

# Standards and Protocols for Seed Certification

## Irish Grown Seed Crops



**An Roinn Talmhaíochta,  
Bia agus Mara**  
Department of Agriculture,  
Food and the Marine

Department of Agriculture, Food and the Marine  
Crop Policy Evaluation and Certification Division  
Backweston Farm,  
Leixlip,  
Co Kildare  
W23 AE3V

Email: [Cerealseedcrops@agriculture.gov.ie](mailto:Cerealseedcrops@agriculture.gov.ie)

February 2023

# 1. Introduction

The Seed Certification system is an official system supported by EU and National legislation and international protocols to ensure that seed is produced, multiplied and marketed according to predetermined standards and systems while maintaining the genetic integrity of the product.

The immediate objective of the Seed Certification system is to provide a guarantee to the purchaser that the seed is true to identity, high in purity and germination capacity and as far as possible, free from major pests and diseases. Seed quality is most important in crop production, as high-quality seed is essential for good crop establishment, vigor and maximum returns in terms of yield and quality.

Officials of the Department of Agriculture conduct all the inspections, tests and controls required by the Seed Certification Scheme in Ireland. This document outlines the main requirements and standards in place for certified seed production in Ireland based on EU and Irish Legislation and standards agreed with the Irish Seed Trade Association.

## 2. Conditions for the Certification of Seed Crops

### a. Contracts

- i. Seed crops must be grown under a written contract, which is drawn up between the contractor (merchant) and the grower.
- ii. Adhering to all standards and protocols outlined in this booklet is a condition of that contract.

### b. Field Standards

#### **Previous Cropping Legislative Conditions**

*The previous cropping of the field shall not have been incompatible with the production*

*of seeds of the species and variety of the seed crop and the field shall be sufficiently free from volunteers from previous cropping.* (Directive 66/402/EEC Consolidated, Annex 1, Point 1).

**c. Isolation distances**

- The minimum isolation requirements are a physical barrier (e.g. a continuous hedge, ditch, fence or road), two meters of a non-cereal crop, or two meters of clean fallow ground between the crop and another cereal crop.
- Where only part of a crop is to be taken for seed, the whole crop area must be inspected and the results fully recorded, unless the seed area is isolated as above from the remainder.

**d. Crop Condition**

- The crop and other species present in the crop, must be such as to allow an accurate check on identity, varietal purity and disease and pest status of the seed crop.
- The crop must not be so stunted, weedy, lodged, diseased or damaged that adequate inspections are impossible. Crops more than one-third lodged at the time of inspection will be rejected.

**e. Rotation**

Seed crops may be grown only in the following rotation to ensure an adequate control volunteers, weeds, and other seedborne pests and diseases:

**Seed Crops after 1 Year of any of the following:**

- Grass
- Beet
- Potatoes
- Beans/Peas in the case of cereal crops
- Maize
- Kale/Turnips
- Oilseed Rape (OSR)
- One year after a seed crop of the same variety provided it's after the same or higher category which passed field inspection

- Beans must have a 5-year break from any previous bean crop
- Oilseed Rape must have a 5-year break from any previous OSR crop
- OSR must have a 2-year break from the previous bean crop
- Beans must have a 2-year break from the previous OSR crop

**f. Derogations**

As a special concession the following derogations can be applied for–

- (a) Winter & Spring Barley, Winter & Spring Wheat and Oat Seed Crops of C1 Category may be grown after a commercial crop of the same variety, grown from certified seed, in fields that have been inspected and approved by a Department inspector in the year prior to the growing of the seed crop.

**g. Critical requirements at sowing**

- Seed crops cannot be grown in fields known to be infested with Wild Oats or other invasive weeds, such as blackgrass, sterile brome, canary grass, etc.
- Seed crops cannot be grown where straw or first-year hay was fed to livestock in the previous season.
- Seed drills should be thoroughly cleaned before sowing a seed crop to ensure no trace of other seeds or weeds are present.
- The variety and category on the seed label on each bag should be recorded before emptying into the seed drill, thus avoiding simple errors that may result in crop rejection later.
- Labels from commercial crops where the seed contractor has indicated to the grower that a seed crop of the same variety will be grown the following year must also be kept and available on inspection. In this case, prior approval has to be granted to the contractor/merchant by the Department of Agriculture.
- The grower must retain all labels at sowing for inspection by Department crop inspectors later in season. If all labels are not available, the crop will not be accepted for certification.
- If seed runs short, the grower must not on any account use substitute seed.
- In the case of beans, both the seed and land should be tested prior to planting and found free of Bean Stem Nematode (*Ditylenchus spp*).

#### **h. Crop Husbandry**

Seed crops may not be sprayed with chemicals injurious to germination. Pre-harvest use of glyphosate on any seed crop is banned and will lead to the rejection of the crop for seed.

