Cereals

Recommended Varieties for Northern Ireland 2011

Department of Agriculture and Rural Development
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HGCA

afbi Agri-Food and Biosciences Institute

This booklet provides information on cereal varieties currently recommended by the Department of Agriculture and Rural Development (DARD) for use in Northern Ireland.

The Agri-Food and Biosciences Institute at the Plant Testing Station, AFBI Crossnacreevy, conducts trials on behalf of DARD and the HGCA. The recommendations in this booklet are partly based on data collected within the Home Grown Cereal Authority (HGCA) Recommended List trialling system. Full data collected from HGCA trials and the HGCA Recommended Lists are available at www.hgca.com. Information on recommended varieties and other varieties currently in trial in Northern Ireland is also available at www.afbini.gov.uk.

The recommendations are reviewed and published annually.

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Recommended Cereal Varieties 2011

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Introduction

This booklet is a comprehensive guide to cereal varieties best suited for use within Northern Ireland. It is based on trials carried out by DARD and AFBI over the last five years as part of the HGCA Recommended List trialling system. The booklet complements information provided on varieties included in the HGCA Recommended Lists. The DARD Recommended List is available at www.afbini.gov.uk.

Spring barley and spring oat varieties are considered for provisional recommendation after two years of National List testing and one year of Recommended List testing. They generally remain provisionally recommended for two years before being eligible for recommendation for general use. Thus, every spring variety is tested for at least five years before considering it for full general recommendation.

Winter barley, winter wheat and winter oat varieties are in Recommended List trials for two years prior to being provisionally recommended. They too remain provisionally recommended for two years before being eligible for full recommendation. Thus, every winter variety is tested for at least four years before considering it for full general recommendation.

Provisionally recommended varieties are reviewed each year. If after their first year of provisional recommendation they are considered unsuitable, they are removed from the list. If they remain provisionally recommended for two or more years before being found unsuitable, they are usually placed in the outclassed category for a year before removing them from the list. If seed of any variety, regardless of category, becomes unavailable it is removed directly from the list.

This booklet is a local publication and directs growers towards varieties of greatest value to Northern Ireland, including only those HGCA recommended varieties most suitable for use in Northern Ireland. Spring barley and oat trials conducted in Northern Ireland also include some varieties from the Republic of Ireland that may be suited to Northern Ireland. The same consideration is given to these varieties, for local use, as those that pass through the UK system.

Several UK listed varieties are excluded from the tables because they are less suitable for use in Northern Ireland. A brief description of these varieties is given in the text.

Varieties are classified as follows:

G Varieties **fully recommended for general use**
S Varieties **fully recommended for special use**; clarification of which is given in the notes
P Varieties **provisionally recommended** and of which seed may be in short supply
PS Varieties which are **provisionally recommended for special use**; clarification of which is given in the notes. Seed of these varieties may be in short supply
O Varieties **becoming outclassed**

Trial Sites
Trials are conducted on varieties of all crops at AFBI, Crossnacreevy with further trials of the major crops in the main cereal growing regions of Northern Ireland. At Downpatrick and Limavady there were additional winter wheat and winter barley trials, with a further winter barley trial at Hillsborough. Additional spring barley trials are conducted at Ballywalter, Strabane and Coleraine.

Characteristics

Yield
Yields of all varieties are expressed in the tables as percentages of the control. For all crops the control is calculated as the mean (average) fungicide-treated yield of the control varieties that are selected on a UK basis. Untreated yields are expressed as a percentage of the mean of the fungicide-treated controls also. Both fungicide-treated and untreated yields represent the mean performance of the varieties in trials during the five-year period 2006 to 2010.

Treated yields
Fungicide programmes are applied to treated trials to keep disease incidences below 5% infection of the leaf area. Treated yields indicate the potential yield of the varieties in the absence of disease. Plant growth regulators are also applied to treated trials of winter wheat, winter barley and winter oats where the risk of lodging is high.

Untreated yields
In untreated trials, where no fungicide treatment is applied, natural infections by a number of diseases may occur at various stages during the growing season. Varieties have differing levels of infection because they carry different types and levels of resistance to each of the diseases. Infection by disease reduces grain yield potential. Differences in yield between varieties in untreated trials are normally greater than in treated trials. Comments on untreated yields in variety descriptions refer to their performance relative to other varieties when untreated.

Use of information on yields from treated and untreated trials
Growers have different approaches to the use of fungicides. Some prefer a programme that protects completely against all disease infection. Yields in the treated trials indicate which varieties are likely to give the best performances with this approach. Others prefer to

use chemicals as and when disease occurs. Yields in the untreated trials indicate which varieties are likely to need fewer applications of fungicide in order to produce high yields and, conversely, where risks are greater if less-than-complete control of disease is achieved.

Grain quality

Information presented in the tables on specific weight and 1000 grain weight of spring barley, winter barley, winter wheat, spring oat and winter oat varieties and on kernel content of spring and winter oat varieties, is from the fungicide treated trials in Northern Ireland. Specific weight, measured in kilograms per hectolitre (kg/hl), is an important quality indicator when selling grain. If the specific weight of a crop is low, it may not reach trading contract requirements. For winter and spring oats, specific weight is determined on pre-cleaned grain. Although individual crops will vary, the information on specific weight, grain weight and kernel content, presented in this booklet, shows accurate relative values for the varieties.

Oat screenings can be important when selling grain to the quality market. Oat varieties are screened over a 2mm sieve for 15 seconds and the proportion passing through is recorded as a percentage. These fluctuate greatly from season to season. Empty husks (that is grains that fail to develop kernels) and free kernels may be present in harvested oats and are unwanted in milling. All current spring oat varieties produce few empty husks but vary in their tendency to produce free kernels. Some of the winter oat varieties are particularly prone to producing free kernels and some also produce empty husks. Details are provided in the variety descriptions of tendency to produce free kernels and/or empty husks.

Straw characteristics

Straw length is based on data from untreated Northern Ireland trials (except for winter oats where data from the fungicide-treated, but without plant growth regulator, trials are used). Straw length is expressed in centimetres, relative to **Quench** for spring barley, **Firth** for spring oats, **Saffron** for winter barley, **Robigus** for winter wheat and **Dalguise** for winter oats.

Straw yields are determined from one spring barley and one winter barley trial each year. The relative straw yields from fungicide treated plots are now presented in the Recommended List tables. For spring barley they are expressed as low (less than 3.5 t/ha), intermediate (3.5 – 4.0 t/ha), high (4.0 – 4.5 t/ha) or very high (more than 4.5 t/ha). For winter barley straw yields are from the fungicide-treated plots in trials that also received a plant growth regulator and are described as low (less than 3.75 t/ha), intermediate (3.75 to 4.5 t/ha) or high (greater than 4.5 t/ha).

