

Grass and Clover

Recommended List Varieties for Ireland 2010



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Introduction

Perennial ryegrass, Italian ryegrass and White clover account for nearly all of the 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.

Variety Maturity Groupings

Perennial Ryegrass: - 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. The main role of early perennials is to provide early spring grazing in March and April, and to boost first cut silage yields taken by the third week of May. Early varieties perform best on light free draining soils. Stemmy re-growths in early summer can be a problem where long periods of uninterrupted growth are allowed to occur without grazing or cutting. Varieties from this group are suitable for short or medium term leys where long-term persistence is not a priority.

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. 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. Spring growth is slow. Under good grazing management, late perennials are extremely persistent and can survive indefinitely.

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 majority possess some of the out of season growth characteristics of Italians combined with some of the sward density characteristics of perennials. Compared to Italian ryegrass, hybrids exhibit a greater sward density and are usually more persistent. They also display good winter hardiness and have better mid-summer digestibility than Italians, but are poorer than Perennial ryegrass.

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 large, medium and small leafed types. Large leafed varieties are relatively tolerant to nitrogen usage and compete well with companion grasses for silage production. Medium leafed varieties are more suited to grazing, but can also be used in silage mixes.

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.

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

IMPORTANT NOTICE: - The Department of Agriculture, Fisheries and Food (DAFF) 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. DAFF cannot, however accept responsibility for any loss or inconvenience arising from any future variation in absolute or relative varietal performance.

Protocol for Recommended List

Varieties are evaluated from a minimum of two separate sowings and four harvest years. 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.

Perennial ryegrasses are sown in autumn and assessed over the following two-year period under a 6 cut system with 350 N kg/ha applied per annum. The harvesting regime comprises two silage cuts and four grazing cuts.

Italian ryegrasses are sown in autumn and assessed over the following two-year period under a 6 cut system with 350 N kg/ha applied per annum.

Hybrid ryegrasses are sown in autumn and assessed over the following two-year period under a 6 cut system with 350 N kg/ha applied per annum.

White clover varieties are sown in a mixture with an intermediate perennial ryegrass in autumn, and following an establishment year are assessed over the subsequent two years under an 8 cut system. White clovers are tested under a low nitrogen input regime of 50 N kg/ha per annum applied in the spring.

Heading date is based on the first heading date in spring, determined by examination 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 last grazing.

Total yield for each variety is given as a percentage of control varieties indicated. NB. 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.

Ground Cover Score 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 the first cut, which is taken in early April.

Autumn growth figures indicate production differences between varieties in autumn. They are expressed as a percentage of the control yields over the same period. Autumn growth data is based on the combined yield of the last two cuts, which measure growth 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 are based on testing of plot samples from all 6 cuts per year at one trial site over a minimum of two years.

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.

DAFF acknowledge the assistance of Teagasc, Grange, in carrying out laboratory analysis of grass samples under Stimulus Fund Project RSF 07 526.

Summary of All Recommended List Varieties 2010

Perennial ryegrass	
AberCraigs (T)	Late
AberStar	Intermediate
AberMagic	Intermediate
Anaconda (T)	Early
Cancan	Late
Cashel	Intermediate
Delphin (T)	Late
Denver	Late
Donard	Early
Dunluce (T)	Intermediate
Edda (T)	Intermediate
Glencar (T)	Late
January	Early
Lismore (T)	Intermediate
Magician (T)	Intermediate
Malambo	Late
Malone (T)	Intermediate
Mezquita	Late
Navan (T)	Late
Orion (T)	Late
Portstewart	Late
Premium	Intermediate
Shandon	Intermediate
Soriento	Late
Trend (T)	Intermediate
Twymax (T)	Late
Twystar	Late
Tyrella	Late
Tyrone	Late

Italian ryegrass
AberEpic
Fabio (T)
Nabucco (T)

Hybrid ryegrass
AberEve
Pirol
Marmota
Redunca

White clover
AberHerald
Alice
Aran
Avoca
Barblanca
Chieftain
Crusader

In all subsequent tables, grass varieties 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.