#### **i. Crop Impurities**

- The grower must at all times take responsibility to rogue impurities from the crop where such impurities are not within the standards laid down by the Department of Agriculture.
- In the unlikely event that the grower is unable / unwilling to complete any necessary rouging, the grower will permit the contractor to rogue such impurities in order to meet the minimum certification standards. Failure to permit such rouging will result in rejection of the crop and loss of the premium to the grower.

	<b>Minimum Purity Standards</b>	
	<b>Pre-Basic and Basic Crops</b>	<b>Certified Seed of the First Generation (C1)</b>
<b>Cereals varietal purity</b>	99.9%	99.7%
<b>Species Purity</b>	99.99%	99.98%
<b>Oilseed Rape varietal purity</b>	99.9%	99.7%
<b>Beans and Peas Varietal purity</b>	99.7%	99%

Department inspectors will assess the standards for varietal and species purity in a number of randomly selected plots. The percentage impurities are calculated on the basis of the plant population per hectare and if they exceed the minimum standards, the crop will be rejected. Varietal impurities include other varieties, off-types of the variety, 2-row barley in 6-row barley and vice versa; talls in wheat & barley and fatuoids in oats, etc. Species impurities include all other species whether they be crop or weed species.

### 3. Crop Inspection

Inspectors from the Seed Certification Division of the Department of Agriculture will arrange official inspections of all crops entered for certification by the contractor. The inspector will contact the grower to arrange the initial inspection, at which point, all labels should be available for inspection.

Crop inspections will be carried out in accordance with EU Rules and Standards as set down in the Seed Certification Schemes and with the official procedures for assessing combinable crops issued by the Department of Agriculture to all crop inspectors.

The purpose of field inspections is as follows:

- a. Confirm the crop entry details, including the correct location of the field
- b. Authenticate the seed sown.
- c. Positively identify the variety.
- d. Detect and record admixture with other varieties.
- e. Detect and record admixture with other cereals.
- f. Assess invasive weed contamination in the crop.
- g. Check the isolation requirements.
- h. Assess the general condition of the crop in respect of spray damage, weeds and disease.
- i. Assess the amount of lodging.
- j. Each crop is inspected at various stages during the growing season.
- k. To pass field inspection a crop must conform to the minimum prescribed field standards.
- l. If the inspection results show that any one of the standards or reject values has been exceeded, the crop will be rejected or may be downgraded where this is appropriate.
- m. All certified crops must be free of invasive weeds such as wild oats, brome, blackgrass, canary grass, etc) at final field inspection.
- n. The use of wild oat herbicides is not generally recommended on seed crops. Inadequate herbicide efficacy can result in stunted wild oat plants which are difficult to assess at field inspection and rogue. Where inspector find crops with a population of stunted wild oats roguing will not be permitted and the crop will be rejected.

- o. Hand roguing of occasional Wild Oat plants is permitted, but a thorough follow up inspection will be carried out before the crop is deemed acceptable.
- p. If a crop fails to meet the prescribed standards the seed contractor is informed by the local Department of Agriculture crop inspector. The contractor will inform the grower.
- q. The contractor may also conduct their own checks in field and of equipment pre-harvest to ensure seed meets the required standard.

## **Harvesting Procedures**

- a. The grower should give 24 hours notice of intention to harvest the crop to the Seed Processor.
- b. All harvesting machinery, vehicles and trailers for transporting seed and storage facilities must be thoroughly cleaned prior to harvesting or carrying each load. Where a hauler or contractor is engaged by the grower, it is the responsibility of the grower to ensure machines and trailers are completely clean each time they are used or loaded, and they comply with the standards.
- c. Harvesting of seed crops may also be supervised if possible, on a spot-check basis by Department of Agriculture personnel.
- d. It is recommended that the initial area harvested is used as animal feed to aid the cleaning out process of the combine. Headlands should be left until last and also utilized as animal feed.
- e. The harvested seed must be held separate from all other grain. If seed grain is stored in the farmyard awaiting collection, great care must be taken to ensure that there is no contamination from any source.
- f. The grower shall ensure that each lot of seed harvested while on the farm or in transit is clearly labelled as to variety, category and field of origin.
- g. The grower shall be responsible for the identity of the variety delivered. A representative sample of each consignment will be drawn on delivery and retained for official identification by the Department inspector.
- h. The contractor may check the sample for the presence of damaged seeds, and weed seeds. If the levels found are not in line with seed standards the load will be rejected as unsuitable for seed.
- i. Each load of seed will not be accepted without a signed delivery docket.
- j. The weighing of the seed at the merchant's premises will be final.