Standing power is calculated using both lodging and leaning data and expressed on a **1** to **9** scale, where a high figure indicates good standing power. Straw characteristics, such as brackling (in oats and barley) and necking (in barley only) are referred to in the variety descriptions. Brackling is buckling in the lower part of the stem and necking occurs directly below the ear. Brackling need not be damaging unless the ears lie on the soil surface. Necking can be more serious if a clean break occurs leading to ear loss in bad weather. These straw characteristics are determined from untreated trial data.

Disease

Resistance of varieties to disease is expressed on a **1** to **9** scale in the tables. A high figure means that the variety is very resistant. The resistance of varieties to other diseases is referred to in individual variety descriptions where necessary. Resistance ratings to disease are drawn from naturally occurring field infections in trial plots in Northern Ireland to which no fungicides were applied. Mildew, yellow rust and *Fusarium* ear blight scores in winter wheat are taken from the HGCA Recommended List 2011 due to insufficient disease in Northern Ireland trials.

Disease incidences on cereal crops in Northern Ireland tend to be more variable from year to year and from crop to crop than in Great Britain. There can also be a high degree of variability between trial sites. The very cold spring and dry summer of 2010 meant that cereal diseases were slow to develop during the growing season. A summary of cereal disease incidences in the Northern Ireland trials in 2010 follows.

Spring barley

Levels of *Rhynchosporium* (leaf blotch) were low again in 2010 and may be due to the cold weather in winter reducing carry-over on green tissue followed by a dry spring. *Rhynchosporium* is splash dispersed which is why it is usually the most important disease in the wetter conditions typically prevalent in Northern Ireland. At Crossnacreevy and Coleraine, traces of the disease were found in a few varieties including **Riviera**, **NFC Tipple** and **Forensic**. At Ballywalter, *Rhynchosporium* built up slowly to a maximum on 12% in **NFC Tipple** with **Waggon** and **Summit** at 8%. At Strabane, **Waggon** had the highest infection at 7%. **Westminster** had no *Rhynchosporium* in any of the four trials in 2010.

Levels of mildew were also low in 2010. At Ballywalter, most varieties had little or no mildew, **Forensic** having the highest, with 12 %, in early July increasing to over 60% infection by the end of July. **Optic**, **Oxbridge**, **Doyen** and **NFC Tipple** all had >5%. Varieties scoring 9 for resistance to mildew had no mildew infection. At Crossnacreevy, mildew was less of a problem, the most severe infection being 5% in **Cromwell**. **Optic** had 3% and **Forensic** 4%, with many varieties having no mildew at all. The trials at Coleraine and Strabane, which had the highest mildew infections in 2009, had no significant mildew infections in 2010.

There were traces of net blotch in all trials in 2010. At Ballywalter infections were highest with 12% in **NFC Tipple**, 8% in **Waggon** and 7% in **Summit**. At Crossnacreevy, **Sweeney** had the most severe infection of 6%. At Strabane all varieties were infected, ranging from 0.1% in **Concerto** to 8% in **Forensic**. Infections were lowest at Coleraine, where only three varieties, **Riviera**, **Cromwell** and **NFC Tipple**, had traces.

Ramularia was the most severe disease in 2010, although it does not develop until later in the growing season and so does not impact on yield as much as earlier developing diseases. By mid-July at Ballywalter **Quench**, **Forensic** and **Riviera** had traces and in Strabane traces were recorded in **Publican**. Levels of *Ramularia* were highest at Crossnacreevy where **Panther** had 23% infection, **Forensic** and **Sweeney** both had >10% and **Publican** 3%. **Westminster**, **SY Taberna** and **Summit** all had no *Ramularia*.

Spring oats

The most severe mildew infection was 15% in **Atego**. **Rozmar** had less than 1% and **Firth**, **Husky** and **Canyon** had no mildew at all. Crown rust was not found in the spring oat trial in 2010.

Winter barley

Rhynchosporium and *Ramularia* were the two main diseases in the winter barley trials in 2010 although levels of both were lower than in 2009. Infections were most severe at Downpatrick with maximum levels of 23% in both **Saffron** and **KWS Cassia** in late-June. **Camion** and **Suzuka** had infections of 20% and **Retriever** 17%. Both **Pelican** and **Volume** had only traces. Levels of *Rhynchosporium* at Crossnacreevy were a little lower. **Camion** had the worst infection with 20% and **Pearl**, **Saffron** and **Retriever** had 10%. Traces of *Rhynchosporium* were present at Hillsborough in a few varieties including **KWS Cassia**, **Pearl** and **Saffron**. At Limavady, most varieties had no *Rhynchosporium*, with a maximum of 7% in **Retriever**. **Camion** had 4% and **KWS Cassia** and **Pearl** both had 3%.

Ramularia was found in all four trials at significant levels. Maximum infections of 28% (**Retriever**) at Downpatrick, 25% (**Pearl**) at Limavady, 23% (**KWS Cassia** and **Camion**) at Hillsborough and 20% (**Retriever** and **Flagon**) at Crossnacreevy were recorded. In all trials, there were several varieties that had low levels of infection including **Volume**, **Florentine** and **Pelican**.

Net blotch was recorded in all varieties at Hillsborough except **KWS Cassia**. Higher infections were recorded in **Saffron** and **Pearl** (5%), **Retriever** (7%) and **Flagon** (12%). There were only traces in a few varieties at Crossnacreevy and Downpatrick including **Volume**, **Cassata** and **Flagon** and on only one variety (**Cassata**) at Downpatrick. There was no net blotch recorded at Limavady.

Mildew was only recorded at Hillsborough and ranged from 0% in **KWS Cassia** to 8% in **Saffron**.

Winter wheat

Septoria tritici was the most important disease this growing season but was slower to develop possibly because over-wintering inoculum was reduced by the cold weather. At Crossnacreevy by mid-June there was on average 4% infection across all varieties. The worst infections were in **Conqueror** and **Gallant**, 13%, with the lowest being in **Warrior** and **Stigg** (less than 1%). By mid-July, infections had increased to an average of 22%, ranging from 6 – 46%. At Limavady also, *Septoria tritici* was recorded in all varieties. **Gallant** had the highest levels of infection at 30%, **Oakley** and **Conqueror** had 23% whilst **Warrior** and **Stigg** once again had the lowest levels. Levels of *Septoria* were lower at Downpatrick with a maximum of 9% in **Gallant**. At this site, three varieties, **Warrior**, **Alchemy** and **Stigg**, had no *Septoria* at all.

There were no other diseases recorded at significant levels on winter wheat in Northern Ireland in 2010 and scores for mildew, yellow rust and *Fusarium* ear blight are based on HGCA UK-wide data.

Winter oats

Mildew ranged from none in **Tardis** and **Firth** to 6% in **Dalguise**. *Septoria avenae* and crown rust were not found in 2010.

