar, Premium, Shandon, Magician (T), Malone (T), Trend (T)

	LATE PRG* Control Varieties
Trial Sown 2009	Denver, Mezquita, Tyrella, AberCraigs (T), Delphin (T), Glencar (T)
Trial Sown 2010	Denver, Mezquita, Tyrella, AberCraigs (T), Delphin (T), Glencar (T)

	ITALIAN Control Varieties
Trial Sown 2007	AberEpic, Fabio (T), Nabucco (T)
Trial Sown 2009	AberEpic, Fabio (T), Nabucco (T)

	HYBRID Control Varieties
Trial Sown 2007	Alliance (T), Ligunda, Motivel (T)
Trial Sown 2009	AberEve (T), Marmota (T), Pirol, Redunca (T)

	WHITE CLOVER Control Varieties
Trial Sown 2006	AberHerald, Alice, Aran, Avoca
Trial Sown 2008	AberHerald, Alice, Aran, Avoca

* 'PRG' is used to indicate 'Perennial Ryegrass'.

Appendix 2: General Purpose - Silage Yield (t DM/ha)¹

Variety Name	Heading Date	1 st Cut Silage (t DM/ha)	2 nd Cut Silage (t DM/ha)
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Intermediate PRG Group

Control Mean (t DM/ha)		5.349	3.466
Boyne	22-May	5.589	3.737
Solomon	22-May	5.260	3.476
Rosetta	23-May	5.327	3.344
Rodrigo	26-May	5.182	3.440
AberMagic	30-May	4.795	3.839
Giant (T)	19-May	5.400	3.321
Magician (T)	21-May	5.379	3.622
Carraig (T)	23-May	5.502	3.636
Trend (T)	24-May	5.625	3.585
Seagoe (T)	28-May	5.559	3.685
Dunluce (T)	29-May	4.896	4.171

Late PRG Group

Controls Mean (t DM/ha)		4.917	3.694
Stefani	01-Jun	4.903	3.630
Majestic	02-Jun	4.708	3.550
Glenveagh	02-Jun	4.901	3.579
Denver	02-Jun	4.875	3.615
Piccadilly	03-Jun	5.223	3.424
Soriento	03-Jun	4.765	3.702
Tyrella	03-Jun	4.913	3.360
Clanrye	05-Jun	4.745	4.083
Portstewart	05-Jun	4.618	3.721
Mezquita	06-Jun	4.713	3.731
Drumbo	07-Jun	4.409	3.766
AberChoice	09-Jun	4.450	4.082
Malambo	10-Jun	4.504	4.002
Delphin (T)	01-Jun	5.117	3.716
Glencar (T)	02-Jun	4.925	3.894
AberCraigs (T)	04-Jun	4.958	3.844
Aspect (T)	05-Jun	(4.680)	(3.952)
Navan (T)	06-Jun	4.679	3.927
AberGain (T)	06-Jun	5.063	3.871
Twymax (T)	06-Jun	4.778	4.047
Kintyre (T)	07-Jun	4.663	3.975
Aberplentiful (T)	07-Jun	4.767	4.000

¹Data relating to this table is incorporated in Main Table 2 on page 12.

Appendix 3: Frequent Cutting - Yield and Ground Cover Data²

Variety Name	Heading Date	Spring Yield	Summer Yield	Autumn Yield	Ground Cover 1-9. End of Harvest Year 1	Ground Cover 1-9. End of Harvest Year 2
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Intermediate PRG Group

Control Mean (t DM/ha)		1.603	7.105	2.277	6.743	5.772
Boyne	22-May					
Solomon	22-May					
Rosetta	23-May					
Rodrigo	26-May					
AberMagic	30-May	1.620	7.559	2.666	7.091	5.984
Giant (T)	19-May					
Magician (T)	21-May	1.593	7.052	2.291	6.189	5.560
Carraig (T)	23-May					
Trend (T)	24-May	1.479	7.420	2.193	5.658	5.181
Seagoe (T)	28-May					
Dunluce (T)	29-May	1.543	7.383	2.422	6.185	5.568