## 4. Processing & marketing of seed

Seed is marketed in a range of bag sizes. The Department of Agriculture does **not** certify the quantity of seed in each package.

Depending on the species, seed lots may be up to a maximum of 30 tonnes.

### Official sealing

All packages of certified seed must be officially “closed” or sealed. In the case of 50 kg sacks **or similar**, the stitching on of the official label, as the sack is top-stitched is the official sealing mechanism. 500 kg and 1 tonne **bags** must be sealed using an official seal, tie seal or, the label can be stitched on the bulk bags similar to the 50kg bags.

The seed categories are labelled as follows:

<b>Pre-Basic</b>	=	white with purple stripe
<b>Basic</b>	=	white
<b>Category 1</b>	=	blue
<b>Category 2</b>	=	red

### Label Information

Each label will show the following information:

- i. Plant passport
- ii. EU Rules and Standards
- iii. Name of Licensing Authority
- iv. Seed Lot Reference Number
- v. Month and Year of Closing
- vi. Country of Production
- vii. Category of Seed is Identified by the Label Colour and Lot Code
- viii. Name of Species in English and Botanical Name
- ix. Name of Variety
- x. Net Weight of Seed in Container



## Label Identification System

**IE 22-48-C-6317**

Each lot number is made up of 11 digits.

The first two are IE the country code for Ireland.

The second two refer to the year of harvest of the seed. For example, seed harvested in 2022 will bear the number 22.

The next two digits represent a unique identity code for a particular seed assembler.

The seventh character is a letter representing the seed category (P=Pre-Basic, B=Basic & C=C1).

The next two digits represent the sequential number assigned to each variety.

The final two digits (eight & nine) are specific lot numbers assigned by the Department of Agriculture to each lot.



**5. Seed Standards based on EU Directives, Irish legislation and agreed higher standards for Irish certified seed.**

**QUALITY STANDARDS FOR CEREAL SEED CERTIFICATION**

**WHEAT, BARLEY AND OAT SEED**

	CATEGORY			SAMPLE SIZE
	Pre Basic	Basic	C1	
<b>Minimum Germination (% of pure seed)</b>	85	85	85	.....
<b>Minimum Analytical Purity (% by weight)</b>	99	99	98	.....
<b>Maximum number of seeds:</b>				
Wild Oat - <i>Avena fatua</i>	0	0	0	1000g
- <i>Avena ludoviciana</i>	0(a)	0(a)	0(a)	
- <i>Avena sterilis</i>	0(a)	0(a)	0(a)	
Darnel - <i>Lolium temulentum</i>	0(a)	0(a)	0(a)	
Blackgrass - <i>Alopecurus myosuroides</i>	0	0	0	
Sterile Brome - <i>Bromus sterilis</i>	0	0	0	
Wild Radish - <i>Raphanus raphanistrum</i>	1	1	3	500g
Corn Cockle - <i>Agrostemma githago</i>				
Total of all weed species	3	3	7	500g
Other cereal species	1(b)	1(b)	7	500g
Total of all plant species (weeds and other cereal species)	4	4	10	500g
Ergot - <i>Claviceps purpurea</i> (max. no. of fragments)	1	1	3	500g
Scutch - <i>Agropyron repens</i>	1(c)	1(c)	.....	1000g
Scutch - <i>Agropyron repens</i>	.....	.....	2(c)	1000g

- (a) The presence of one seed of any of these species in 1000g shall not be considered an impurity if a second sample of 1000g is found to be free of seeds of such species.
- (b) Seeds shall not be regarded as an impurity if a second sample of 500g is completely free of any seeds of other cereal species.
- (c) Where the numbers of these seeds exceed the tolerance level for the relevant sample size, the recommendation is that the seed be re-cleaned.

Higher Irish Standards. There is a zero tolerance for Wild oats, Blackgrass, Sterile Brome in Irish grown certified seed. At field inspection there is a zero tolerance for Blackgrass. Seed crops found on inspection with blackgrass will be rejected with no right to rogue or repeat inspection. There is also a zero tolerance for wild oats and sterile brome in the harvested seed crop, but roguing is permitted in certain cases as determined by the inspecting officer. However in all cases the seed crop must be officially inspected and confirmed as free of wild oats and sterile brome before harvest.

**Note re Field Beans (*Vicia faba*)**

**Germination:**

The minimum germination for beans is 80%.

**Purity:**

The minimum varietal purity for pre-basic and basic Bean seed is 99.7%

The minimum varietal purity for C1 beans is 99%.

**Screening Standards for Cereals (Voluntary Standard):**

Wheat	2.2 mm screen
Barley	2.2mm screen
Oats	2.0mm screen

To ensure the quality of seed lots, it is recommended that not more than 5% should pass through the screen.