Maturity

Spring barley varieties differ in maturity by approximately two weeks from earliest to very latest. There are only minor differences in maturity amongst spring oat, winter barley, winter wheat and winter oat varieties. Maturity of varieties is included in the tables for all crops as early (E), intermediate (I) or late (L) to ripen.

Sprouting

Germination of grain in the standing crop is extremely detrimental to the quality of the harvested grain. Whilst it can occur in all crops, it is most commonly a problem of wheat. Growers in the wetter areas of Northern Ireland have always taken account of this problem when selecting varieties. The tendency to sprout is indicated in individual variety descriptions if it is a particular strength or weakness of that variety.

Spring Barley

Concerto and **Publican** have been promoted to fully recommended for general use. **Concerto** has the highest treated yield of the six fully recommended varieties, although it can lose up to 22% of its yield if untreated. **Publican** has higher untreated yields and very high straw yields. **Quench**, **Doyen** and **Westminster** remain fully recommended. **Quench** continues to give very high treated and untreated yields, although it has smaller grain and lower specific weight than **Doyen** and **Westminster**. **Westminster** has very good disease resistance and produces very high straw yields. In 2010 it had the highest straw yields of all 23 varieties in trial. **Waggon** remains fully recommended for special use because it has very poor resistance to *Rhynchosporium*. New to the list in 2011 are **Summit** and **SY Taberna**. **Summit** has the highest treated yields of all varieties on the Recommended List, 3% higher that **Concerto**. **SY Taberna** has the highest untreated yields – equivalent to **Westminster**'s treated yields, and also better grain quality than **Summit** and gives very high straw yields.

Variety descriptions are in alphabetical order. Information is also provided on the year each variety was first listed in Northern Ireland, the name of its UK agent and its end-use group.

Concerto
(Recommended for general use)

First listed in 2009; Limagrain; malting variety;

- very high treated and high untreated yields;
- large grain with average specific weight;
- medium length straw with high straw yields;
- average standing power, quite poor resistance to brackling but very good resistance to necking;
- poor resistance to *Rhynchosporium,* average resistance to net blotch, quite good resistance to *Ramularia* and very good resistance to mildew;
- early to ripen.

Doyen
(Recommended for general use)

First listed in 2004; Syngenta; feed variety;

- high treated and moderate untreated yields;
- large grain with average specific weight;
- short straw with intermediate straw yields;
- quite good standing power, average resistance to brackling and good resistance to necking;
- quite good resistance to mildew and *Rhynchosporium,* average resistance to net blotch and quite poor resistance to *Ramularia*;
- intermediate to ripen.

Publican
(Recommended for general use)

First listed in 2009; Syngenta; feed variety;

- very high treated and untreated yields;
- large grain with average specific weight;
- short straw with very high straw yields;
- quite good standing power with average resistance to necking and brackling;
- very good resistance to mildew, good resistance to *Rhynchosporium*, quite good resistance to net blotch but quite poor resistance to *Ramularia*;
- late to ripen.

Quench
(Recommended for general use)

First listed in 2007; Syngenta; malting variety;

- very high treated and untreated yields;
- small grain with low specific weight;
- short straw with high straw yields;
- quite good standing power, quite good resistance to brackling and good resistance to necking;
- very good resistance to mildew, quite good resistance to *Rhynchosporium*, average resistance to *Ramularia* and quite poor resistance to net blotch;
- intermediate to ripen.

Summit
(Provisionally recommended)

First listed in 2011; Syngenta; feed variety;

- very high treated and untreated yields;
- small grain with low specific weight;
- short straw with high straw yields;
- good standing power with quite good resistance to brackling and good resistance to necking;
- good resistance to mildew, *Ramularia* and net blotch but quite poor resistance to *Rhynchosporium*;
- late to ripen.

SY Taberna
(Provisionally recommended)

First listed in 2011; Syngenta; malting variety;

- very high treated and untreated yields;
- large grain with average specific weight;
- medium length straw with very high straw yields;
- good standing power with good resistance to necking and average resistance to brackling;
- average resistance to *Rhynchosporium*, quite good resistance to *Ramularia*, quite poor resistance to net blotch and good resistance to mildew;
- intermediate to ripen.

Waggon
(Recommended for special use)

First listed in 2008; Syngenta; feed variety;

- very high treated and high untreated yields;
- very large grain with low specific weight;
- short straw with intermediate straw yields;
- quite good standing power with quite good resistance to brackling and average resistance to necking;
- very good resistance to mildew, quite good resistance to *Ramularia*, average resistance to net blotch but **very poor resistance to *Rhynchosporium* and requires careful management with regard to *Rhynchosporium* control**;
- intermediate to ripen.

Westminster
(Recommended for general use)

First listed in 2005; Limagrain; malting variety;

- high treated and very high untreated yields;
- large grain with average specific weight;
- long straw giving very high straw yields;
- quite good standing power, quite poor resistance to brackling and very poor resistance to necking;
- very good mildew resistance, good resistance to *Rhynchosporium* and net blotch and quite good resistance to *Ramularia*;
- tends to ripen late.

Varieties on the HGCA UK List that have performed less well in Northern Ireland are listed below. Figures in brackets are treated and untreated yields respectively. UK agent's names are in italics.

Belgravia is a malting variety and gives high treated yields and very high untreated yields (**102, 93**). It has small grain with average specific weight. It has medium length straw with quite good standing power and high straw yields. It has quite good resistance to *Rhynchosporium* and *Ramularia*, but poor resistance to net blotch. It is late to ripen. (*Limagrain*)

Forensic is a malting variety and gives very high treated and very low untreated yields (**103, 78**). It has very large grain with low specific weight. It has quite poor standing power, poor disease resistance. (*Syngenta*)

Garner is a feed variety that has very high yields (**106, 99**). It has very large grain with low specific weight. It has quite good resistance to *Rhychosporium*, good resistance to net blotch, average resistance to *Ramularia* and very good resistance to mildew. It has medium length straw with quite good standing power and quite poor resistance to brackling but gives very high straw yields. (*Syngenta*)

Moonshine has high treated and untreated yields (**100, 92**). It has average sized grain with low specific weight. It has good standing power with quite poor resistance to necking and low straw yields. It has quite poor resistance to *Rhynchosporium* and is susceptible to net blotch. It is intermediate to ripen. (*RAGT*)

NFC Tipple is a malting variety with high yields (**101, 88**). It has large grain with average specific weight. It has quite good standing power and good resistance to necking but low straw yields. It has poor resistance to *Rhynchosporium*. (*Syngenta*)

Optic is a malting variety that gives moderate treated and low untreated yields (**98, 80**). It has average sized grain with average specific weight. It has quite good standing power but very poor resistance to brackling. It has poor disease resistance and is late to ripen. (*Syngenta*)