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

RECOMMENDED EARLY and INTERMEDIATE PERENNIAL RYEGRASS 2010

Variety Name	Group	Ploidy	Heading Date	Total Yield	Ground Cover 1-9	Spring Growth	Autumn Growth	DMD %	WSC %	Year 1st Listed	Breeder	Origin
Early PRG Control Mean t DM/ha				15.6	1.5	3.2	80.2	18.9				
Anaconda (T)	Early	T	13-May	100	5.7	99	99	101.0	106	1994	Advanta	NL
Donard	Early	D	15-May	101	6.4	101	103	100.0	96	1997	AFBI	NI
January	Early	D	17-May	100	6.0	117	99	99.0	97	2008	Teagasc	IRL
Inter PRG Control Mean t DM/ha				15.3	1.3	3	81.0	18.8				
Shandon	Inter	D	23-May	97	7.1	101	95	98.5	96	2005	Teagasc	IRL
Cashel	Inter	D	25-May	97	7.2	90	97	99.5	100	2000	Teagasc	IRL
Premium	Inter	D	30-May	98	7.4	94	99	99.5	96	1997	Innoseeds	NL
AberStar	Inter	D	01-Jun	100	7.0	90	108	101.0	106	2008	IBERS	UK
AberMagic	Inter	D	n/a*	102	7.5	94	115	102.0	125	2010	IBERS	UK
Malone (T)	Inter	T	22-May	104	5.8	109	108	100.5	110	2009	AFBI	NI
Magician (T)	Inter	T	24-May	103	6.6	116	102	100.5	101	1999	Teagasc	IRL
Lismore (T)	Inter	T	27-May	100	6.6	92	97	100.5	100	2006	Euro Grass	DE
Edda (T)	Inter	T	28-May	102	6.2	103	101	101.0	106	2003	NPZ	DE
Trend (T)	Inter	T	28-May	104	6.1	102	104	101.0	103	2007	NPZ	DE
Dunluce (T)	Inter	T	30-May	102	6.2	95	108	102.5	117	2007	AFBI	NI

Early PRG: variety descriptions Page 12;

Control varieties Page 18.

Intermediate PRG: variety descriptions Page 12 and 13;

Control varieties Page 18.

*n/a = Insufficient data, considered latest of Group.

RECOMMENDED LATE PERENNIAL RYEGRASS 2010

Variety Name	Group	Ploidy	Heading Date	Total Yield	Ground Cover 1-9	Spring Growth	Autumn Growth	DMD %	WSC %	Year 1st Listed	Breeder	Origin
Late PRG Control Mean t DM/ha				14.9	1.2	3.1	81.8	19.0				
Denver	Late	D	06-Jun	98	7.5	100	97	99.5	90	2003	Advanta	NL
Soriento	Late	D	06-Jun	98	7.5	95	96	99.5	94	2005	Euro Grass	DE
Tyrella	Late	D	06-Jun	98	7.0	129	97	100.0	101	2008	AFBI	NI
Tyrone	Late	D	07-Jun	96	7.0	80	101	99.5	101	1989	AFBI	NI
Portstewart	Late	D	08-Jun	98	7.0	95	101	100.0	100	1994	AFBI	NI
Mezquita	Late	D	08-Jun	98	7.9	114	95	99.0	90	2008	Euro Grass	DE
Malambo	Late	D	11-Jun	99	7.2	98	101	n/a*	n/a*	2010	Euro Grass	DE
Cancan	Late	D	13-Jun	97	7.4	84	105	99.5	103	2000	Limagrain	Fr
Twystar	Late	D	15-Jun	97	7.1	90	98	99.0	98	1998	CPB Tw yford	UK
Orion (T)	Late	T	03-Jun	100	6.6	89	97	101.0	108	2002	NPZ	DE
Delphin (T)	Late	T	03-Jun	104	6.3	113	102	100.5	103	2002	NPZ	DE
Glencar (T)	Late	T	05-Jun	102	6.5	103	100	99.5	98	2005	Teagasc	IRL
AberCraigs (T)	Late	T	06-Jun	101	6.5	102	100	100.5	108	1999	IBERS	UK
Navan (T)	Late	T	08-Jun	102	6.5	87	110	100.5	109	1999	AFBI	NI
Twymax (T)	Late	T	08-Jun	102	6.8	91	99	101.0	110	2007	CPB Tw yford	UK

Late PRG: variety descriptions Page 14 and 15;

Control varieties Page 18.

