

Guidance for Testing and Certification of Tissue Culture Raised Plants under NCS-TCP

1. Eligibility Criteria for Certification of Tissue Culture Raised Plants

- i. The Tissue Culture Production Facility (TCPF) must be Recognized under NCS-TCP. Accredited Test Laboratories (ATLs) would accept samples for certification only from Recognized TCPFs

2. Requirements for Certification of Tissue Culture Raised Plants

- i. The mother plant tissue/stock culture must be tested for freedom from all known viruses from ATLs or any reputed Government institutions. List of ATLs established under NCS-TCP can be downloaded from <http://www.dbtncstcp.nic.in/html/content/ATLs.html>
- ii. The respective batch (lot) of tissue culture plants (intended for certification) should be derived from tested stock culture as per above para 2 (i)
- iii. Recognized TCPFs should assign 4 digits **batch number** to the said batch of tissue culture plants. This above number should be provided to ATLs while sending samples for certification.
- iv. Tissue culture raised plants ready to dispatch to the farmers (ideally secondary hardened) will be tested for all known viruses and true to type in order to certify under NCS-TCP

3. Procedures and relevant forms to be used for “Batch Certification of Tissue Culture Raised Plants”

- i. The Recognized TCPF should send an intimation form (Virus/ genetic fidelity) Testing for Batch Certification of Tissue Culture Raised Plants (Annexure-1B) to the ATL in a specified format given at <http://www.dbtncstcp.nic.in/html/content/ANNEXURE4.html> along with *Self addressed and stamped envelope*
- ii. The ATL would send an Acknowledgement to the TCPF providing details of requisite fee to send the Application form/samples.
- iii. On receipt of acknowledgement, sample would be drawn as per the sampling strategy given below at **Item 4** (samples would be drawn either by representative of ATL or TCPF itself as per the mutual consent and coordination between TCPF and ATL)
- iv. Samples for certification would be sent to ATL along with the duly filled Application for Testing for Batch Certification of Tissue Culture Raised Plants (Annexure-2B) and the requisite fee. This application form can be downloaded from the link given below:

<http://www.dbtncstcp.nic.in/html/content/ANNEXURE4.html>

4. Sampling strategy for Certification

- i. Number of samples to be tested will vary based on the batch size. The sampling method is given below

Batch size	Number of tissue culture plants to be sampled (sample size)
Up to 1000 Nos	1% plants subject to a minimum of 10 Nos
1001 to 10000 Nos	0.5% of plants subject to a minimum of 10 Nos
10001 to 100000 Nos	0.1 % of plants subject to minimum of 50 Nos

5. Reporting by ATL towards certification

- i. ATL will test the samples and provide “Test Report” to the TCPF in the prescribed format within 7 working days
- ii. If the tissue culture plants are found free from all known viruses and are true to type. The TCPF will be provided “Certificate of Quality” and minimum 10 certification labels by ATL for the respective batch from which the samples were collected and tested. TCPF may request for additional labels, if required.

6. Approved fee structure towards testing/certification of tissue culture plants under NCS-TCP

Test	Fee to be charged by ATLs*
Virus Indexing	A minimum fee of Rs. 1000 which would include testing upto 10 samples of the same plant species for a maximum of 5 viruses. Test for Additional virus would be charged @ Rs 100 per virus
Genetic Fidelity	Rs. 1500 per 10 plants

* This is a currently approved fee structure which may be changed/revised time to time as per the decision of competent authority of NCS-TCP.

7. How to send samples to for Testing

A. Testing of Mother plant tissue/ stock culture

i. Prior Intimation:

- ❖ For sending samples of “Stock Culture/ Mother Plant Tissue” at the time of culture establishment “Tissue Culture Production Facility (TCPF)” need to send duly filled and signed “Intimation form for Virus Indexing of Plant Tissue/Stock Culture(s) **Annexure 1A**” http://www.dbtncstcp.nic.in/downloads/Forms_TCPF/ANNEXURE_1A.doc to Accredited Test Laboratory (ATL) at least 2 weeks prior to sending the sample(s).

ii. Forwarding samples

- ❖ On receipt of acknowledgement from ATL, TCPFs need to send samples along with required amount of demand draft along with “Application for Virus Indexing of Plant Tissue/Stock Culture (s) **Annexure 2A**” http://www.dbtncstcp.nic.in/downloads/Forms_TCPF/ANNEXURE_2A.doc for mother plant/ stock culture testing.

iii. Sampling strategy

- ❖ “Guidelines for testing of Mother Plants/Stock Culture” describing the sampling size/strategy are available at NCS-TCP website http://www.dbtncstcp.nic.in/downloads/Guidelines_for_mother_stock.pdf

B. Batch Certification of Tissue Culture Raised Plants

i. Prior Intimation

- ❖ For sending samples from “Tissue Culture Raised Plants” for batch certification “Recognized Tissue Culture Production Facilities (TCPFs)” need to send duly filled and signed “Intimation form for (Virus/ genetic fidelity) Testing for Batch Certification of Tissue Culture Raised Plants **Annexure 1B**” http://www.dbtncstcp.nic.in/downloads/Forms_TCPF/ANNEXURE_1B.doc to Accredited Test Laboratory (ATL) at least 2 weeks prior to sending the sample(s).

ii. Forwarding samples

- ❖ On receipt of acknowledgement from ATL TCPFs need to send sample along with required amount of demand draft along with “Application for (Virus/ genetic fidelity) Testing for Batch Certification of Tissue Culture Raised Plants **Annexure 2B**”
http://www.dbtncstcp.nic.in/downloads/Forms_TCPF/ANNEXURE_2B.doc
for Certification of Tissue Culture Raised Plants.

iii. Sampling strategy

- ❖ As defined at para 4

C. Quality of Sample

1. Virus indexing: Each sample should have at least 0.5 gm of tissue per virus per test for all known viruses to be tested.
2. Genetic fidelity testing: Each sample should contain minimum 1.0 gm of tissue for genetic fidelity testing.

D. Packaging and forwarding of samples

1. All the collected samples should be blotted dry to remove excess moisture before packing.
2. All samples will be placed in between paper towels, packed in self sealing/zip-lock polythene bags of appropriate size.
3. The sample will be affixed with a label and kept in a ventilated card board box and /or thermocool box for forwardal to ATL.
4. The packing box will be marked on top of the box with the address of ATL with appropriate instructions such as “Handle with care/Tissue Culture Plants/Rush Delivery” and either couriered or delivered in person to the concerned ATL within 24 hrs period.