Oxbridge is a malting variety that has moderate treated and low untreated yields (**95, 83**). It has large grain and average specific weight. Its short straw has quite good standing power, good resistance to necking, average resistance to brackling and high straw yields. It has quite good resistance to *Rhynchosporium* and mildew. (*Limagrain*)

Panther gives very high treated and high untreated yields (**108, 91**). It has large grain with average specific weight. It has short straw with quite poor standing power. It has quite poor resistance to *Rhynchosporium* and net blotch and is very susceptible to *Ramularia*. It is intermediate to ripen. (*Limagrain*)

Propino is a malting variety giving high treated and very high untreated yields (**104, 94**). It has very large grain with low specific weight. It has medium length straw with good standing power and average resistance to brackling and necking and high straw yields. It has quite good resistance to *Rhynchosporium* and very good resistance to mildew. (*Syngenta*)

Shuffle gives very high yields (**107, 93**). It has very large grain with low specific weight. It has excellent standing power and gives very high straw yields. It has quite poor resistance to *Rhynchosporium*, good resistance to *Ramularia* and is intermediate to ripen. (*Syngenta*)

Scout is on the HGCA UK List but is not described here as they have not been in the most recent DARD Recommended List trials.

Descriptions of **Dandy** and **Riviera** are given below because of their popularity in Northern Ireland.

Riviera is a feed variety that gives moderate treated and low untreated yields (**97, 81**). It has high specific weight with large grain. It has poor resistance to *Rhynchosporium*, average resistance to *Ramularia*, quite good resistance to net blotch and very good resistance to mildew. It has average standing power, quite poor resistance to brackling and very poor resistance to necking. It has high straw yields and is intermediate to ripen. (*RAGT*)

Dandy is low yielding (**92, 82**). It has very large grain with high specific weight. It has quite good standing power with quite poor resistance to brackling, quite good resistance to necking and intermediate straw yields. It has very good resistance to mildew, good resistance to *Rhynchosporium* and quite poor resistance to *Ramularia*.

Spring oats

Ascot, **Firth** and **Husky** remain fully recommended and **Rozmar** and **Canyon** continue as provisional recommendations.

Variety descriptions are in alphabetical order. Information is also provided on the year each variety was first listed in Northern Ireland and the name of its UK agent.

Ascot
(Recommended for general use)

First listed in 2007; Limagrain;

- high treated yields and moderate untreated yields;
- medium sized grain with low specific weight and high kernel content;
- low screenings;
- very long straw with quite good standing power and good resistance to brackling;
- average resistance to mildew and crown rust and good resistance to *Septoria avenae*;
- intermediate to ripen;
- little tendency to produce free kernels, potential for the quality market yet to be established.

Canyon
(Provisionally recommended)

First listed in 2010; Saaten Union;

- high treated and very high untreated yields;
- very large grain with high specific weight and average kernel content;
- very low screenings;
- very long straw with very good standing power and average resistance to brackling;
- good resistance to mildew and quite good resistance to crown rust;
- intermediate to ripen;
- little tendency to produce free kernels, potential for the quality market yet to be established.

Firth
(Recommended for general use)

First listed in 2000; KWS;

- high treated and untreated yields;
- large grain with average specific weight and high kernel content;
- very low screenings;
- straw medium in length with quite good standing power and good resistance to brackling;
- quite good resistance to mildew, *Septoria avenae* and to crown rust;
- intermediate to ripen.

Husky
(Recommended for general use)

First listed in 2008; Saaten Union;

- high treated and untreated yields;
- medium sized grain with high specific weight and high kernel content;
- very low screenings;
- long straw with good standing power but poor resistance to brackling;
- quite good resistance to mildew, good resistance to *Septoria* but poor resistance to crown rust;
- early to ripen;
- little tendency to produce free kernels, potential for the quality market yet to be established.

Rozmar
(Provisionally recommended)

First listed in 2010; Cope Seeds;

- very high treated and high untreated yields;
- medium sized grain with low specific weight and low kernel content;
- low screenings;
- long straw with quite good standing power but poor resistance to brackling;
- good resistance to crown rust but quite poor resistance to mildew;
- intermediate to ripen;
- little tendency to produce free kernels, potential for the quality market yet to be established.

Spring Barley Recommended List 2011

		Yield*		Grain quality		Straw characteristics			Disease resistance				Ripening
		T	U	Specific weight (kg/hl)	1000 grain wt (g)	Length (cm)**	Standing power	Straw Yield	*Rhyncho-sporium*	Mildew	*Ramularia*	Net blotch	
G	**Concerto**	111	89	63.1	44.9	+5	6	H	4	9	7	6	E
G	**Publican**	106	94	62.3	44.3	+3	7	VH	8	9	5	7	L
G	**Quench**	105	93	61.3	40.9	0	7	H	7	9	6	5	I
G	**Doyen**	103	87	63.2	45.3	-1	7	I	7	7	5	6	I
G	**Westminster**	101	93	63.8	44.9	+10	7	VH	8	9	7	8	L
S	**Waggon**[1]	105	88	61.2	45.6	+1	7	I	3	9	7	6	I
P	**Summit**	114	96	60.7	41.1	+1	8	H	5	8	8	8	L
P	**SY Taberna**	112	101	62.8	44.1	+6	8	VH	6	8	7	5	I

* Yield as a % of the treated control varieties NFC Tipple, Optic, Oxbridge, Quench and Westminster (average = 6.27 t/ha)
T = fungicide treated; U = no fungicide
** Straw length compared to Quench (70cm)
Straw yield: VH = very high, H = high, I = Intermediate and L = low
Ripening: E = early, I = intermediate and L = late

[1] = Waggon is recommended for special use because of its very poor resistance to *Rhynchosporium*

Winter Barley Recommended List 2011

		Yield*		Grain quality		Straw characteristics			Disease resistance			Ripening
		T	U	Specific weight (kg/hl)	1000 grain wt (g)	Length (cm)**	Standing power	Straw Yield	*Rhyncho-sporium*	Mildew	*Ramularia*	
2-row												
G	**Saffron**	101	84	67.1	51.5	0	7	I	5	3	7	I
G	**Suzuka**	97	85	66.0	51.0	+3	8	I	7	5	7	I
S	**Retriever**[1]	105	77	64.1	50.9	-1	5	L	6	4	5	I
P	**KWS Cassia**	104	85	67.6	51.6	+3	9	I	4	5	7	I
O	**Camion**	97	80	67.8	48.9	+1	7	I	3	7	7	I
6-row												
S	**Pelican**[2]	108	87	60.3	48.4	+13	6	I	8	8	7	I
6-row												
PS	**Volume**[3]	110	95	65.1	43.0	+19	7	I	8	6	8	I

