

Phase II: Capacity Building Project on Biosafety



Role of Customs in Transboundary Movement of Plant Material including Genetically Modified Organisms (GMOs)



Ministry of Environment,
Forest and Climate Change
Government of India

In association with





Role of Customs in Transboundary Movement of Plant Material including Genetically Modified Organisms (GMOs)



Introduction

The Central Board of Excise and Customs (Customs) officials play a key role in enforcing national rules and regulations related to international movement of people and goods, including import and export of agricultural material. Customs in India is continuously rationalizing and modernizing its procedures through adoption of global best practices. In view of the continuously changing scenario with respect to transboundary movement of agricultural plants and related material, particularly genetically modified organisms (GMOs)¹, it is imperative that the Customs officials remain updated about their latest rules and regulations as well as technological developments.

Transboundary movement of plant materials

The import of plants and plant products in India is regulated by Plant Quarantine (Regulation of Import into India) Order, 2003 under the Destructive Insects and Pests Act, 1914. Schedule-IV of the Act includes the list of prohibited plant species from specified countries; Schedule-V

¹A genetically modified organism (GMO) is any organism whose genetic material has been modified through laboratory-based genetic material transfer from another organism. In India, bollworm insect resistant cotton is the only GM crop approved for cultivation in farmers' fields, though several other are under experimentation

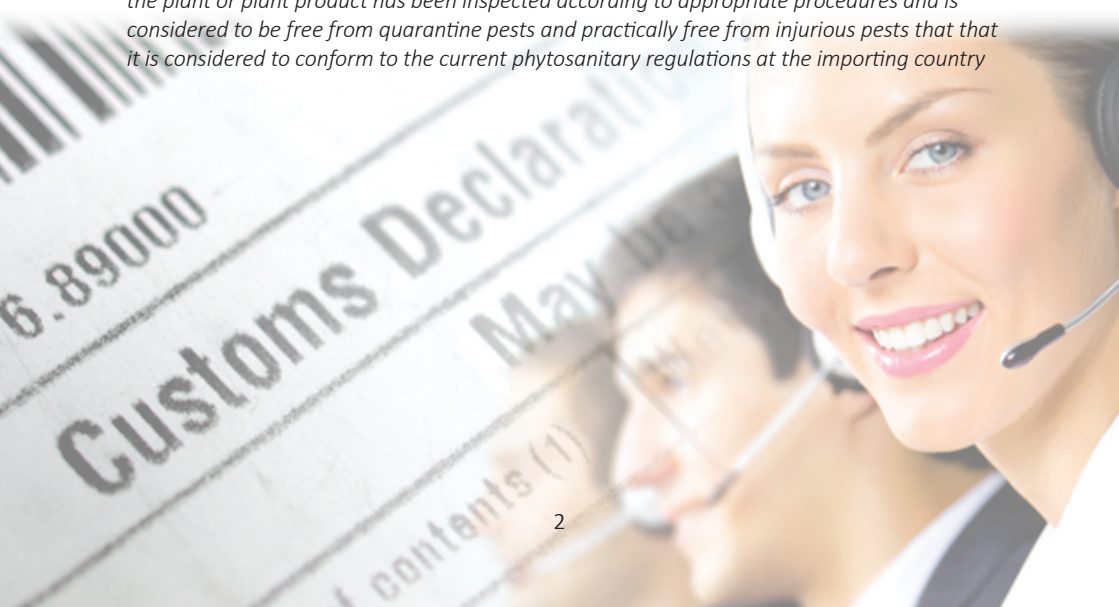
lists plants/plant materials import of which are restricted and permissible only by authorized institutions also specifying various additional declarations; and Schedule-VI lists plant species for which the Plant Protection Authority of India prescribes additional declarations and special conditions. Besides, a list of plant species and plant material permitted for import under prescribed conditions is given in Schedule-VII.

(<http://plantquarantineindia.nic.in/pqispub/html/consumeProhibited.htm#>).

The nodal agencies for the import of plant materials for research purposes is National Bureau of Plant Genetic Resources (NBPGR) and for import of plant material for commercial purposes is Directorate of Plant Protection, Quarantine & Storage (DPPQS). Importers are required to obtain Import Permit² from one of these agencies, as appropriate. The Import Permit along with additional documents as required is to be sent to the exporter to accompany the consignment. The latter should also be accompanied by an appropriate Phytosanitary Certificate³ issued by the authorized agency of the exporting country.

