



ISTA/ISF EXPERIMENT ON HERBAGE SEED LOT SIZE



ISTA / ISF EXPERIMENT ON HERBAGE SEED LOT SIZE TECHNICAL PROTOCOL, December 2005

Introduction

From 1995 to 2003 ISTA and ISF have run an experiment on testing the possibility to extend the maximum size of herbage seed lots from 10 MT to 25 MT on a seed production plant basis. The results of the three phases of the experiment indicate that when using the proper facilities it is possible to have homogeneous enough 25 MT lots. However, the data obtained so far do not allow making a final decision; thus, it is decided to prolong the experiment by a fourth phase, starting on 1 January 2006, in this document called 'the experiment'.

This experiment will be implemented on the condition that the OECD Seed Schemes authorize it and, among other OECD participants, the European Community and its Member States implement it, thus allowing the commercialization of the large seed lots that have an ISTA Certificate.

Aim of the experiment

The aim is to test in practice the conditions under which production plants of companies may produce sufficiently homogeneous large seed lots. Therefore, within this experiment the possibility is offered to interested companies that ISTA Certificates may be issued for seed lots larger than the maximum seed lot size. In order to get detailed information about the homogeneity, a minimum number of large seed lots per production plant has to be tested for heterogeneity. On the basis of the results of these heterogeneity tests a decision will be made whether the company can get ISTA Certificates within the experiment for large seed lots which are produced in the production plant and not tested further for heterogeneity.

The aim of the experiment is not to prepare a proposal for a general increase of ISTA maximum seed lot size for grasses. The lot size of 10 MT shall stay in table 2A, only exceptions shall be possible if companies showed for specified production plants the capability to produce homogeneous large seed lots. In case a company operates more than one plant, each plant has to show its competence.

Principle and Timetable

The experiment runs from 1 January 2006 till 30 June 2013, at latest. The experiment starts with testing a minimum number of large lots on heterogeneity. On the basis of the data of these heterogeneity tests a decision will be made whether the company is allowed to get ISTA Certificates for large seed lots which are not tested for heterogeneity. Conclusions of the experiment with view to changes of the ISTA Rules shall be presented to the ISTA Ordinary meeting 2013 at the latest.



CONDITIONS FOR THE EXPERIMENT

General conditions

- A company interested has to apply for participation to the national designated ISTA member laboratory which passes on the application to the Chairman of the Bulking and Sampling Committee (BSC). The company must specify the species and the production plant for which the application is submitted.
- After confirmation of participation by the Chairman BSC, ISTA Certificates may be issued for large herbage seed lots that are produced in the production plant. All ISTA Seed Testing Laboratories will be informed about that.
- Companies taking part in the experiment need to have a quality manual which describes the procedures to enhance homogeneity. In the quality manual attention has to be paid to the following critical points:
 - the quality level of individual lots in case of mixing several lots as obtained at the field inspection or in laboratory tests
 - the blending of cleaned lotsThe quality manual has to be approved by the national designated ISTA member laboratory.
- The experiment is focused on two groups of species (I: *Lolium perenne*, *Lolium multiflorum*, *Lolium x boucheanum*, *Festuca pratensis*, *Festuca arundinacea* and *Phleum pratense*, and II: *Festuca rubra*, *Festuca lemarii*, *Dactylis glomerata*, *Poa pratensis* and *Poa trivialis*) and otherwise species by species.
- The experiment is done with seeds in bags or containers with a lot size up to 25 metric tons.

Number of lots to be tested for heterogeneity

- Companies that want to participate have to test 6 lots of the relevant species group for heterogeneity.