* Yield as a % of the treated control varieties Flagon, Pearl, Saffron, Sequel and Volume (average = 9.44 t/ha)
T = fungicide treated; U = no fungicide
** Straw length compared to Saffron (98cm)
Straw yield: H = high, I = Intermediate and L = low Ripening: E = early, I = intermediate and L = late
[1] = Retriever recommended for special use because of its below average standing power
[2] = Pelican recommended for special use because it is a 6-row variety
[3] = Volume is recommended for special use because it is a 6-row hybrid variety

Winter Wheat Recommended List 2011

	Yield*		Grain quality		Straw characteristics		Disease resistance				Ripening
	T	U	Specific weight (kg/hl)	1000 grain wt (g)	Length (cm)**	Standing power	*Septoria*	Mildew	*Yellow rust (HGCA)*	Fusarium ear blight *(HGCA)*	
G Alchemy	103	80	75.7	44.7	+4	6	8	7	9	7	L
G JB Diego #	102	78	75.0	47.0	+1	7	6	6	6	6	I
G Robigus	102	70	75.0	40.3	0	7	7	6	2	6	L
P Ketchum #1	103	76	75.7	49.3	+5	4	7	8	4	6	I
P Panorama	101	78	75.1	45.4	+2	8	7	7	9	7	I
PS Grafton #2	100	75	75.1	46.3	-11	9	6	7	8	5	I
O Einstein#	97	72	75.3	47.3	-2	6	5	6	6	6	I

* Yield as a % of the treated control varieties Alchemy, Einstein, Oakley, Robigus and Solstice (average =10.67 t/ha)
T = fungicide treated; U = no fungicide
** Straw length compared to Robigus (90 cm)
(HGCA) = HGCA UK data
Ripening: E = early, I = intermediate and L = late

= JB Diego, Ketchum, Grafton and Einstein performed well in HGCA second wheat trials in GB

1 = Ketchum is provisionally recommended for special use because it has poor standing power without PGR, although it responds well to PGR applications

2 = Grafton is provisionally recommended for special use because it has outstanding standing power

Spring Oat Recommended List 2011

		Yield*		Grain quality				Straw characteristics		Disease resistance		Ripening
		T	U	Specific weight (kg/hl)	1000 grain wt (g)	Kernel content (%)	Sieve fraction (%<2mm)	Length (cm)**	Standing power	Mildew	Crown rust	
G	**Ascot**	103	89	50.3	34.8	78.0	0.3	+8	7	6	6	I
G	**Firth**	99	91	51.1	35.8	78.6	0.3	0	7	7	7	I
G	**Husky**	99	90	52.1	34.2	78.0	0.3	+4	8	7	4	E
P	**Rozmar**	104	90	50.1	33.8	76.0	0.2	+6	7	5	8	I
P	**Canyon**	103	95	51.8	43.1	77.0	0.2	+13	9	8	7	I

* Yield as a % of the treated control varieties Ascot, Firth and Husky (average = 6.62 t/ha)
T = fungicide treated; U = no fungicide ** Straw length compared to Firth (104 cm)
Ripening: E = early and I = intermediate

Winter Oat Recommended List 2011

		Yield*		Grain quality				Straw characteristics		Disease resistance		Ripening
		T	U	Specific weight (kg/hl)	1000 grain wt (g)	Kernel content (%)	Sieve fraction (%<2mm)	Length (cm)**	Standing power	Mildew	Crown rust	
G	**Tardis** [1]	101	99	49.0	36.2	75.1	0.6	-9	7	9	8	I
G	**Dalguise**	100	80	52.7	35.9	76.8	0.3	0	5	4	3	I
G	**Gerald**	98	81	51.7	33.8	76.3	0.3	0	6	5	4	I
PS	**Balado** [2]	113	94	46.9	37.3	74.2	0.4	-36	9	7	4	E
P	**Mascani**	102	98	52.7	41.2	78.6	0.0	-2	7	7	8	I

* Yield as a % of the treated control varieties Dalguise, Gerald and Mascani (average = 8.16 t/ha)
T = fungicide treated; U = no fungicide ** Straw length compared to Dalguise (129 cm)
Ripening: I = intermediate and E = early
[1] = Tardis has a specific weight below 50 kg/hl and could fail to meet miller's quality requirements
[2] = Balado has a specific weight significantly below 50 kg/hl and is only suitable as a feed oat

Varieties on the HGCA UK List that have performed less well in Northern Ireland are listed below. Figures in brackets are treated and untreated yields respectively. UK agents' names are in italics.

Atego gives moderate treated and very low untreated yields (**98, 77**). It has large grain with low specific weight and low kernel content. **It is very susceptible to mildew**. (*Cope Seeds*)

Leven gives moderate treated and high untreated yields (**97, 90**). It has medium sized grain with average specific weight and very high kernel content. It has long straw with quite good standing power and very good resistance to brackling. It has good disease resistance and is early to ripen. (*KWS*)

SW Argyle gives moderate yields (**97, 89**). It has very large grain with low specific weight and average kernel content. It has long straw with good standing power and good resistance to brackling. (*Senova*)

Drummer is on the HGCA UK List but is not described here as they have not been in the most recent DARD Recommended List trials.

Winter Barley

A new 2-row variety has been provisionally recommended in 2011. **KWS Cassia** has very high yields and has very good grain quality and excellent standing power. **Saffron** and **Suzuka** remain fully recommended for general use. **Saffron** is high yielding, has very good grain quality but is susceptible to *Rhynchosporium*. **Suzuka** has lower treated yields than **Saffron** but has excellent untreated yields as well as good quality and is early to ripen. **Retriever** is fully recommended for special use because of its weaker straw, but is the highest yielding 2-row variety when fungicide and PGR treated. **Camion** has become outclassed due to falling yields.

Pelican remains fully recommended for special use and is a high-yielding 6-row variety that ripens early.

The 6-row hybrid **Volume** is provisionally recommended in 2011. It out-yields all other winter barley varieties with very high yields, both treated and untreated.

Two-Row Types

Camion
(Becoming outclassed)

First listed in 2004; KWS; feed variety;

- moderate treated and untreated yields;
- large grain and high specific weight;
- short straw giving intermediate straw yields;
- quite good standing power with average resistance to brackling but very poor resistance to necking;
- poor resistance to *Rhynchosporium* and quite good resistance to mildew and *Ramularia*;
- intermediate to ripen.

KWS Cassia
(Provisionally recommended)

First listed in 2011; KWS; feed variety;

- very high treated and high untreated yields;
- very large grain with high specific weight;
- medium length straw giving intermediate straw yields;
- very good standing power with good resistance to necking and average resistance to brackling;
- poor resistance to *Rhynchosporium*, quite poor resistance to mildew and quite good resistance to *Ramularia*;
- intermediate to ripen.