²Import Permit: An official document authorizing importation of a consignment in accordance with specified phytosanitary requirements. It is issued by National Bureau of Plant Genetic Resources, New Delhi. In case of GMOs, issue of Import Permit also requires previous authorization by RCGM/GEAC

³Phytosanitary Certificate: It is issued in the model format prescribed under the International Plant Protection Convention of the Food & Agricultural Organization and issued by an authorized officer at the country of origin of consignment or re-export. It certifies that the plant or plant product has been inspected according to appropriate procedures and is considered to be free from quarantine pests and practically free from injurious pests that that It is considered to conform to the current phytosanitary regulations at the importing country



Seed Should not be Treated with any Chemical
DZ Form 89

Government of India
Ministry of Agriculture
Department of Agricultural Research & Education
Indian Council of Agricultural Research
National Bureau of Plant Genetic Resources, New Delhi - 110 012

Permit For Import of Germplasm/ Transgenic/ Genetically Modified Organisms For Research Purpose

Import Permit No. _____	Date of Issue _____	Valid up to _____
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In accordance with the provisions of clause 6 (2) of the Plant Quarantine (Regulation of Import into India) Order 2003 issued under Sub-Section (1) of Section 3 of the Destructive Insects & Pests Acts, 1914, I hereby grant permission to import of germplasm/ transgenic/ genetically modified organisms herein specified.

<p>1. Name and address of Importer:</p> 	<p>2. Name and address of Exporter:</p>
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3. Country of Origin: France	4. Point of Entry: New Delhi		
<p>5. Crop (Botanical Name) Arabidopsis (Arabidopsis thaliana)</p>	<p>6. Variety/Germplasm/ Transgenic/ Others: Transgenic seeds: 35S-SMR5</p>	<p>7. Form of Material: Seeds</p>	<p>8. Quantity: 2g seeds</p>

9. The above permission is granted subject to the following conditions:

- (1) The Consignment of germplasm/ transgenic shall be free from soil, weed species and plant debris.
- (2) The Consignment shall be accompanied by a Phytosanitary Certificate with additional declaration for the freedom from _____
- (3) The consignment shall be grown in an approved post-entry quarantine facility established by the importer at Berch Bio Private Limited, C/o Jai Research Foundation, Near Daman Ganga Bridge, Valsad (Gujarat) under the supervision of Dr. Manas Chatterjee.
- (4) The permit is not transferable and valid for one-time import. The permit number shall be quoted on the phytosanitary certificate issued at the country of origin or re-export as the case may be.

Materials to be sent only to
Director, NBPGR, New Delhi
for Quarantine Clearance

Place: New Delhi
Date: 04 Sep 2015

(Signature)
Director
National Bureau of Plant Genetic Resources
Pusa Campus, New Delhi-110012

Import permit issued by NBPGR

Government of India
Ministry of Agriculture
(Department of Agriculture & Cooperation)
Directorate of Plant Protection, Quarantine & Storage,

Permit for Import of Plants/Plant products for Consumption/Processing

Permit No. _____	Date of issue _____ Valid up to _____
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In accordance with the provisions of clause 3 (6) of the Plant Quarantine (Regulation of Import into India) Order, 2003 issued under Sub-section (1) of Section 3 of the Destructive Insects & Pests Act, 1914 (2 of 1914), I hereby grant permission to import the following plants/plant products for consumption/processing as detailed below:

1. Name and address of importer	2. Name and address of exporter
3. Country of Origin/Re-export	4. Point of entry
5. Description of plant/plant products (Common/Scientific Name)	6. Quantity (Wt./vol.)
	7. No. of packages
	8. Mode of packing

9. The above permission is granted subject to the following conditions:

- (1) The consignment shall be accompanied by a Phytosanitary Certificate/Phytosanitary Certificate re-export issued by an authorized officer in the country of origin/ re-export i.e. _____ as the case may be, with an additional declaration for the freedom from:
 - (a) _____
 - (b) _____
 - (c) _____
 - (d) _____
 or that above specified pests does not occur in the country or state of origin.
- (2) The permit is not transferable and shall be valid for six months from the date of issue and valid for multiple port access and multiple part shipments provided the exporter, importer and country of origin of the same for the entire consignment. The permit number shall be quoted on the phytosanitary certificate issued at the country of origin/re-export, as the case may be.



