

Certified Seed

An information booklet on how to value Certified Seed



“Reap What You Sow”

What is Certified Seed?

Certified Seed is the cornerstone of many farming operations and various food and beverage industries. The key attributes of Certified Seed are:

- Certified Seed is a fully traceable, weed-free, guaranteed seed product with superior quality to alternatives and is part of a world-wide quality assurance system.
- Irish Certified Seed is produced to the highest standards, providing growers with a guaranteed standard of varietal purity, germination, and phyto-sanitary status.
- Certified Seed is an insurance/risk management tool against sub-standard crop establishment, thus protecting the other investments necessary to produce a profitable crop.



Certified Seed in Ireland

Ireland has an independent certified seed scheme operated by the Department of Agriculture, Fisheries and Food (DAFF) which has served the needs of the tillage sector very well over many years. The scheme covers seed production and marketing for the main agricultural crops, including cereals, grasses, oilseeds, pulses, and potatoes. The aim of the scheme is to facilitate the development and commercial introduction of better plant genetics into Irish farming systems, thus improving and safeguarding our national competitiveness in a fast evolving globalised market.

visit:

<http://www.agriculture.gov.ie/farmingsectors/crops/seedcertification> for more details on seed certification.

Certified Cereal Seed

The certification scheme for cereal seeds involves plant breeders and their agents, grain merchants and seed assemblers, DAFF, and hundreds of



Irish cereal growers who annually produce almost 40,000 tonnes of seed grain for the native market. Varieties that successfully make it through Value for Cultivation & Use (VCU) testing in Irish national trials are selected for multiplication by the breeders/seed agents, with the best varieties gaining approval on our Recommended Lists.

All fields growing certified seed are rigorously inspected by DAFF officials prior to harvest. After harvest, all seed lots and individual varieties are kept separate and closely monitored at the seed intake points. Each seed lot is carefully dried, stored and sampled for disease, purity, and germinative capacity. Only seeds that meet the minimum EU standards are certified and approved for sale. It is illegal to trade uncertified seed of any species under EU and Irish law.



Plant Breeding – the key to our future

Genetic improvement and the consequential productivity benefits are key components of the continuous enhancement and competitiveness of the Irish farming industry. This statement applies to all agri-sectors, including cereal growing. In the same way that technology has evolved in every other enterprise globally, so too have plant breeding techniques. Key characteristics such as yield (see Table 1 opposite),



lodging resistance, plant health, and overall grain quality have improved significantly in recent decades - a recent NIAB/BSPB commissioned study found that almost 90% of the increase in average cereal yields over the past 25 years can be attributed to innovations in plant breeding.

Certified Cereal Seed Production

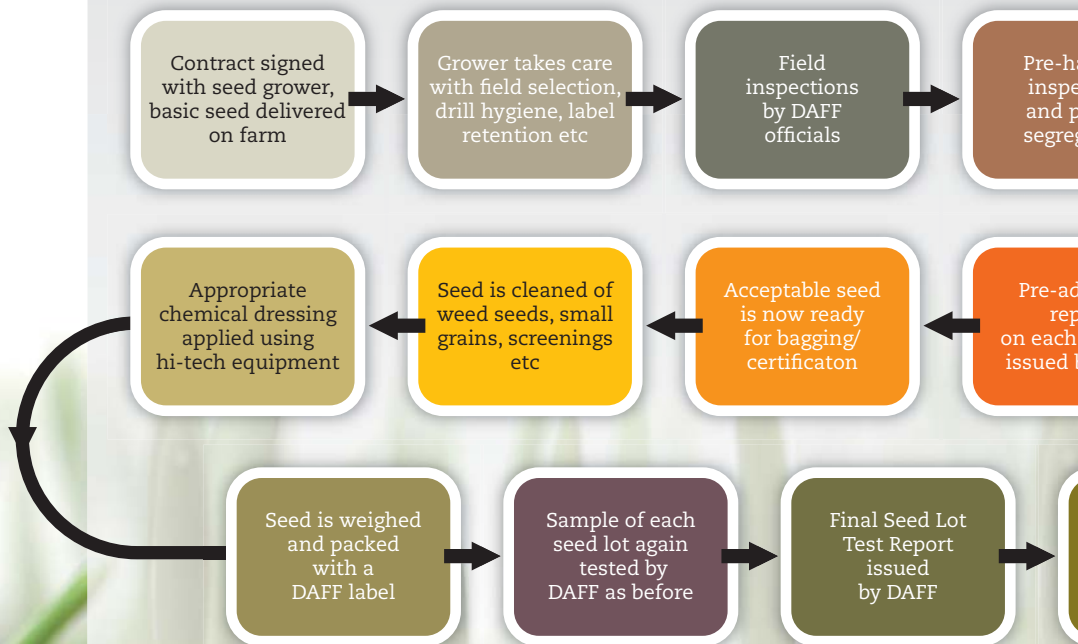


Table 1: Irish Recommended List Reference Yields (tonnes per hectare)

Crop/Year	1999	2009	Difference
Winter Barley	8.20	9.28	+ 1.08
Winter Wheat	9.56	10.54	+ 0.98
Spring Barley	6.70	7.68	+ 0.98

Typically, plant breeding contributes 1.0 – 1.5% yield improvement per annum (the above example has demonstrated an average of 1.0% per year). Applying this improvement to a 10 t/ha crop of winter wheat, an additional return of 100 kgs per hectare per year is obtained. In

terms of cost benefit to the grower, this represents a 2:1 return on investment over six years if the royalty is collected via certified seed*.