Retriever
(Recommended for special use)

First listed in 2008; Limagrain; feed variety;

- very high treated yields and low untreated yields;
- large grain with low specific weight;
- short straw with low straw yields;
- quite poor standing power and **has the potential for significant lodging**, poor resistance to brackling but good resistance to necking;
- average resistance to *Rhynchosporium,* quite poor resistance to *Ramularia* and poor resistance to mildew;
- intermediate to ripen.

Saffron
(Recommended for general use)

First listed in 2007; KWS; feed variety;

- high treated and untreated yields;
- very large grain with high specific weight;
- short straw with intermediate straw yields;
- quite good standing power with good resistance to brackling and necking;
- quite poor resistance to *Rhynchosporium,* very poor resistance to mildew and quite good resistance to *Ramularia*;
- intermediate to ripen.

Suzuka
(Recommended for general use)

First listed in 2008; Syngenta; feed variety;

- moderate treated yields and high untreated yields;
- very large grain with average specific weight;
- medium length straw with intermediate straw yields;
- good standing power with average resistance to brackling and good resistence to necking;
- quite good resistance to *Rhynchosporium* and *Ramularia* and quite poor resistance to mildew;
- intermediate to ripen.

Six-Row Types

Pelican
(Recommended for special use)

First listed in 2008; Saaten Union; feed variety;

- very high treated and high untreated yields;
- large grain with very low specific weight;
- long straw giving intermediate straw yields;
- average standing power with average resistance to brackling and poor resistance to necking;
- good resistance to *Rhynchosporium* and mildew and quite good resistance to *Ramularia*;
- intermediate to ripen.

Six-Row Hybrid Types

Volume
(Provisionally recommended for special use)

First listed in 2011; Syngenta; feed variety;

- very high treated and untreated yields;
- small grain with average specific weight;
- long straw with intermediate straw yields;
- quite good standing power with poor resistance to brackling and average resistance to necking;
- good resistance to *Rhynchosporium* and *Ramularia* and average good resistance to mildew;
- intermediate to ripen.

Varieties on the HGCA UK List that have performed less well in Northern Ireland are listed below. Figures in brackets are treated and untreated yields respectively. UK agents' names are in italics.

Two-Row Types

Cassata is a malting variety that has moderate yields (**95, 80**). It has medium length straw that has good standing power, good resistance to brackling, poor resistance to necking and gives high straw yields. It has good resistance to *Rhynchosporium* but poor resistance to mildew. (*Limagrain*)

Flagon is a malting variety that gives moderate yields (**97, 81**) and has large grain with average specific weight. It has quite poor standing power with poor resistance to necking. It has good resistance to *Rhynchosporium* and *mildew*. (*Syngenta*)

Florentine is a new feed variety that gives high treated and very high untreated yields (**100, 90**). It has very large grain with average specific weight. It has excellent standing power with average resistance to necking and brackling. It has good resistance to *Rhynchosporium* and is intermediate to ripen. (*Senova*)

Pearl gives low treated and moderate untreated yields (**94, 78**). It has large grain with high specific weight. It has medium length straw with quite good standing power but poor resistance to necking. It has average disease resistance. (*Limagrain*)

Purdey is a malting variety that gives low treated and moderate untreated yields (**93, 80**). It has poor resistance to mildew but very good resistance to *Rhynchosporium*. It has short straw with good standing power and gives high straw yields. It is late to ripen. (*Syngenta*)

Winsome is a malting variety that gives low treated and moderate untreated yields (**94, 80**). It has average grain quality and is early to ripen. It has average standing power, poor resistance to brackling and gives intermediate straw yields. (*Syngenta*)

Six-Row Types

Escadre is a new 6-row variety that is high yielding (**103, 87**). It has average grain quality and good resistance to *Rhynchosporium*. (*KWS*)

Sequel is a feed variety that gives moderate yields (**98, 81**). It has small grain with average specific weight. It has long straw with quite poor standing power. It has good resistance to *Rhynchosporium* and average resistance to mildew. (*Syngenta*)

Hybrid Six-Row Types

Element is a new 6-row hybrid variety that gives very high yields (**104, 95**). It has large grain with low specific weight. It has quite poor standing power and poor resistance to brackling with low straw yields. It has good resistance to *Rhynchosporium* and is early to ripen. (*Syngenta*)

The 6-row hybrid variety **Boost** is on the HGCA UK List but is not described here as it has not been in the most recent DARD Recommended List trials.

Winter Wheat

JB Diego has been promoted and joins **Alchemy** and **Robigus** as fully recommended for general use. **Alchemy** remains the highest yielding fully recommended variety. **Ketchum** and **Panorama** continue as provisional recommendations. **Ketchum**'s treated yield equals that of **Alchemy** but untreated it can lose yield due to its weak straw. However, it does respond well to PGR applications. **Panorama** has better straw strength but is lower yielding. **Grafton** is a new provisional recommendation for special use because it has exceptional straw strength. **Einstein** is becoming outclassed. **JB Diego**, **Ketchum**, **Panorama** and **Einstein** performed well in HGCA second wheat trials in GB.

Einstein, **Grafton** and **JB-Diego** should be sown before the end of January to meet vernalisation requirements, **Alchemy** before mid-February and **Robigus**, **Panorama** and **Ketchum** before the end of February. Yields of all varieties, when sown late, are likely to be much lower than when sown at the optimum time in autumn. **Ketchum**, **Panorama**, **Einstein**, **Grafton** and **JB Diego** have hard endosperm textures **Robigus** and **Alchemy** have soft endosperm textures. Variation in endosperm texture of feed wheat influences starch digestibility in poultry and the degree of rumen degradable starch. Wheat with a soft endosperm tends to be of superior nutritive value.

Variety descriptions are in alphabetical order. Information is also provided on the year each variety was first listed in Northern Ireland, the name of its UK agent and its nabim group. The nabim Wheat Guide lists the flour milling industry's views on wheat varieties and gives marketing guidance on their likely relative values in the UK market. The guide can be found in the HGCA Recommended List booklet for cereals and oilseeds.

Alchemy
(Recommended for general use)

First listed in 2007; Limagrain; nabim soft Group 4;
- high treated and very high untreated yields;
- large grain with average specific weight;
- long straw with average standing power;
- quite good resistance to mildew and to *Fusarium* ear blight, good resistance to *Septoria tritici* and very good resistance to yellow rust;
- tends to ripen late.

Einstein
(Becoming outclassed)

First listed in 2003; Limagrain; nabim Group 2;
- moderate yields;
- large grain with average specific weight;
- medium length straw with average standing power;
- quite poor resistance to *Septoria tritici* and average resistance to mildew, yellow rust and *Fusarium* ear blight;
- intermediate ripening.