Sampling and heterogeneity testing

- The bags or containers (big bags, boxes) are the units to be traded. Therefore, heterogeneity has to be tested at that level. According to Table D.2 of the 2006 ISTA Rules, the maximum number of 20 independent container samples will have to be drawn.
- Seed testing for heterogeneity must be done by an ISTA accredited seed testing laboratory. The responsibility for the correctness of the reported data of the heterogeneity tests is by the head of the laboratory.
- According to the ISTA Rules the independent container samples were tested for
 - purity with 1,000 seeds
 - germination with 100 seeds
 - other seeds by species and number with 10,000 seeds
- The results of the 20 independent samples have to be reported for statistical evaluation. For reporting the data the attached form sheet has to be used.
- Together with the data additional information on the large lot will be provided by the company as indicated in the attached form sheet.



- The evaluation will be done according to Chapter 2 of the 2006 edition of the ISTA Rules. This test includes additional variation in addition to the random sampling variation. All attributes of purity and germination testing as well as other seed count will be used for testing heterogeneity.

ISTA Certificates for large lots not tested for heterogeneity

- Companies which participate will be allowed to get ISTA Certificates for large lots without heterogeneity testing when, in a species group, at least 5 of the first 6 tested lots within the experiment are homogeneous. In all other cases the company will be allowed to get ISTA Certificates only for large seed lots which are tested for heterogeneity' as mentioned in the document of the EU
- For each of the relevant group of species, for the first 100 seed lots, there will be a 10 % heterogeneity testing rate, which shall include the 6 initial tests. Thereafter there shall be a 5 % heterogeneity testing rate. If in this procedure 3 consecutive tests fail to reach the required homogeneity the company concerned shall begin the experiment again with the 6 initial tests.
- ISTA Certificates may only be issued for 25t seed lots for species in the relevant species group and for those which are produced in the same production plant where the 6 seed lots were evaluated for heterogeneity.
- For any ISTA Certificate issued for a large seed lot, the wording 'Lot Size Experiment' must be reported on the Certificate.
- Confidentiality of the data is assured, results will only be reported anonymously. The participating companies will be informed about the results when evaluation is finished. Conclusions of the experiment in total will be drawn by the ISTA Working Group Seed Lot Size.
- Application as well as data and additional information have to be sent *via* the national designated ISTA member laboratory to the Chairman of the Bulking and Sampling Committee (BSC):

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Institute of Plant Breeding, Seed Science and Population Genetics
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Germany



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Evaluation Scheme

Seed Company: **Large lot No.:**

Origin of the large lot

- The large lot originates:
- from one field, size of this field: ha
 - from fields
 - from smaller seed lots, please attach seed testing results of the smaller seed lots.

Processing of the large lot

Please give a short flow-scheme of the seed processing procedure of the large lot on an extra sheet indicating the order and machinery used for mixing, blending, cleaning, storage in a silo, and bagging from harvest up to sampling.

Size of the large lot

Species: Mass of the large lot: to
 Type of bag/container

Variety: Mass of one bag/container: kg
 Number of bags/container:
 Number of bags per pallet:

Seed sampling for heterogeneity testing

Sampling was done by an ISTA accredited:

- official laboratory
- private laboratory
- company laboratory

Equipment used for sampling (e. g. stick or Nobbe trier, by hand):

.....

Do you use an automatic seed sampler for sampling grass seed lots for certification and issuing ISTA certificates? Yes No

Seed testing for heterogeneity testing

Testing was done by an ISTA accredited:

- official laboratory
- private laboratory
- company laboratory

.....
Date

.....
Signature of the responsible person of the Seed Company



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Seed Company: Large lot No.:

ISTA Seed Testing Station:

Date of sampling: Date of testing:

Results of independent samples

Sample	Purity			Germination*			Other Seeds by Number		
	pure seeds (%)	other seeds (%)	inert matter (%)	Normal Seedlings (%)	abnormal seedlings (%)	dead seeds (%)	total	most frequent species species 1	species 2
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

* fresh ungerminated seeds shall be tested according to ISTA Rules 5.6.5.A.3. by Tetrazolium Tests

Date

Signature of the Head of the ISTA Seed Testing Laboratory
taking responsibility for the correctness of these figures