** Wheat valued @ €160 per tonne, seeding rate of 175 kgs per hectare*



Plant breeding and the commercial introduction of a new variety is an expensive and time consuming and on average takes 10 years before a new variety is ready for the market (see Table 2 below).

Table 2. New Varieties – 10 years in the making!

Year	Generation	Number of Lines	Selection Criteria
1	F1	800	Initial crosses made by plant breeder
2	F2	2,000,000	Family of plants grown from crosses
3	F3	400,000	Disease and field characters, yield and stability tests
4	F4	12,000	In-house quality tests using marker technology
5	F5	1,200	Grow out of plots plus in-house quality tests
6	F6	300	Industry end-use testing, yield evaluation
7	F7	50	Screening plot trials run by Irish seed agents
8	F8	5	Best varieties entered in National List Trials
9	F9	3	Best varieties advance to National List Trials (yr 2)
10	F10	1	New Variety completes National Trials and is added to the Recommended List, C1 seed is assembled by seed merchants and sold on Irish farms

This process has to be continually funded to ensure viability. Therefore, each variety introduced to the market is protected by Plant Breeders Rights (a form of intellectual property rights) which ensures a return on investment to the parent breeding company. Certified seed is the principal mechanism by which royalty income is returned to the plant breeders to fund their continued investment in new variety development.

Six key reasons to sow certified seed

1. **Certified seed** comes with a guaranteed germination - certified seed ensures the best possible start to any crop, and growers can confidently reduce seeding rates where appropriate saving time and money.
2. **Certified seed** is pure of variety and free of weed seeds, reducing growing costs, and guaranteeing the grain buyer a consistent quality from a definitive single cultivar.
3. **Certified seed** is fully traceable. All steps of seed production, cleaning, storage and distribution are closely monitored by DAFF to ensure that the final consumer can be assured of high quality.
4. **Certified seed** has much less risk of seed borne diseases. Intensive crop inspection results in low disease levels in seed and by using laboratory testing, any low level seed borne disease present can be identified and controlled using the correct chemicals, applied using specialised application equipment.
5. **Certified seed** is cost effective, even when compared to home-saved seed, e.g. winter wheat seed costs can be as low as 5% of the total costs of production (Teagasc Crops costs and Returns 2010). Skimping on the most important 5% of your production could be very costly in terms of lodging, disease problems and weed infestation.
6. **Certified seed** provides for continued cereal genetic improvement and improved varieties. These contribute to improving farmers incomes by constantly increasing yield, grain quality and disease resistance.

With certified seed you are insuring against crop failure while ensuring reduced weed and disease problems. All seed is fully traceable and there is a full after sales back-up from seed assemblers as well as expert agronomy advice.



Farm Saved Seed

Farm Saved Seed (FSS) is legally defined as seed planted on a farmers own holding using material harvested on his own holding. The regulation of FSS in Ireland is governed under SI No. 193/2000. All FSS must pay royalty at the rate of 50% of the sum charged for licensed certified production. FSS is not produced to the same standards, has no guarantee of germination or disease status, and has no come-back in the event of establishment issues. **It is illegal to sell FSS.**

For further information on royalty payments / PBR to ensure the supply of new varieties:

Plant Variety Development Office (PVDO)

Marina House
Clarence Street
Dun Laoghaire
Co. Dublin

Tel: (01) 6638700
Fax: (01) 6638704
E-mail: pvdo@fmco.ie

CERTIFIED Seed is...

- C**ost effective to use
- E**fficient way to ensure optimum crop yields and support farm income
- R**oyalty paid to ensure delivery of new varieties for the future
- T**raceable from factory to farm and from farm to fork
- I**rish certified seed supports indigenous industries and ultimately Irish jobs
- F**ree of noxious weeds and harmful diseases
- I**nsurance against sub-standard crop establishment
- E**xpertly monitored and handled by DAFF and seed merchants
- D**ownstream food and beverage industries insist on certified seed to guarantee quality

Irish Certified Seed Produced Under Irish Conditions by Irish Farmers for Irish Farmers

Through its extensive research programme, carried out at the Teagasc, Oak Park Crops Research Centre, Carlow, the centre is responsible for the investigation and development of all aspects of cereal production. Information on the most profitable and up-to-date practices is made available to farmers through the Teagasc advisory network.

Right from when you plan the crop through to harvesting and storage, your Teagasc adviser is on hand to advise on the most up-to-date and cost-effective practices.

**For convenience
and increased
profits the choice
is clear...**

**Sow
Certified
seed!**

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