* n/a = insufficient data

RECOMMENDED ITALIAN and HYBRID RYEGRASS 2010

Variety Name	Group	Ploidy	Heading Date	Total Yield	Ground Cover 1-9	Spring Growth	Silage Yield	DMD %	WSC %	Year 1st Listed	Breeder	Origin
Italian Control Mean t DM/ha				17.5	1.4	9.5	78.9	20.1				
Nabucco (T)	Italian	T	18-May	102	5.3	110	102	99.5	99	2007	Euro Grass	DE
Fabio (T)	Italian	T	23-May	101	4.9	105	101	100.5	104	1998	Euro Grass	DE
AberEpic	Italian	D	22-May	102	5.6	121	101	99.0	102	2007	IBERS	UK
Hybrid Control Mean t DM/ha				16.2	1.2	9.3	79.5	20.3				
Marmota (T)	Hybrid	T	23-May	101	5.1	111	99	102.0	101	2008	Innoseeds/D	NL
Pirol	Hybrid	D	26-May	103	5.7	102	103	98.0	93	2009	Euro Grass	DE
Redunca (T)	Hybrid	T	26-May	104	5.0	116	101	99.5	101	2008	Innoseeds/D	NL
AberEve (T)	Hybrid	T	27-May	100	5.7	93	102	101.5	106	2008	IBERS	UK

Italian and Hybrid: variety descriptions Page 16; Control varieties Page 18.

RECOMMENDED WHITE CLOVER VARIETIES 2010

Variety Name	Total Yield	Leaf Size	Av Clover %	Year 1st Listed	Breeder	Origin
Control Mean t DM/ha	9.4					
Aran	99	L	44	1983	Teagasc	IRL
Alice	104	L	49	1995	Barenbrug	NL
Chieftain	101	M	35	2005	Teagasc	IRL
Avoca	102	M	46	1995	Teagasc	IRL
AberHerald	96	M	41	2003	IBERS	UK
Barblanca	103	M	56	2009	Barenbrug	NL
Crusader	94	S	48	2009	Barenbrug	NL

White Clover: variety descriptions Page 17; Control varieties Page 18.

EARLY PERENNIAL RYEGRASS: Variety Description

Anaconda (T): An early maturing tetraploid with average total yield. Combines acceptable spring growth and silage yield with good autumn growth. Ground cover is reasonable for a tetraploid variety.

Donard: A variety with good total yield and spring growth. Autumn growth and ground cover are best in group. Good mildew resistance.

January: A variety with good total yield and excellent spring growth. Ground cover is good.

INTERMEDIATE PERENNIAL RYEGRASS: Variety Description

DIPLOIDS

Shandon: Average annual yields with excellent spring growth (best in diploid group). Autumn growth is average. Good ground cover score.

Cashel: Average total yield figures with high ground cover score. Spring growth is poor.

Premium: Acceptable total yield, spring and autumn growth figures. Ground cover is also good.

AberStar: A variety with good annual yield, and good ground cover. Spring growth is poor, but it has good autumn growth. A late maturing variety with good quality values.

AberMagic: A new variety with very good annual yield. Spring growth is moderate, but autumn growth is best in group. Ground cover score is best in the group.

INTERMEDIATE PERENNIAL RYEGRASS: Variety Description

TETRAPLOIDS

- Malone:** A newer variety with good annual yield with excellent spring and late season growth. Ground cover is lowest in this group.
- Magician:** Good total annual yield. Spring growth is best in the group. Ground cover is good.
- Lismore:** Average total yield and autumn growth. Spring growth is below average. Ground cover score is very good.
- Edda:** Good total yield, with acceptable spring and autumn growth. Ground cover score is average.
- Trend:** Newer variety. One of the highest yielding in the group. Spring and autumn growth above average. Acceptable ground cover. Good quality parameters.
- Dunluce:** Newer variety. Good annual yield with excellent late season growth. Ground cover average.

LATE PERENNIAL RYEGRASS: Variety Description

DIPLOIDS

- Denver:** Average yielding with good spring and average autumn growth. Ground cover is very good.
- Soriento:** Average total yield. Spring and autumn growth satisfactory. First cut silage yield is good. Has a very good score for ground cover.
- Tyrella:** A newer variety. Annual yield is average with very high spring growth (highest in group). Satisfactory ground cover with good quality values.
- Tyrone:** Oldest variety on the list. Total yield is below average, and spring growth is poor. Above average ground cover.
- Portstewart:** A reliable all round performer that has withstood the test of time. Total yield and spring growth are average. Ground cover is below average.
- Mezquita:** A newer variety with average annual yield, and very good spring growth. Ground cover is excellent, best in the group. Quality values are below average.
- Malambo:** A new variety with average annual yield and spring growth. Autumn yield and ground cover are good.
- Cancan:** Excellent variety for late season grazing, with a high score for ground cover. Total yields are satisfactory, but spring growth is poor.
- Twystar:** The latest maturing variety listed, with acceptable performance across the season. Ground cover is average.

