

# Temporary experiment on field inspection under official supervision for pre-basic and basic seed 2012-2019 - final report

## Introduction and objectives

The Directives on marketing seeds of agricultural and vegetable crops (66/401/EEC, 66/402/EEC, 2002/54/EC, 2002/55/EC and 2002/57/EC) prescribe that production fields of basic seed and bred seed of generations prior to basic seed (pre-basic seed) should be officially inspected in order to verify the requirements set out in Annex I of the Directives. As regards certified seed, the possibility to choose between official field inspection and field inspection by the company inspectors under official supervision of the competent authority has been introduced some time ago. Therefore, providing for the possibility to choose between official field inspection and field inspection under official supervision may also constitute an improved alternative to official field inspection of basic seeds and pre-basic seeds. In order to assess this alternative, a temporary experiment on field inspections has been carried out from 2012 to 2019 as laid down in the Commission Implementing Decision 2012/340/EC. The objectives of this experiment were:

- to evaluate the possibility to choose between official field inspection and field inspection under official supervision for basic seed and pre-basic seed to assess whether field inspections under official supervision may constitute an improved alternative to official field inspections;
- to evaluate whether the same provisions that apply to the certification of certified seed are to be applied to basic seed and pre-basic seed.

Finally, the purpose of that experiment was to decide whether, as regards basic seed and pre-basic seed, the requirement of official field inspections may be replaced by a requirement of either official field inspections or field inspections under official supervision.

## Participants and set-up of the experiment

Any Member State could participate in this experiment. Finally, 10 Member States and Norway participated (table 1) for the whole period of this temporary experiment: Austria, Belgium, Denmark, France, Germany, Italy, the Netherlands, Portugal, Spain and the United Kingdom. Norway participated too. France acted as lead Member State coordinating the experiment.

Annual meetings were organised to report the results of the experiment and to plan the following year.

In table 1 the participation of countries is indicated per Directive and year. The experiment was largely implemented for the marketing directives 66/401/EEC and 66/402/EEC indicating the importance of fodder and cereal species for cultivation within EU, while beet and vegetable crops played a minor role.

The difference among some countries in participation could be explained by the fact that some countries decided to apply the experiment to their whole territory (e.g. France) while other introduced it as a voluntary option for their seed companies.

Table 1 Participating Member States to the experiment per Marketing Directive and year.

	66/401/EEC Forage							66/402/EEC Cereals							2002/54/EEC Beta							
	2013	2014	2015	2016	2017	2018	2019	2013	2014	2015	2016	2017	2018	2019	2013	2014	2015	2016	2017	2018	2019	
Austria		YES	YES	YES	YES				YES	YES	YES	YES	YES	YES								
Belgium			YES	YES	YES	YES	YES			YES	YES	YES	YES	YES								
Denmark	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES					
France	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES						
Germany				YES	YES	YES				YES	YES	YES	YES	YES								
Italy		YES		YES	YES	YES	YES	YES	YES													
Netherlands	YES	YES	YES	YES	YES	YES	YES	YES				YES	YES	YES	YES							
Norway	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES							
Portugal			YES	YES			YES	YES		YES	YES	YES	YES	YES	YES							
Spain										YES	YES	YES	YES	YES								
UK	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES							

	2002/57/EEC Oil							2002/55/EEC Vegetable						
	2013	2014	2015	2016	2017	2018	2019	2013	2014	2015	2016	2017	2018	2019
Austria														
Belgium				YES	YES		YES							YES
Denmark	YES	YES	YES	YES	YES	YES	YES						YES	
France	YES	YES	YES	YES	YES	YES	YES							
Germany														
Italy		YES	YES	YES	YES	YES	YES			YES			YES	YES
Netherlands														
Norway														
Portugal														
Spain	YES	YES	YES	YES	YES	YES								
UK			YES	YES	YES	YES	YES							

Concerning the rate of official field inspections for crops, the participating countries could select a proportion of 5, 10, 15 or 20 % of the given crop as laid down in Commission Implementing Decision 2012/340/EC.

