



**THE DEPARTMENT OF
AGRICULTURE, FISHERIES & FOOD**
AN ROINN TALMHAÍOCHTA, IASCAIGH
AGUS BIA

Guide to Seed Certification

Combinable Crops



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 free from major pests and diseases. Seed quality is most important in crop production, as high quality seed is essential for good crop yields and good returns.

Experienced officials conduct all the inspections, tests and controls required by the Seed Certification Scheme in Ireland.



2.0 Conditions for the Certification of Seed Crops

2.1 CONTRACTS:

- Seed crops must be grown under a written contract, which is drawn up between the Seed Processor and the Grower.
- All labels attached to bags must be retained by the grower at sowing time and be presented to the Department Officer on his first visit.

2.2 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 crop, and the field shall be sufficiently free from such plants, which are volunteers from previous cropping.

(Directive 66/402 Consolidated, Annex 1, Point 1)

Isolation

- The minimum isolation requirements are a physical barrier (e.g. a continuous hedge, ditch, fence or road), two metres of a non-cereal crop or two metres 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 must be inspected and the results fully recorded, unless the part is isolated from the remainder.

Crop Condition

- The cultural condition of the field and the stage of development of the crop must be such as to permit a sufficient check of identity, varietal purity, and state of health.
- The crops must not be so stunted, weedy, diseased or damaged that adequate inspections are impossible. Crops more than one-third lodged at the time of inspection will be rejected

2.3 ROTATION

Seed crops may be grown only in the following rotation:

Pre Basic & Basic Crops

Ley ground

Beet

Potatoes

Beans/Peas

Maize

Kale/Turnips

Winter Oilseed Rape (OSR)

1 Year grass Setaside

PB/B cereal seed crop of same variety

C1 seed Crops

Ley

Beet

Potatoes

Beans/Peas

Maize

Kale/Turnips

Winter oilseed Rape (OSR)

1 Year Grass Setaside

PB & B/C1 cereal
seed crop of same
variety

Derogations

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

- (a) Winter 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 in the year prior to the growing of the seed crop.
- (b) Spring Barley 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 in the year prior to the growing of the seed. This will be allowed subject to an acceptable area for inspection.

2.4 Critical requirements at sowing

- Seed crops should not be grown in fields known to be infested with **Wild Oat** or 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.
- The variety on the seed label on each bag should be noted before emptying into the seed drill, thus avoiding simple errors that may result in crop rejection later.
- The grower is required to retain all labels at sowing for inspection by Official Department crop inspectors later in season.
- Labels from commercial crops where the seed processor has indicated to the grower that a seed crop of the same variety will be grown the following year should also be kept and available on inspection. Prior approval has to be granted to the seed processor by Department Of Agriculture in this case.

3. Crop Inspection

The purpose of field inspections is as follows:

- Confirm the crop entry details, including the correct location of the field
- Authenticate the seed sown.
- Positively identify the variety.
- Detect and record admixture with other varieties.
- Detect and record admixture with other cereals.
- Assess wild oat contamination in the crop.
- Check the isolation requirements.
- Assess the general condition of the crop in respect of spray damage, weeds and disease.
- Assess the amount of lodging.



Proper rotations are required to eliminate problems of volunteers

3.1 Crop Inspections

The Seed Certification Division of the Department of Agriculture will arrange official inspections of all crops entered for certification by the seed processor

Crop inspections will be carried out in accordance with the official procedures for combinable crops issued by Department of Agriculture to all crop inspectors.

- Each crop is inspected at various stages during the growing season.
- To pass field inspection a crop must conform to the prescribed field standards.
- If the inspection results show that any one of the standards or reject values has been exceeded, the crop must be rejected or downgraded where this is appropriate.
- All certified crops must be free of Avena Fatua (wild Oats) at final field inspection.
- The use of wild oat sprays is not recommended on seed crops as inadequate control can result if recommended rates are not used and product application is delayed. In this scenario the stunting of wild oat plants can result leading to wild oats plants that cannot be seen above the particular seed crop.
- Hand rouging of occasional Wild Oat plants is permitted.
- If a crop fails to meet the prescribed standards both the grower and Seed processor is so informed by the local Department of Agriculture crop inspector.

The standards laid down for Varietal & Species Purity as examined during crop inspection are given in the following table: (standards based on ears/ha of off types)

<u>Cereals</u>	<u>Pre-basic and Basic Crops</u>	<u>Certified Seed of 1st Generation (C1) Crops</u>	
*Varietal Purity	99.9%	99.7%	
Species Purity (Other Cereals)	99.99%	99.98%	
Rapes	99.9%	99.7%	
		C1	C2
Beans	99.7%	99%	98%
Peas	99.7%	99%	98%

* Impurities include

Other Varieties, Off-Types of the variety, 2-row barely in 6-row barley and vice versa; Talls in wheat & barley and Fatuoids in Oats to name a few.

