

**OFFICIAL SEED TESTING STATION
SEED TESTING LABORATORY, KEDL0100**

Standard Operating Procedure:

HANDLING SEED TEST RESULTS

SOP/MET/05

Revision number 12

Issue date; 26th March 2024

**STANDARD OPERATING PROCEDURE FOR HANDLING
SEED TEST RESULTS**

SOP/MET/05

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Approved by:

Technical Manager

Date:.....

.....

Quality Assurance Manager

Date:.....



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1.0 Purpose:

1.1 To document a system of handling results of all samples tested in the laboratory



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- 1.2 Prepare test certificates, including ISTA Certificates.
- 2.0 **Scope:**
 - 2.1 Checking of results to ensure accuracy of data entry
 - 2.2 Preparation of test certificates including ISTA certificates
 - 2.3 Signing and dispatch of test results to clients
- 3.0 **Reference:**
 - 3.1 Analysis cards
 - 3.2 Request for testing of a seed sample
 - 3.3 Current edition of ISTA International Rules for Seed Testing
 - 3.4 Laboratory Manual
 - 3.5 ISTA Explanatory notes on how to complete ISTA Orange International Seed Lot Certificates and Blue International Seed Sample Certificates.
- 4.0 **Definitions and Acronyms:**
 - 4.1. KEPHIS: Kenya Plant Health Inspectorate Service (Seed Certifying Agent-SCA)
 - 4.2 Seed Testing Laboratory (STL) - The Laboratory for seed testing with capability to conduct seed sampling, analyze seed samples for various tests and to report the analysis results.
 - 4.3. ISTA - International Seed Testing Association
 - 4.4 Seed analyst – Person qualified and approved/Authorized by Managing Director KEPHIS to analyze seed samples at the Seed Testing Laboratory.
 - 4.5 Official Seed Tester (OST) – Person in charge of the Seed Testing Laboratory
 - 4.6 Test/Analysis cards – lab documents issued at Sample Reception Section for recording



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details of test and results.

- 4.7 Test reports/test certificates – Final results of tests prepared by the lab and dispatched to the client. Also includes ISTA Certificates
- 4.8 Map card – folder for holding test cards and other details of sample.

5.0 Responsibilities:

- 5.1 STL - Seed analysis and publishing of final certificates.
- 5.2 OST - checking of results and dispatch of laboratory reports.
 - Owner of the process.
- 5.3 Purity analysts – Calculates and does rounding procedures
- 5.4 Germination analysts – Calculates and does rounding procedures

6.0 Activities / procedures:

6.1 Preparation of Test Results

6.1.0 Local seed testing certificate

- 6.1.1. Get the test results (Analysis cards)
- 6.1.2. Check data entry and calculations
- 6.1.3. Enter results in the computer database
- 6.1.4. Put the analysis cards, Request for Sampling/Sealing/Testing Seed for Certification (Form SR9), and map card together.
- 6.1.5. Take the cards for printing at lab administration section
- 6.1.5. After printing, the Technical manager checks the test certificate to ensure there are no errors in the entries.
- 6.1.6. The certificate is then signed by the Quality Assurance Manager or Technical Manager in the absence of Quality Assurance Manager.
 - 6.1.6.1. Official certificates (Yellow) that do not meet minimum germination requirements as stated in the Seeds' Act CAP 326 are stamped 'NOT FOR SALE'. All Private certificates (White) MUST be stamped 'NOT FOR SALE'



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6.1.7. Dispatch the test certificate to:

- 6.1.7.1 Owner of seed (Seed Merchant)
- 6.1.7.2. Seed Sampler
- 6.1.7.3 Technical administration for invoicing

6.1.8 A copy of the certificate is retained in the Seed Testing Laboratory.

6.1.9 Records of test certificates dispatch are maintained in the Seed Testing Laboratory through test certificates dispatch register (R/STL/11) and test certificates dispatch notes (FL/STL/22)

6.2. Preparation of ISTA Certificates

6.2.1 During preparation of OIC **refer to the current edition of the ISTA rules.**

6.2.2 The laboratory can only issue ISTA certificates for species listed in the scope of accreditation (ref. to clause 3.10 of Part 1 of the Quality Assurance Manual)).

6.2.3 An Orange International Seed Lot Certificate (OIC) can only be issued when both sampling and testing is done under the responsibility of the seed testing laboratory.

6.2.4 A duplicate ISTA certificate can be issued at the request of the client.

6.2.5 When a duplicate certificate is issued, all details will be similar with the original certificate except the "Status of Certificate" where the word DUPLICATE will be inserted.

6.2.6 When completing the Orange ISTA certificates, inappropriate use of symbols (e.g. '@', '&'), units of weight (e.g. 'gm') and seal of lot (e.g. 'Adhesive tape') should not be used.