Late PRG Group

Controls Mean (t DM/ha)		1.336	7.073	2.059	6.592	6.020
Stefani	01-Jun					
Majestic	02-Jun					
Glenveagh	02-Jun					
Denver	02-Jun	1.240	7.013	1.951	7.180	6.774
Piccadilly	03-Jun					
Soriento	03-Jun	1.241	6.858	1.922	7.285	6.739
Tyrella	03-Jun	1.505	6.735	2.085	6.769	5.799
Clanrye	05-Jun					
Portstewart	05-Jun	1.241	7.003	2.060	6.860	6.610
Mezquita	06-Jun	1.318	6.986	1.948	7.263	7.178
Drumbo	07-Jun					
AberChoice	09-Jun					
Malambo	10-Jun	1.250	7.035	2.023	7.026	6.280
Delphin (T)	01-Jun	1.357	7.363	2.143	5.300	4.779
Glencar (T)	02-Jun	1.371	7.131	2.154	6.861	5.881
AberCraigs (T)	04-Jun	1.224	7.213	2.072	6.176	5.708
Aspect (T)	05-Jun	1.425	7.388	2.169	6.896	6.170
Navan (T)	06-Jun	1.344	7.383	2.413	6.536	5.723
AberGain (T)	06-Jun					
Twymax (T)	06-Jun	1.195	7.460	2.080	6.367	5.567
Kintyre (T)	07-Jun					
AberPlentiful (T)	07-Jun					

²Data relating to this table is incorporated in Main Table 3 on page 13.

The Ground Cover values in this Appendix are based on the actual scores recorded, whereas those values in Main Table 3 are modified by an appropriate factor to facilitate comparisons across earlier years.

Appendix 4: Frequent Cutting - Dry Matter Digestibility (DMD) Data³

Variety Name	Heading Date	DMD 1	DMD 2	DMD 3	DMD 4	DMD 5	DMD 6	DMD Avr
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Intermediate PRG Group

Control Mean DMD (g/1000g)		843.1	840.0	807.2	823.0	823.4	810.3	824.5
Boyne	22-May							
Solomon	22-May							
Rosetta	23-May							
Rodrigo	26-May							
AberMagic	30-May	859.8	851.1	807.1	835.5	834.4	832.0	836.7
Giant (T)	19-May							
Magician (T)	21-May	843.0	846.6	813.5	824.0	823.7	809.3	826.7
Carraig (T)	23-May							
Trend (T)	24-May	848.1	843.8	809.9	824.5	818.4	817.3	827.0
Seagoe	28-May							
Dunluce (T)	29-May	849.9	847.6	831.1	839.1	832.4	818.6	836.5

Late PRG Group

Controls Mean DMD (g/1000g)		853.1	854.7	817.1	796.0	813.4	807.8	823.7
Stefani	01-Jun							
Majestic	02-Jun							
Glenveagh	02-Jun							
Denver	02-Jun	846.0	848.6	812.8	783.8	813.3	802.0	817.7
Piccadilly	03-Jun							
Soriento	03-Jun	853.1	850.5	815.3	782.1	800.6	801.7	817.2
Tyrella	03-Jun	851.7	855.0	809.5	800.3	813.7	805.6	822.6
Clanrye	05-Jun							
Portstewart	05-Jun	854.8	857.9	822.3	787.8	812.9	806.2	823.7
Mezquita	06-Jun	845.2	850.0	819.1	783.3	805.9	799.1	817.1
Drumbo	07-Jun							
AberChoice	09-Jun							
Malambo	10-Jun	844.5	849.7	817.9	793.9	802.2	799.7	818.0
Delphin (T)	01-Jun	862.0	861.5	816.2	800.9	813.1	814.0	828.0
Glencar (T)	02-Jun	858.3	850.2	821.8	803.4	812.3	812.6	826.4
AberCraigs (T)	04-Jun	855.2	862.8	823.4	804.5	821.9	813.6	830.3
Aspect (T)	05-Jun	866.6	866.8	823.6	811.3	827.3	817.9	835.6
Navan (T)	06-Jun	858.8	861.5	828.0	808.1	816.5	820.1	832.2
AberGain (T)	06-Jun							
Twymax (T)	06-Jun	863.2	864.6	830.4	804.0	821.2	812.9	832.7
Kintyre (T)	07-Jun							
Aberplentiful (T)	07-Jun							

³Data relating to this table is incorporated in Main Table 3 on page 13.

DEPARTMENT OF AGRICULTURE, FOOD and the MARINE

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