4. Harvesting Procedures

- The grower should give adequate notice of intention to harvest (i.e. 24 hours notice) to the Seed Processor.
- The harvesting of Seed crops may be carried out when the required notice is given and all harvesting machinery and trailers for transporting seed are thoroughly cleaned out. 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.
- Harvesting of seed crops will also be supervised if possible on a spot-check basis by Department of Agriculture personnel.
- It is recommended that the first run around the outer headlands of the field be discarded when harvesting the crop. This is best practise for species purity reasons. This process will also further aid the cleaning out process of the combine.



4.0 Processing & marketing of seed

Seed is marketed in a range of pack sizes such as 50 kg sacks, 500 kg and 1 tonne “big bags”. Modern plants have automatic systems that fill the bags with the appropriate quantity of seed. The Department of Agriculture does **not** certify the quantity of seed in each package.

4.1 Official sealing

All packages of certified seed must be officially “closed” or sealed. In the case of 50 kg sacks, the stitching on of the official label as the sack is top-stitched is the official sealing mechanism. 500 kg and 1 tonne 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 labels are printed in the following fashion –

Pre-Basic = coloured white with purple stripe

Basic = coloured white

Category 1 = blue

Category 2 = red

4.2 Label Information

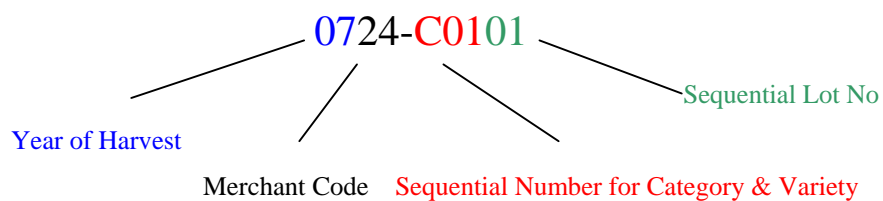
Each label will show the following information:

- Name of licensing authority
- Country of origin of seed
- Category of seed
- Name of species in English and botanical name
- Name of variety
- Weight of seed in container
- Lot Number
- Date of closing of the container is also stated e.g. Nov 2006

4.2 Official Lot Numbering System

Each lot number is made up of nine digits. The first two digits refer to the year of harvest of the seed. For example, seed harvested in 2007 will bear the number 07. The second two digits represent a unique identity code for a particular seed assembler. Digits five will consist of a letter for a seed category (P=Pre-Basic, B=Basic & C=C1) followed by a two digit sequential number assigned to each variety. The final two digits (eight & nine) are specific lot numbers assigned by the Department of Agriculture for each lot.

This is illustrated in the example below.



5. Seed Standards from EU Directives

QUALITY STANDARDS FOR CEREAL SEED CERTIFICATION

WHEAT, BARLEY AND OAT SEED

	CATEGORY				SAMPLE SIZE
	Pre Basic	Basic	C1	C2	
Minimum Germination (% of pure seed)	85	85	85	85	.....
Minimum Analytical Purity (% by weight)	99	99	98	98	.....
Maximum number of seeds:					
Wild Oat - <i>Avena fatua</i>	0	0	0	0	1000g
- <i>Avena ludoviciana</i>	0(a)	0(a)	0(a)	0(a)	500g(a)
- <i>Avena sterilis</i>	0(a)	0(a)	0(a)	0(a)	500g(a)
Darnel - <i>Lolium temulentum</i>	0(a)	0(a)	0(a)	0(a)	500g(a)
Wild Radish - <i>Raphanus raphanistrum</i>	1	1	3	3	500g
Corn Cockle - <i>Agrostemma githago</i>					
Total of all weed species	3	3	7	7	500g
Other cereal species	1(b)	1(b)	7	7	500g
Total of all plant species (weeds and other cereal species)	4	4	10	10	500g
Ergot - <i>Claviceps purpurea</i> (max. no. of fragments)	1	1	3	3	500g
Scutch - <i>Agropyron repens</i>	1(c)	1(c)	.....	.....	1000g
Sterile Brome - <i>Bromus sterilis</i>	1	1			
Scutch - <i>Agropyron repens</i>	.....	.....	2(c)	2(c)	500g
Sterile Brome - <i>Bromus sterilis</i>					

- (a) The presence of one seed of any of these species in 500g shall not be considered an impurity if a second sample of 500g 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.

Screening Standards (Voluntary Standard)

Wheat 2.2 minimum
 Barley 2.2mm screen
 Oats 2.0mm screen

Not more than 5% should pass through the screen

Contact Details

John Eivers or Gerry Lohan

Seed Certification Division

Backweston farm

Leixlip

Co Kildare

Tel: 01-6302907/6302908

Email: john.eivers@agriculture.gov.ie

gerry.lohan@agriculture.gov.ie