LATE PERENNIAL RYEGRASS: Variety Description

TETRAPLOIDS

- Orion:** A relatively early maturing variety with average total yield. Below average for spring and autumn growth. Good ground cover score.
- Delphin:** Exceptional early growth and total yield (best in group). Autumn growth is good. Ground cover score is the lowest in this group.
- Glencar:** Good annual yield figure. Spring growth is good, while autumn growth is acceptable. Ground cover score is good.
- AberCraigs:** Good total yield, with very good spring growth. Autumn growth is acceptable. Good silage yields. Good ground cover score. Good mildew resistance.
- Navan:** Very good all round variety, good yield, especially in the autumn, where it is highest in the group, with a good ground cover score. Below average spring growth.
- Twymax:** Very good ground cover score, highest in the group. Spring growth is below average for the group, autumn growth is average, with good silage yields.

ITALIAN RYEGRASS: Variety Description

Nabucco (T): An early tetraploid variety with good overall yields and respectable ground cover. Excellent spring growth and good silage yield.

Fabio (T): A tetraploid variety with good overall yields and spring growth. Ground cover is lowest in group. Good silage yields.

AberEpic: Highest yielding recommended variety with excellent spring growth. Silage yield is good. Forms a relatively dense sward.

HYBRID RYEGRASS: Variety Description

Marmota (T): An early tetraploid variety with good overall yields and respectable ground cover. Excellent spring growth and average silage yield.

Pirol: A new Italian type with good overall yield potential and a good ground cover score. Best silage yield in the group.

Redunca (T): A tetraploid variety with highest overall yield and excellent spring growth. Ground cover is lowest in group. Good silage yields.

AberEve: A variety with average total yield, good silage cuts and below average for spring growth. High values for ground cover indicate good persistence potential. Good values for quality parameters.

WHITE CLOVER: Variety Description

- Aran:** The largest leafed variety on the list. Best suited to hay or silage production as it competes well with tall grass canopies. Not persistent under hard grazing.
- Alice:** A high yielding variety capable of tolerating reasonable nitrogen dressings. Spring production is good. Considered to be relatively persistent..
- Chieftain:** Produces high yields for a medium leafed variety, with good early season growth. Suitable for grazing.
- Avoca:** A good yielding variety, slightly smaller in leaf size than Chieftain. Suitable for close grazing and can tolerate reasonable levels of nitrogen. Good production right across the growing season.
- AberHerald:** Leaf size is similar to that of Avoca. Average overall production and good persistence.
- Barblanca:** A new medium leaf size clover, with good production potential.
- Crusader:** A new small leaf clover. Below average overall production. Suitable for close grazing.

Appendix 1: Control varieties

	EARLY PRG Control Varieties
Trial sown 2004	Anaconda (T) and Donard.
Trial sown 2006	Anaconda (T) and January.

	INTER. PRG Control Varieties
Trial sown 2005	Premium, Shandon, Spelga Dunluce (T), Lismore (T), Magician (T)
Trial sown 2006	Premium, Shandon, Spelga Dunluce (T), Lismore (T), Magician (T)

	LATE PRG Control Varieties
Trial sown 2005	Denver, Portstewart, Soriento Abercraigs (T), Delphin (T), Glencar
Trial sown 2006	Denver, Cancan, Soriento Abercraigs (T), Delphin (T), Glencar

	ITALIAN Control Varieties
Trial sown 2003	Gemini (T) and Tribune.
Trial sown 2005	Fabio (T) and Ligrande

	HYBRID Control Varieties
All Trials	Pirol, Foyle (T), and Ligunda.

	WHITE CLOVER Control Varieties
All Trials	Alice, Aran, Avoca, and Aberherald.

DEPARTMENT OF AGRICULTURE, FISHERIES AND FOOD

RECOMMENDED LISTS

Cereal Varieties

Grass and Clover

Forage Maize

Winter Oilseed Rape

CROP SCHEMES AND SERVICES

Seed Certification

Seed Testing

The use of certified seed ensures a high level of varietal purity and germination.