Date : _____	(Seal)	Name
Place: _____		Signature
		Designation of Issuing Authority

Import permit issued by DPPQS

Phytosanitary certificate can be issued until an application is completed (7 CFR 353)

22-500/15

FORM APPROVED
OMB NO. 0579-0062

UNITED STATES DEPARTMENT OF AGRICULTURE ANIMAL AND PLANT HEALTH INSPECTION SERVICE PLANT PROTECTION AND QUARANTINE PHYTOSANITARY CERTIFICATE		FOR OFFICIAL USE ONLY PLACE OF ISSUE Logan, Utah NO. F-S-49005-05270037-7-N DATE INSPECTED December 07, 2015	
TO: THE PLANT PROTECTION ORGANIZATION(S) OF India			
CERTIFICATION			
This is to certify that the plants, plant product or other regulated articles described herein have been inspected and/or tested according to appropriate official procedures and are considered to be free from the quarantine pests, specified by the importing contracting party and to conform with the current phytosanitary requirements of the importing contracting party including those for regulated non-quarantine pests.			
DISINFESTATION AND/OR DISINFECTION TREATMENT			
1. DATE		2. TREATMENT	
3. CHEMICAL (active ingredient)		4. DURATION AND TEMPERATURE	
5. CONCENTRATION		6. ADDITIONAL INFORMATION	
DESCRIPTION OF THE CONSIGNMENT			
7. NAME AND ADDRESS OF THE EXPORTER		8. DECLARED NAME AND ADDRESS OF THE CONSIGNEE	
9. NAME OF PRODUCE AND QUANTITY DECLARED		10. BOTANICAL NAME OF PLANTS	
11. NUMBER AND DESCRIPTION OF PACKAGES		12. DISTINGUISHING MARKS	
13. PLACE OF ORIGIN		14. DECLARED MEANS OF CONVEYANCE	
		15. DECLARED POINT OF ENTRY	
WARNING: Any alteration, forgery, or unauthorized use of this phytosanitary certificate is subject to civil penalties of up to \$250,000 (7 U.S.C. Section 7734(b)) or punishable by a fine of not more than \$10,000, or imprisonment of not more than 5 years, or both (18 U.S.C. Section 1001).			
ADDITIONAL DECLARATION			
Import Permit Number 443/2015 was presented.			
<div style="display: flex; justify-content: space-between;"> <div> 16. DATE ISSUED December 07, 2015 </div> <div> 17. NAME OF AUTHORIZED OFFICER (Type or Print) Mark Ashcroft </div> <div> 18. SIGNATURE OF AUTHORIZED OFFICER  </div> </div>			
No liability shall attach to the United States Department of Agriculture or to any officer or representative of the Department with respect to this certificate.			

PPQ Form 577

FEB 2001

Previous editions are obsolete after 6/30/01

SHIPPER'S ORIGINAL

Phytosanitary certificate issued by exporting country

Transboundary movement of GMOs

Under the Environment Protection Act (1986), the Plant Quarantine (Regulation of Import into India) Order, 2003, and the Foreign Trade (Development & Regulation) Act, 1992 No. 22 of 1992, development, production, import and export of genetically modified organisms (GMOs) require prior approval.

The import of GMOs for research is authorized by the Review Committee on Genetic Manipulation (RCGM) which also specifies conditions under which these are to be shipped, handled and used. Large scale imports of GMOs for industrial use are authorized by the Genetic Engineering Appraisal Committee (GEAC).