Grafton
(Provisionally recommended for special use)

First listed in 2011; KWS; nabim hard Group 4;
- high treated and untreated yields;
- large grain with average specific weight;
- short straw with very good standing power;
- average resistance to *Septoria tritici,* quite good resistance *to* mildew, good resistance to yellow rust and quite poor resistance to *Fusarium* ear blight;
- intermediate to ripen.

JB Diego
(Recommended for general use)

First listed in 2009; Senova; nabim hard Group 4;
- high treated and untreated yields;
- large grain with average specific weight;
- medium length straw with quite good standing power;
- average resistance to *Septoria tritici,* mildew, yellow rust and *Fusarium* ear blight;
- intermediate to ripen.

Ketchum
(Provisionally recommended)

First listed in 2010; Syngenta; nabim Group 2;

- high treated and untreated yields;
- very large grain with average specific weight;
- long straw with **poor standing power with no PGR applied. It responds well to PGR and requires careful management with respect to straw strength**;
- good resistance to mildew, quite good resistance to *Septoria,* average resistance to *Fusarium* and poor resistance to yellow rust;
- intermediate to ripen.

Panorama
(Provisionally recommended)

First listed in 2010; Limagrain; nabim Group 2;

- high treated and untreated yields;
- large grain with average specific weight;
- medium length straw with good standing power;
- quite good resistance to mildew, *Septoria* and *Fusarium* ear blight and very good resistance to yellow rust;
- intermediate to ripen;
- good resistance to sprouting.

Robigus
(Recommended for general use)

First listed in 2005; KWS; nabim Group 3;

- high treated yields and moderate untreated yields;
- small grain with average specific weight;
- medium length straw with quite good standing power;
- quite good resistance to *Septoria tritici*, average resistance to mildew and *Fusarium* ear blight**, but very poor resistance to yellow rust**;
- late to ripen.

Descriptions of varieties on the HGCA UK List that have performed less well follow. Figures in brackets are treated and untreated yields respectively. UK agents' names and nabim Group are in italics.

Beluga gives very high treated and high untreated yields (**105, 75**). It has very large grain with average specific weight. It has short straw with very good standing power and average resistance to *Septoria (Senova; nabim soft Group 4)*.

Cassius gives low yields (**94, 67**). It has large grain with low specific weight and average standing power (*Limagrain; nabim soft Group 4*).

Claire has moderate treated and low untreated yields (**97, 69**). It has average grain quality and average standing power (*Limagrain; nabim Group 3*).

Cocoon gives moderate treated yields and very low untreated yields (**95, 61**). It has large grain with average specific weight and quite good standing power *(Secorba; nabim Group 3)*.

Conqueror has high treated and low untreated yields (**100, 69**). It has average grain quality, average standing power and average resistance to *Septoria tritici (KWS; nabim hard Group 4)*.

Denman gives very high yields (**109, 84**). It has average grain quality and short straw that has below average standing power *(Syngenta; nabim soft Group 4)*.

Duxford has moderate treated and very low untreated yields (**96, 63**). It has large grain with average specific weight and very good standing power *(Syngenta; nabim hard Group 4)*.

Gallant gives high treated but very low untreated yields (**103, 64**). It has very large grain with average specific weight and good standing power but quite poor disease resistance. *(Syngenta; nabim Group 1)*.

Gravitas gives high yields (**100, 76**). It has small grain with average specific weight and quite poor standing power *(Limagrain; nabim soft Group 4)*.

Invicta gives high yields (**101, 75**). It has average grain quality, quite good standing power and quite good resistance to Septoria. *(Limagrain; nabim Group 3*).

Kingdom gives very high treated and moderate untreated yields (**107, 71**). It has large grain with high specific weight, good standing power and average disease resistance *(Syngenta; nabim Group 2)*.

KWS Podium has moderate treated and low untreated yields (**98, 67**). It has large grain with high specific weight and very good standing power. It has average disease resistance *(KWS; nabim Group 2)*.

KWS Santiago gives low treated and very low untreated yields (**92, 62**). It has low specific weight and below average standing power *(KWS; nabim hard Group 4)*.

KWS Sterling gives moderate treated and very low untreated yields (**97, 63**). It has large grain with average specific weight and has very good standing power *(KWS; nabim Group 2)*.

KWS Target gives moderate yields (**95, 72**). It has small grain with average specific weight. It has good standing power and quite good resistance to *Septoria (KWS; nabim Group 3)*.

Oakley has high treated and low untreated yields (**102, 68**). It has large grain with average specific weight and has quite good standing power. It has average resistance to *Septoria* and mildew and is very susceptible to yellow rust *(KWS; nabim hard Group 4)*.

Scout gives moderate treated and high untreated yields (**97, 77**). It has average grain quality and good standing power *(Senova; nabim Group 3).*

Solstice has moderate treated and very low untreated yields (**95, 57**). It has large grain with average specific weight and good standing power *(Limagrain; nabim Group 1)*.

Stigg gives high treated and very high untreated yields (**100, 86**). It has large grain but low specific weight, very good standing power and good disease resistance *(Limagrain; nabim hard Group 4)*.

Tuxedo is moderate yielding (**95, 72**). It has small grain with low specific weight but has very good standing power and is early to ripen *(RAGT; nabim Group 3)*.

Viscount gives moderate yields (**96, 71**). It has large grain with average specific weight. It has average standing power and average disease resistance. It has very poor resistance to sprouting *(KWS; nabim soft Group 4)*.

Warrior gives moderate treated and very high untreated yields (**97, 83**). It has average grain quality, quite good standing power and exceptional all-round disease resistance *(RAGT; nabim Group 3)*.

The following varieties are on the HGCA UK List but are not described here as they have not been in the most recent DARD Recommended List trials: **Battalion, Cordiale, Gladiator, Glasgow, Humber and Istabraq**.

Winter Oats

Conventional Husked Oats

Tardis, Dalguise and **Gerald** remain fully recommended for general use. **Tardis** is the highest yielding of the three, but it is a non-milling variety as its specific weight is unlikely to meet quality requirements. There are two new provisional recommendations for 2011 – **Balado** and **Mascani**. **Balado** is provisionally recommended for special use because it has very low specific weight and is only suitable as a feed oat. **Mascani** is a high-yielding oat with good grain quality.

Variety descriptions are in alphabetical order. The year each variety was first listed in Northern Ireland and the name of its UK agent are also given.

Gerald
(Recommended for general use)

First listed in 1993; Senova;

- high treated and untreated yields;
- average sized grain with high specific weight and average kernel content;
- low screenings;
- medium length straw with average standing power and average resistance to brackling;
- quite poor resistance to mildew, good resistance to *Septoria avenae* and poor resistance to crown rust;
- intermediate to ripen;
- little tendency to produce free kernels or empty husks and is suitable for the quality market because of its specific weight.