6.2.7 Where it is impossible to determine the species with certainty on the basis of seed characters, only the genus name must be stated (example *Brassica sp.*).

6.2.8 When a test e.g. moisture is not reported on the ISTA certificate, 'N' must be put in the space for that test.

6.2.9 Date format must follow ISO 8601 format (Year in full, month, day with two figures for both month and day (e.g. 2022-07-25)).

6.2.10 Under the signature, indicate '*Authorised signatory*' .

6.2.11 When preparing the certificate carry out the following:

- i. Check the client request for the ISTA certificate and make sure it contains all information required: Species, Variety, Lot number, weight to be exported,



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exporter, and the sizes and number of containers.

- ii. Make sure that the lot is still valid from the date of sampling in accordance with Seeds and Plant Varieties Act (Cap. 326).
 - iii. Make sure that the weight requested is not above the lot weight sampled, taking into consideration any ISTA certificate issued previously on the same lot. (ref.KEPHIS SEED COMPUTER DATABASE, and File FL/STL/ 02)
 - iv. Check again the data entry including rounding procedures if correctly done. Two analysts MUST check the accuracy of the calculations before data is transferred to the Orange ISTA Certificate.
 - v. Prepare a draft ISTA Certificate using an electronic template of the ISTA orange certificate.
 - vi. Have the draft counterchecked by another analyst for data transfer errors e.g variety name and placement of data in the correct cells on the certificate.
 - vii. Print the original ISTA certificate.
 - viii. Stamp the printed ISTA certificate with the Laboratory stamp on the top right corner
 - ix. Check the original ISTA certificate for any errors. If there is any error then cancel the certificate and print a new one. Record the error on register (R/STL/23). Stamp the cancelled ISTA certificate and record in file FL/STL/18.
 - x. Send the Original ISTA certificate for signing by the Quality Assurance Manager/Official Seed Tester or his Deputy.
 - xi. Dispatch the analysis certificate to the client after making a copy for retention in the Seed Testing Laboratory (ref. FL/STL/02).
- 6.2.12 The completed Orange International Certificate must show the following information
- i. Name, address and stamp with ISTA member code of the laboratory (KE01)
 - ii. Seed lot identification



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- iii. Number of containers in the lot
- iv. Date of sampling
- v. Date that the sample was received in the testing laboratory
- vi. Date test was concluded
- vii. Place, country and date of issue of the certificate
- viii. Test or sample number of the testing laboratory
- ix. Analysis results
- x. Signing by the head of the laboratory (Quality Assurance manager).

6.3 Proficiency Test Results

6.3.1 Calculation and dispatch of results

6.3.1.1 Calculation and expression of results of ISTA Proficiency Tests (PT) are carried out according to the instruction letters accompanying the samples as well as the ISTA Rules.

6.3.1.2. Get the Proficiency test results and perform calculation according to the test method as indicated in the current edition of ISTA Rules. Ensure that each result is for the correct lot number.

6.3.1.3 Transfer the results to the reporting forms which accompanied the samples as part test instruction letters. Soft copies of the forms are downloaded from the ISTA website (www.seedtest.org). They also accompany the emails from ISTA Secretariat notifying Seed Testing Labs about the dispatch of PT samples.

6.3.1.4 Perform relevant checks on data transfer and to ensure that all required information has been satisfactorily provided in the reporting forms.

6.3.1.5 Completed results are then sent to the ISTA Secretariat by ordinary mail and/or email.

6.3.1.6 Wherever ISTA certificates accompany the results, the results have to be sent by ordinary mail because scanned copies are not acceptable

6.3.2 Handling of PT results feedback from ISTA Secretariat

6.3.2.1 Feed back is received by the Quality Assurance Manager.

6.3.2.2 The QAM recommends the actions to be carried out by the laboratory as he/she deems necessary or as required by ISTA Secretariat.



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6.3.2.3 It is important that seed analysts know how the laboratory performed in the PT.

6.3.2.4 All necessary corrective actions should be reported to ISTA Secretariat as requested.

6.4 Issuance of OIC on Sub-lots

An OIC may be issued, without further sampling or testing, for a portion (sub-lot) of a seed lot which has been sampled and tested, and for which an OIC has already been issued under the following circumstances.

- a) The certificate for the sub-lot must carry the same test results as reported for the original seed lot.
- b) The sub-lot MUST represent a minimum size of 20% of the weight of the original seed lot.
- c) A maximum of five OIC's will be issued for sub-lots of any one original seed lot, except for *Solanum lycopersicum L.* where 20 sublots are allowed with a minimum size of 5 % of the weight of the original seed lot.
- d) The KEPHIS accredited laboratory will keep track of the issuance of sub-lot certificates.
- e) The weight of the subplot and that of the original weight shall be recorded in the same place on the ISTA certificate.
- f) If a sub-lot is re-sampled it becomes a new seed lot and will be given a new seed lot identification number.