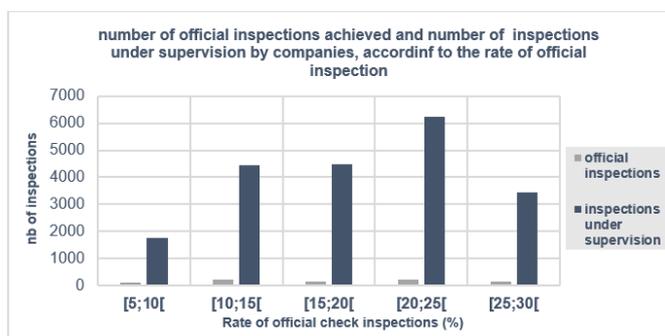
Each participating country could decide which species, which marketing categories and which official field inspection rates it applied in the experiment. In this regard, a wider range of rates was tested by the participating countries taking into account the national organisation, employment of official inspectors and their need to maintain the competency in field inspection etc. The Annex I highlights the average rate of official inspections planned for each year and country.

## Results

Table 2 presents the number of official inspections and the number of inspections carried out under official supervision.

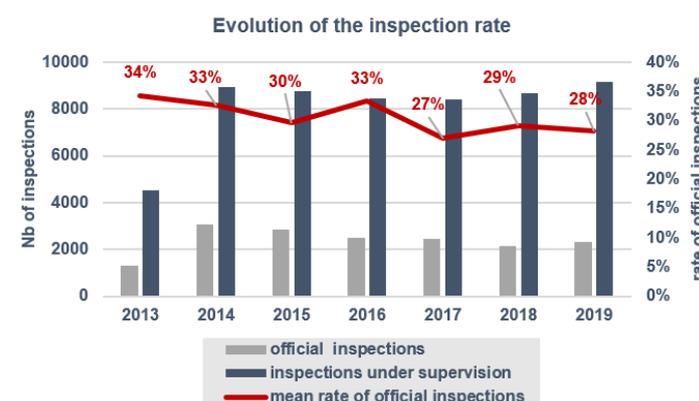
The planned rate for the official inspections was respected in most cases, and sometimes the achieved rate was higher than the planned one. Although the rate of official field inspections was not set, it was in the majority of the cases between 10 % and 25 % for a given crop.

Table 2 Number of official inspections and number of inspections carried out under official supervision by the seed company's field inspector presented according to the rate of official inspection



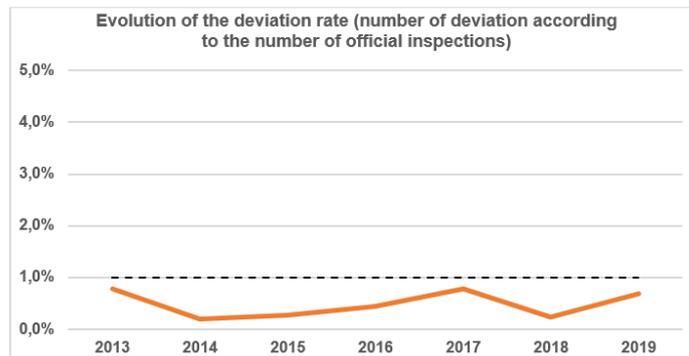
The results of the experiment show that the number of inspections under official supervision and the number of official inspections were very stable (except for the first year) during the whole experiment, around 9000 inspections under official supervision and 2000 official inspections each year (see table 3). The average rate of official inspections varied between 27% and 34% of the crops during the experiment. The official inspection rate did not decrease for some countries because they choose to maintain the competence and jobs of their official inspectors.

Table 3 Evolution of the inspection rate



The number of deviations that occur between the official inspection and inspection under supervision is the indicator which was adopted to check the reliability of the proposed change. During the whole experiment, the results show that the deviation rate was always under 1%, which can be considered as very low (see table 4). The results between official field inspections and field inspections under official supervision, regardless of the species, are very similar as indicated by this percentage of deviation. These results were observed during the seven years of the temporary experiment.