Dalguise
(Recommended for general use)

First listed in 2004; Senova;

- high treated yields and moderate untreated yields;
- large grain with high specific weight and high kernel content;
- low screenings;
- medium length straw with quite poor standing power and poor resistance to brackling;
- poor resistance to mildew, very poor resistance to crown rust and good resistance to *Septoria avenae*;
- intermediate to ripen;
- some tendency to produce free kernels but little tendency to produce empty husks;
- suitable for the quality market because of its specific weight.

Tardis
(Recommended for general use)

First listed in 2008; Senova;

- high treated and very high untreated yields;
- large grain with average specific weight and average kernel content - **this variety has a specific weight below 50kg/hl and could fail to meet miller's quality requirement**s;
- low screenings;
- short straw with quite good standing power and good resistance to brackling;
- very good resistance to mildew and good resistance to both *Septoria avenae* and crown rust;
- intermediate to ripen;
- little tendency to produce free kernels or empty husks.

Balado
(Provisionally recommended for special use)

First listed in 2011; Senova;

- very high treated and untreated yields;
- very large grain with low specific weight and low kernel content - **this variety has a specific weight well below 50kg/hl and would fail to meet miller's quality requirement**s;
- very short straw with excellent standing power and very good resistance to brackling;
- quite good resistance to mildew, good resistance to *Septoria* but poor resistance to crown rust;
- early to ripen;
- little tendency to produce free kernels or empty husks.

Mascani
(Provisionally recommended)

First listed in 2011; Senova;

- high treated and very high untreated yields;
- very large grain with high specific weight and high kernel content;
- low screenings;
- medium length straw with quite good standing power and good resistance to brackling;
- quite good resistance to mildew and good resistance to crown rust and *Septoria avenae*;
- intermediate to ripen;
- little tendency to produce free kernels or empty husks.
- suitable for the quality market because of its specific weight.

Brochan is on the HGCA UK List but has performed less well in Northern Ireland. Figures in brackets are treated and untreated yields respectively. The UK agents' name is in italics.

Brochan gives high treated and very high untreated yields (**100, 91**). It has large grain with average specific weight and high kernel content. It has short straw with good standing power and good resistance to brackling. It has good resistance to crown rust and average resistance to mildew. (*Senova*)

Naked Oats

Yields of naked oats are low when compared directly with husked oats because during harvest the grain threshes free from the husk and only the groat is harvested. As a result, naked oats tend to have higher specific weights and smaller grain than husked oats. The naked grain has nutritional benefits, such as higher oil and nutrient content and interest is currently being shown by the poultry industry. **Grafton** and **Hendon**, a dwarf variety, are recommended for general use in the UK. **Fusion** is provisionally recommended for the UK and is also a dwarf naked oat variety.

Fusion gave very low treated and untreated yields (**82, 67**). It has relatively small grain with very high specific weight when compared to conventional husked winter oat varieties. It has very short straw with very good standing power and very good resistance to brackling. It has quite poor resistance to mildew and *Septoria* and average resistance to crown rust. (*Senova*)

Grafton gave very low treated and untreated yields (**76, 64**). It has relatively small grain with very high specific weight when compared to conventional husked winter oat varieties. It has medium length straw with average standing power and average resistance to brackling. It has average resistance to mildew, *Septoria* and crown rust. (*Senova*)

Hendon gave very low treated and untreated yields (**79, 67**). It has relatively small grain with very high specific weight when compared to conventional husked winter oat varieties. It has very short straw with very good standing power and very good resistance to brackling. It has quite good resistance to mildew and good resistance to crown rust. (*Senova*)

The end market should be established before growing a naked oat.

Choosing and Managing Varieties

- When selecting varieties, consider straw characteristics in relation to soil fertility and exposure of fields. Take care with nitrogen applications on weaker-strawed varieties. They are more susceptible to lodging.

- Varieties differ in resistance to diseases. Yields will be lower if infections are severe. Resistant varieties need less fungicide.

- Resistance to disease can change. Susceptibility to mildew may increase quite rapidly in only a few years. Inspect crops of all varieties regularly for disease infection during the growing season.

- If minimal fungicide usage is planned, consider varieties with high untreated yields. If you plan to use fungicides, consider varieties with a high treated yield. Remember that the disease control measures used in our trials are designed to keep disease to a minimum regardless of cost.

- Do not sow a large area with a new variety until you have gained some experience with it and have found it to be well suited to the conditions of your farm.

- Careful drying is essential for oats grown for the quality or horse feed markets. Poor drying can lead to deterioration of the grain and bitter taste.

UK Agents

Daltons Seeds
Dalton Seeds, Dalmark House,
Eye, Peterborough, PE 7UD

www.dalmark.co.uk
Tel: (01733) 222391

KWS
KWS UK Ltd, 56 Church Street,
Thriplow, Nr. Royston,
Hertfordshire SG8 7RE

www.kws-uk.com
Tel: (01763) 207300

Limagrain
Limagrain UK Ltd.,
Rothwell, Market Rasen,
Lincolnshire, LN7 6DT

www.limagrain.co.uk
Tel: (01472) 371471

RAGT
RAGT Seeds, Grange Road,
Ickleton, Saffron Walden CB10 1TA

www.ragtsemences.co.uk
Tel : (0845) 0525245

Saaten Union
Saaten-Union (UK) Ltd.,
Rosalie Field Station, Bradley Road,
Cowlinge, Newmarket, Suffolk CB8 9HU

www.saaten-union.co.uk
Tel : (01440) 783440

Secorbra
(Agents: Masstock Arable)
Masstock Arable (UK) Ltd,
Andoversford, Cheltenham, GL54 4LZ

www.masstockarable.co.uk
Tel: (01242) 821100

Senova
Senova Ltd, 49 North Road,
Great Abington, Cambridge CB21 6AS.

www.senova.uk.com
Tel: (01223) 890777

Syngenta
Syngenta Seeds Ltd, CPC4, Capital Park,
Fulbourn, Cambridge CB21 5XE

www.newfarmcrops.co.uk
Tel: (01223) 883400

Cope Seeds
Cope Seeds Limited,
Mansfield House, 22 Northgate,
Sleaford, Lincs NG34 7DA

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Plant Testing Station
50 Houston Road
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BELFAST BT6 9SH

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Fax: 028 9054 8001

The DARD Recommended List is available at www.afbini.gov.uk. The UK Recommended List 2011, published by the HGCA, is available from the Plant Testing Station and also at www.hgca.com.

Farmers' experience of growing varieties is valuable to us. If, after having grown any of the varieties listed in this booklet, you have any useful comments, please get in touch with us at the Plant Testing Station.

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

AN ROINN
Talmhaíochta agus
Forbartha Tuaithe

MÁNNYSTRIE O
Fairms an
Kintra Fordèrin

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