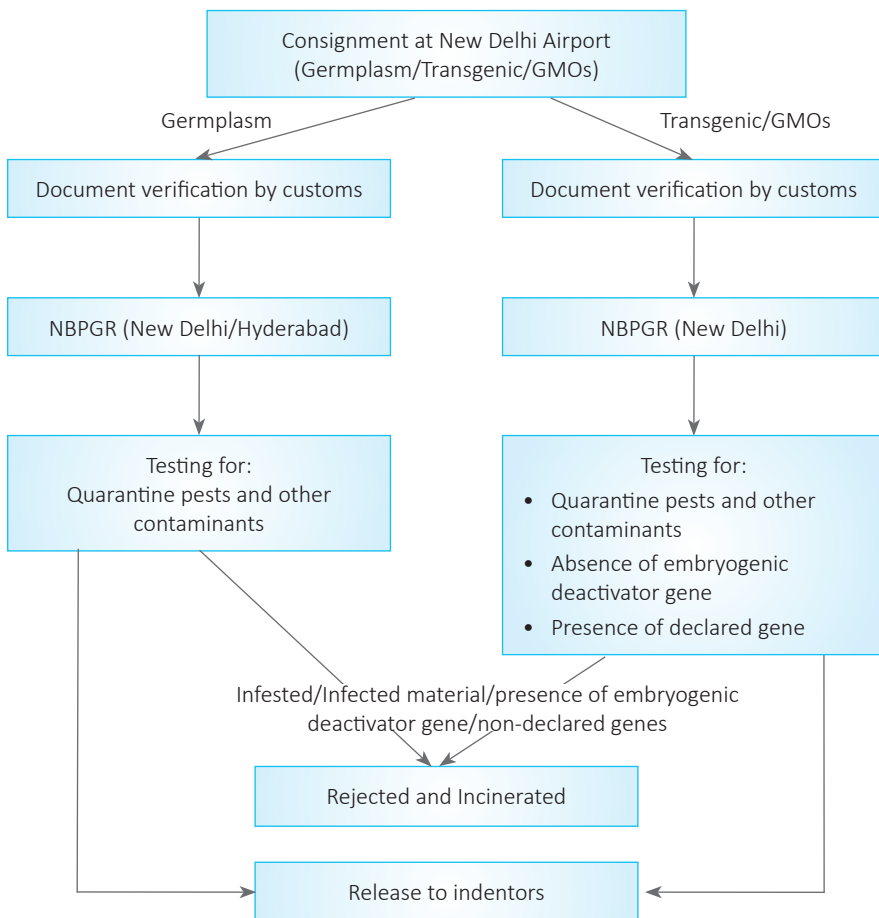
Export of GM plants and planting material besides requiring authorization of GEAC also attract the provisions of Biological Diversity Act, 2002, the latter related to access and use of biological resources. The country is also a party to the Cartagena Protocol on Biosafety to the UN Convention on Biological Diversity which aims to ensure the safe handling, transport and use of GMOs.

Role of Customs in transboundary movement of plant material for research/commercial planting or propagation

A. Import of Germplasm/Transgenics/GMOs for research

NBPGR is the nodal agency for issuing import permit to public and private sector agencies for import of plant materials for research purposes, including GM plant material. The Director, NBPGR has been authorized to issue import permit and receive imported material from custom authorities for its quarantine processing.

The steps for release of consignment are as follows:



Process for release of plant material for research purpose

Step-1: The Port of Entry

The port of entry for consignments for research purpose is Indira Gandhi International Airport, New Delhi only. The package should comprise of an inner container carrying name and description of the material and should be hermetically sealed. The outer container carries the consignee's name and address and documents required to be inspected placed inside

secured package. At the port of entry, the customs shall check the documents but the consignment shall not be opened.

Step-2: Document verification at the Port of Entry

The documents to be verified comprise Import Permit, Phytosanitary certificate, invoice, bill of landing, airway bill, etc. These, as mentioned above, are placed in a pouch securely attached to the consignment. While exporter's details are given on outside of package, consignee's name and address are not given.

All GMO consignments should carry a declaration on the outside that the product is genetically modified. In case a consignment is not declared as GMO and is detected otherwise, the importer is likely to be penalized under the Foreign Trade (Development & Regulation) Act 1992. Apart from the documents required for the non-GM consignment, an additional Import clearance from RCGM of DBT is also required for import of GM consignment.

In case it is found that the material in the package does not conform to that approved for import as detailed in the import permit, the officials must inform the Chairperson, GEAC.

In case, the packing of the consignment is damaged and the contents have spilled, the Customs officials must immediately inform the Chairperson, Genetic Engineering Appraisal Committee (GEAC), Ministry of Environment, Forest and Climate Change for initiating an emergency measures as appropriate.⁴

Step-3: Testing of the consignments

After document verification the custom officials call NBPGR, New Delhi for taking custody of the consignment.