7.0 Handling mistakes on records

- 7.1 If any mistake is made on data entry, the mistake should not be erased, white out, deleted or made illegible. The mistake should be crossed once and the person making the correction countersigns along the correction so that the original data is left for future reference.
- 7.2 When a mistake (e.g a typo error) is detected on an ISTA certificate immediately the final print has been printed but before dispatch to the client, a new certificate will be made and issued as an original certificate while the error certificate will be stamped 'CANCELLED' and the nature of error recorded in register R/STL/23. The cancelled certificate will be filed in FL/STL/18.



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8.0 Records:

8.1 Request for Sampling/Sealing/Testing Seed for Certification (form SR9)

8.1.2 Analysis cards

8.1.4 Computer database (Kephis Seed Database)

8.1.5 Test certificates dispatch register (R/STL/11)

8.1.6 Cancelled ISTA certificate register(R/STL/23)

8.1.7 Cancelled certificates file (FL/STL/18)

8.1.8 Test certificates dispatch notes (FL/STL/22)

8.1.9 Archives

8.2.0 Draft ISTA certificates in file (FL/STL/28)

8.2.1 Test certificates copies in file (FL/STL/02)

8.2.2 ISTA Certificates requests in file (FL/STL/33)

9.0 Revision history

Revision Number	Clause	Changes
12	6.4 (c)	The number of sublots for each lot revised for <i>Solanum lycopersicum</i> from 5 to 20 with minimum size of 5% of the original lot weight.
	6.4 (e)	Revision made to give clear direction on where to report weight of subplot and the original lot weight.



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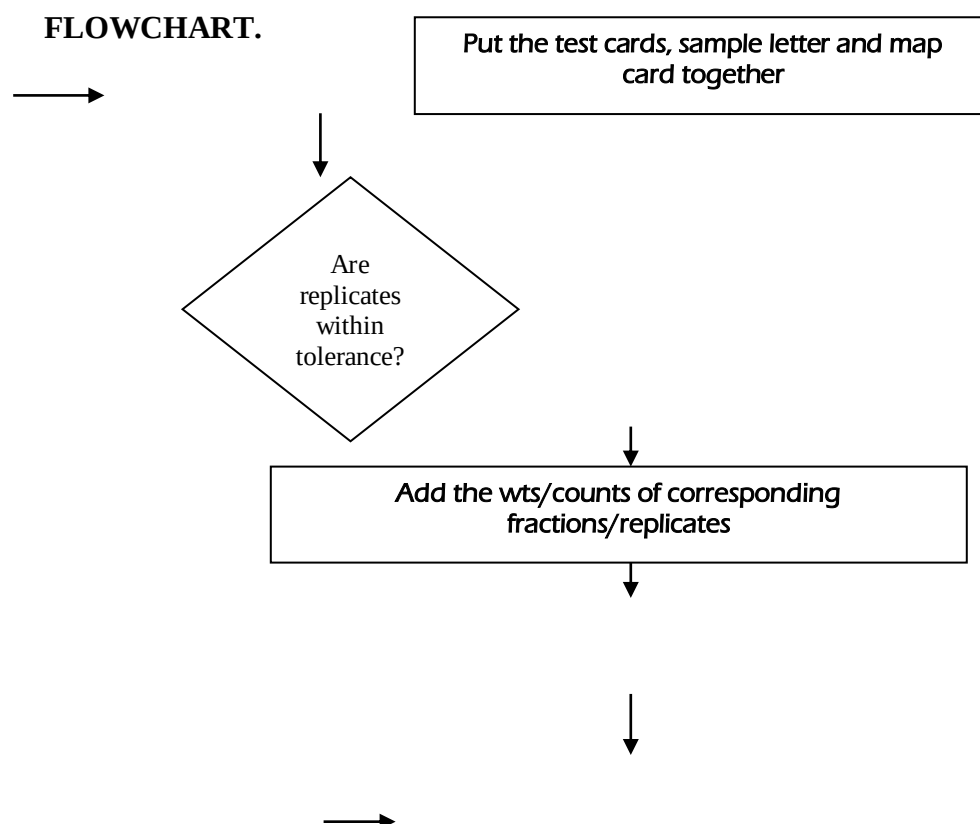
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Analysis cards

Yes

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ISTA rules/
Lab-manual

Perform results calculation and
rounding procedures

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Test result & blank test
certificate

Prepare test
certificate

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Typing correct?

No

Yes

Sign certificate, register and
dispatch

To sampler

To merchant

To seed lab

To technical
administration