Table 4 Evolution of deviation rate (number of deviation between official field inspection and inspection under official supervision of the same crop and field)

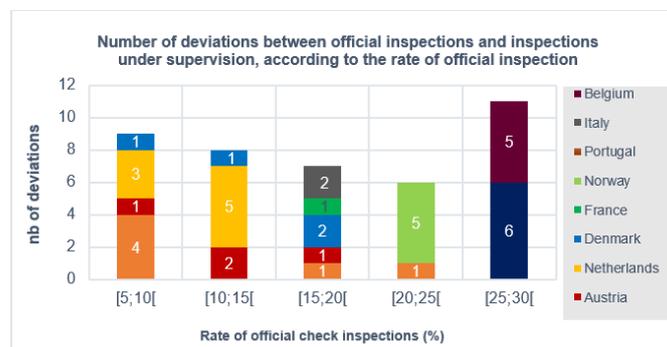


Some of the participating countries, decided after some years to decrease their level of official inspections. The average rate of planned official inspections was :

- In 2013, 43% for pre- basic seed and 28% for basic seeds ;
- In 2019, 28% for pre -basic seed and 10% for basic seeds.

Whichever the rate of official inspections was (from 5-10 % to 25-30%), the number of deviations observed was generally the same (see Table 5).

Table 5 Number of deviations between official inspections and inspections under official supervision in relation to different rates (in %) of official inspections

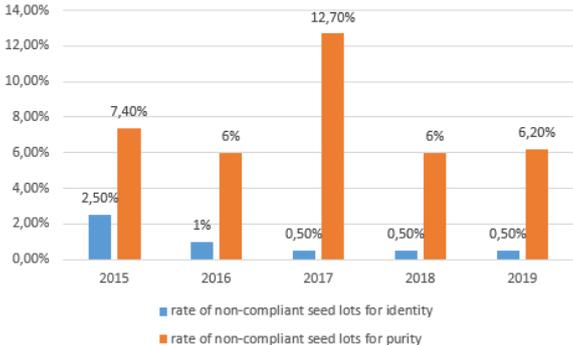


During the experiment it was observed that when a participating country decided to participate in the experiment in most cases it participated during the whole seven years. Once the approach on field inspection under official supervision was established, the countries experienced that it would be difficult to go back to 100% official field inspection unless there was a low number of crops to be inspected. In this case and to maintain competences and skills of the inspectors some competent authorities decided to discontinue applying the experiment for these crops.

In order to carry out the field inspections under official supervision, the seed companies hired people to be in charge of the inspections. These people were trained following the requirements already in place for certified seed and were officially licensed. The results show that these inspectors have the necessary technical qualifications and that a number of seed companies supported the possibility offered by the experiment. The process of training and following up the competencies of these company inspectors was discussed between the participating countries. Three different systems were identified to check the competencies: new periodical training with exam, new periodical exam or periodical personal audit.

One of the conditions of the temporary experiment was that the crop inspected under official supervision should also be tested by post-control checks on the varietal identity and purity. However, concerning the varietal identity, the rate of non-compliant seed lots varied between 0,50 to 2,50 %. In the framework of controls, this rate is quite normal and the possibility of carrying out inspections under official supervision did not create an increased deviation in post-control checks. Concerning the varietal purity, the rate of non-compliant seed lots was slightly higher (between 6% and 12,70%) which did not reflect the results of field inspections. During the production cycle of pre-basic and basic seeds, the fields were rogued from off-types.

Table 6 Results of post-controls tests



In 2016, a survey was carried out in order to gain information about the companies that participated in the experiment and the licensing and training procedure in the participating countries. The countries could decide which type of company participated. There was a higher percentage of companies producing seed of fodder plant and cereal seed under the framework of the Directives 66/402/EEC and 66/401/EEC than companies producing oil and fibre plant seed under the Directive 2002/57/EC. The choice could be made by the competent authority or by the company. Some companies might have preferred official inspection due to low number of seed multiplication and were thus willing not to invest in own inspectors.