Quarantine inspection and processing involves examination for the presence of unwanted pests, plant debris, soil clods and other

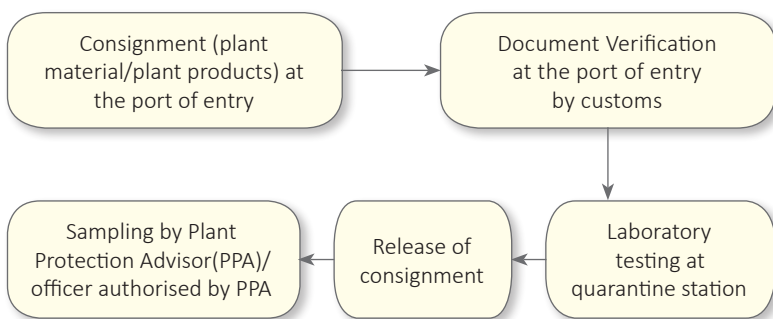
⁴Contact details Chairperson GEAC:

Ministry of Environment, Forests and Climate Change, Paryavaran Bhavan,
CGO Complex, Lodhi Road, New Delhi, India, 110003
Phone: +91 11 2436 1308, Email: chairperson_geac@nic.in

contaminants through specialized techniques. The quarantine inspection for germplasm samples is done either at NBPGR, New Delhi or NBPGR, Hyderabad but for the GM consignment is done only at NBPGR, New Delhi. Apart from the quarantine testing for germplasm samples the transgenic/GMO samples are also tested for absence of embryogenesis deactivator (terminator) gene and presence of declared gene in the material as recorded in the Import Permit. NBPGR also verifies the Phytosanitary Certificate and the consignment is released to the importer under prescribed conditions of handling.

B. Import of plants and plant products

DPPQS is the nodal agency for import of plant materials for commercial purposes. Below are the steps representing the procedure for customs clearance and release of consignments of plant materials for commercial purposes. It must be mentioned that so far no GMO has been imported on a commercial scale and, hence, the following procedure may not be applicable to the commercial import of GMOs.



Process for release of plant material for commercial purpose

Step-1: The Port of Entry

There are 40 seaports, 16 airports and 14 land frontier stations that have been designated as the Points of Entry for Import of plants/plant materials in Schedule-I of PQ order.

Seaports			Airports			Land Frontier Stations		
1.	Alleppey (Kerala)		1.	Amritsar (Punjab)		1.	Agartala (Tripura)	
2.	Bhavnagar (Gujarat)		2.	Bangalore (Karnataka)		2.	Amritsar Rly. Stn. (Punjab)	
3.	Kolkata (West Bengal)		3.	Kolkata (West Bengal)		3.	Attari Rly. Stn. (Punjab)	
4.	Calicut (Kerala)		4.	Chennai (Tamil Nadu)		4.	Attari Wagha Border	
5.	Chennai (Tamil Nadu)		5.	Hyderabad (Andhra Pradesh)		5.	Check post (Punjab)	
6.	Cochin (Kerala)		6.	Mumbai (Maharashtra)		6.	Bongaon (West Bengal)	
7.	Cuddalore (Tamil Nadu)		7.	New Delhi (Delhi)		7.	Gede Road Rly. Stn. (West Bengal)	
8.	Goa (Goa)		8.	Patna (Bihar)		8.	Jogbani (Bihar)	
9.	Gopalpur (Orissa)		9.	Tiruchirapalli (Tamil Nadu)		9.	Moreshe (Manipur)	
10.	Haldia (West Bengal)*		10.	Trivandrum (Kerala)		10.	Panitanki (West Bengal)	
11.	Jammagar (Gujarat)		11.	Varanasi (Uttar Pradesh)		11.	Raxaul (Bihar)	
12.	Beyppore (Kerala)		12.	Guwahati (Assam)		12.	Rupadihi (Uttar Pradesh)	
13.	Kakinada (Andhra Pradesh)		13.	Calicut (Kerala)		13.	Sonauli (Uttar Pradesh)	
14.	Kandla (Gujarat)		14.	Coimbatore (Tamil Nadu)		14.	Banbasa (Uttaranchal)	
15.	Karwar (Karnataka)		15.	Bagdogra (West Bengal)			Zokhwarthar (Mizoram)	
16.	Krishnapatnam (Andhra Pradesh)		16.	Cochin (Kerala)				
17.	Machilipatnam (Andhra Pradesh)							
18.	Mandvi (Gujarat)							
19.	Mangalore (Karnataka)							
20.	Mumbai (Maharashtra)							
21.	Mundra (Gujarat)							
22.	Nagapatnam (Tamil Nadu)							
23.	Nova Shiva (Maharashtra)							
24.	Navlakhi (Gujarat)							
25.	Okha (Gujarat)							
26.	Paradeep (Orissa)*							
27.	Pondicherry							
28.	Porbander (Gujarat)							
29.	Rameshwaram ((Tamil Nadu)							
30.	Tiruvananthapuram (Kerala)							
31.	Tuticorin (Tamil Nadu)							
32.	Veraval (Gujarat)							
33.	Visakhapatnam (Andhra Pradesh)							
34.	Vizhinjam (Kerala)							
35.	Kollam (Quilon) (Kerala)							
36.	Karaiikal (Puducherry)							
37.	Pipavav (Gujarat)							
38.	Hazira (Gujarat)							
39.	Jaigarh (Maharashtra)							
40.	Kattupalli (Tamil Nadu)							

Step-2: Document verification at the Port of Entry

At the port of entry the documents are verified by the custom officials. The import permit issued by DPPQS is checked along with the phytosanitary certificate.