Table 7 Percentage of companies implementing inspections under supervision by Directive (2016)

Directive	% of companies implementing inspections under supervision
2002/57/EEC	38
66/401/EEC	53
66/402/EEC	56

As regards the size of the participating seed companies the participating countries indicated the equal participation of big and medium-size seed companies (12) and slightly less small size companies (10) (see Table 8).

Table 8 Size of companies participating (2016)

Directive	Member State	Size of companies participating		
		Small	Medium	Big
2002/57/EEC	BE		X	X
	FR	X	X	X
	IT		X	X
	UK		X	
66/401/EEC	AT			X
	BE	X	X	
	FR	X	X	X
	NL			X
	PT	X		
	UK	X	X	X
66/402/EEC	AT			X
	BE	X	X	X
	DE	X	X	
	FR	X	X	X
	IT	X	X	
	PT			X
	UK	X	X	X

For the licensing process of inspectors, there are two systems in place to train and verify the competences of the field inspectors:

- an initial training followed by a test to validate the competences. The licensed inspector is then regularly audited to verify his/her competences; or
- an initial training followed by a test to validate the competences. In addition, the licensed inspector has to follow adapted training and pass a test to verify his competences. This refresher training has to be followed at a rate that can be different among the Member States.

## Discussion of results

After the seven years of the experiment the results can be considered to be very positive. First of all no high rate of deviation between the official inspections and the inspections under official supervision was observed. Moreover, the countries which initially implemented the experiment continued doing so during the seven years, except when there was a low number of multiplication fields for a given crop notified for the seed certification process. In that case, in order to keep the competences of the official seed certification inspectors, a higher number of official field inspections was carried out.

During these seven years of the experiment, the seed companies hired staff and the competent authorities officially licensed them to be competent for carrying out the field inspections. The results demonstrate that this worked well.

It was observed that the seed companies reorganised themselves to manage this opportunity and at the end of the experiment, the seed companies do have competent staff, took the responsibility to take decisions on the basis of field inspections and having independent decisions under field inspection under official supervision. On the other hand, the seed certification authorities carried out second level

checks for the field inspections. They maintained the competences on field inspections while being able to develop other competences thanks to the time that became available for other tasks.

According to the updated principles of the new Official Control Regulation (EU) 2017/625 competent authorities shall perform official controls on all operators regularly, on a risk basis and with appropriate frequency. Moreover, at the end of 2019, the new plant health legislation entered into force and one of the objectives of this legislation is to encourage the seed sector to manage the plant health risks by themselves and to be responsible for the decisions which will be taken. The seed certification authorities need to survey those decisions by doing a risk assessment to choose which field or seed lot needs to be officially controlled. The temporary experiment on field inspection (2012/340/EU) follows the same principles but its aim was to find out whether carrying out field inspections under official supervision was possible for pre-basic and basic seeds and whether the same provisions should apply as those that apply to the certification of certified seed. After the seven years of the experiment, the results are very positive but this can be considered as the first step. To continue along this approach, it will be interesting to keep working on a risk-based approach instead of the fixed rate of official inspections (currently 5 % of crops) in order to improve the rate and focus of official inspections for seeds in the context of field inspection under official supervision.

#### Key conclusions

- Small deviation between official field inspection and field inspection under official supervision for the same crop in the field (< 1 % deviations) show that official field inspection can be replaced by field inspection under official supervision.
- Also the post-control results concerning varietal identity (non-compliant seed lots 0,50 to 2,50%) and varietal purity (non-compliant seed lots 6 to 12,70%) support the alternative of field inspection under official supervision.
- The Member States have adequate though deviating processes in place for training and personal licencing or swearing in of individual field inspectors of the seed companies.
- The reason for not applying field inspection under official supervision could be that the companies prefer official inspection.
- When using the approach on field inspection under official supervision, it is important to ensure that the official field inspectors carry out enough field inspections to maintain their skills and competences.
- It would be worthwhile to study a more modern risk-based approach on official inspection (currently fixed rate of 5% of crops) in the context of field inspection under official supervision.

## Annex 1:

		Average rate of official inspections planned	Average rate of official check inspections	Nb of official check inspections achieved	Nb of companies	Nb of crops inspected under supervision	Nb of deviations
<b>Austria</b>	2014	20%	22%	109	4	559	1
	2015	20%	20%	137	5	746	
	2016	10%	13%	78	5	791	
	2017	10%	16%	76	5	663	1
	2018	10%	11%	85	24	748	1
	2019	5%	6%	49	27	843	1
<b>Belgium</b>	2013	100%	100%	40	4	40	1
	2015	100%	65%	26	4	28	
	2016	100%	94%	35	5	37	
	2017	50%	37%	16	3	34	
	2018	40%	44%	22	18	88	1
	2019	14%	31%	61	22	169	5
<b>Germany</b>	2015	5%	15%	3	2	12	
	2016	5%	11%	4	3	25	
	2017	5%	8%	10	2	70	
	2018	10%	57%	5	3	30	
<b>Denmark</b>	2013	20%	12%	49	-	417	
	2014	20%	35%	81	14	305	
	2015	20%	21%	38	66	375	1
	2016	20%	13%	46	67	339	2
	2017	5%	6%	31	74	328	3
	2018	5%	20%	46	68	412	
	2019	5%	22%	59	86	536	
<b>Spain</b>	2013	20%	29%	146	3	509	9
	2014	20%	53%	239	90	489	3
	2015	20%	32%	162	93	479	5
	2016	20%	30%	155	96	466	4
	2017	20%	54%	256	124	404	6
<b>France</b>	2013	20%	33%	1 004	132	3 293	
	2014	24%	42%	2 529	380	6 977	
	2015	23%	40%	2 366	380	6 308	
	2016	23%	37%	2 048	390	6 011	2
	2017	34%*	40%	1 967	495	6 296	2
	2018	38%*	30%	1 877	495	6 394	
	2019	24%	33%	1 994	495	6 795	
<b>Italy</b>	2014	5%	21%	39	14	206	
	2015	5%	9%	43	9	254	
	2016	5%	23%	47	6	301	
	2017	5%	12%	47	8	300	
	2018	5%	20%	54	13	340	
	2019	5%	22%	98	17	337	5
<b>Netherlands</b>	2013	10%	13%	6	2	45	
	2014	10%	8%	13	4	156	1
	2015	10%	9%	21	6	235	1
	2016	10%	11%	19	6	181	1
	2017	10%					
	2018	10%	6%	21	7	236	1
	2019	10%	8%	27	7	240	4
<b>Norway</b>	2013	20%	29%	24	3	90	
	2014	20%	15%	22	3	113	
	2015	20%	24%	26	3	106	
	2016	20%	43%	20	4	84	2
	2017	20%	24%	22	3	91	5
	2018	20%	25%	18	4	75	-
	2019	20%	17%	16	3	86	-
<b>Portugal</b>	2013	20%	86%	6	3	7	
	2014	20%	63%	5	3	8	
	2015	20%	79%	14	6	17	
	2016	20%	48%	14	6	26	
	2017	20%					
	2018	20%	62%	14	11	23	
	2019	20%		23	9	27	1
<b>United-Kingdom</b>	2013	17%	19%	17	3	109	
	2014	17%	18%	21	4	150	1
	2015	14%	14%	22	7	201	1
	2016	14%	16%	20	8	183	
	2017	13%	14%	23	10	214	2
	2018	8%	8%	23	19	320	2
	2019	5%	5%	6	7	125	
<b>Total</b>		<b>21%</b>	<b>30%</b>	<b>16640</b>	<b>3935</b>	<b>56902</b>	<b>75<sup>1</sup></b>

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<sup>i</sup> \* The linen seeds have been added and the rate of field inspection for pre-basic seeds was 100%