Step-3: Quarantine testing

After document verification the custom officials call Plant Protection Officer of the respective quarantine station for taking custody of the consignment. The Plant Protection Adviser or the officer authorized by him may, after inspection and laboratory testing, fumigation, irradiation, disinfection or disinfestation, as may be considered necessary by him, accord quarantine clearance for the entry of a consignment or grant provisional clearance for growing under post-entry quarantine, as the case may be and or order deportation or destruction of the consignment in the event of non-compliance with the restrictions and conditions specified in this Order.

C. Export of plants and planting material

The consignment for export is accompanied by a copy of work plan/MoU between consigner and consignee, list of material along with Phytosanitary Certificate, importing country's Import Permit, and details of the material and signed copy of the Material Transfer Agreement.

Prior to release for shipping, the custom officials are required to verify the above documents accompanying the consignment.

भारत सरकार / GOVERNMENT OF INDIA कृषि एवं सहकारिता विभाग / Ministry of Agriculture (Department of Agriculture & Cooperation) वनस्पति संरक्षण, क्वारंटाइन एवं भंडार निदेशक Directorate of Plant Protection, Quarantine & Storage Website: www.plantquarantineindia.org पादप स्वच्छता प्रमाण पत्र / Phytosanitary Certificate		संलग्न संकेतिक प्रमाण पत्र का क्रमांक PSC No: 52PC 124514 श्रीलंका प्रमाण पत्र सं. / E-Reg.No: 124514 दिनांक / Date: 28/11/15
1. प्रेषक FROM: भारत का क्वारंटाइन संरक्षण संगठन PLANT PROTECTION ORGANISATION OF INDIA	2. प्राप्त करने वाले को / TO: श्रीलंका Plant Protection Organisation of	3. क्वारंटाइन संरक्षण संगठन का नाम GOVT OF INDIA MINISTRY
परिणत का विवरण / DESCRIPTION OF CONSIGNMENT		
4. निर्यातकर्ता का नाम और पता / Name & address of Exporter Dr. P. K. Singh, Director of Plant Quarantine, Directorate of Plant Protection, Quarantine & Storage, Ministry of Agriculture, Government of India, New Delhi-110002	5. निर्यातकर्ता का घोषित नाम और पता / Declared Name & Address of Consignor Dr. P. K. Singh, Director of Plant Quarantine, Directorate of Plant Protection, Quarantine & Storage, Ministry of Agriculture, Government of India, New Delhi-110002	
6. निर्यात का उद्देश्य / Declared Means of Conveyance By Air	7. निर्यात स्थान / Place of Origin India	8. निर्यात करने वाला देश / Declared Point of Export India
9. पहचान का चिह्न / Distinguishing Marks P. K. Singh	10. निर्यात की संख्या तथा विवरण / Number & Description of Package 11 Sample (2300g)	
11. उत्पाद का नाम / पौधों का वनस्पतिक नाम / Name of Product / Botanical name of Plants Mango	12. घोषित मात्रा / Quantity declared 2300g	
प्रमाणित किया जाता है कि ऊपर वर्णित पौधे पौधों के उत्पादों का निर्यात किया जा रहा है और उन्हें संलग्न की गई शर्तों के अनुसार निर्यात किया जा रहा है। (This is to certify that the plants or plant products described above have been inspected according to appropriate procedures and are considered to be free from quarantine pests and practically free from other injurious pests and they are considered to conform with the current phytosanitary regulations of the importing country.)		
विशुद्धीकरण और / या संचालन रोग का उपचार / DISINFESTATION AND/OR DISINFECTION TREATMENT		
13. दिनांक / Date 28/11/15	14. उपचार (सक्रिय घटक) / Chemical (active ingredients) None	
15. निर्यात का समय / Duration and Temperature None	16. सांद्रता / Concentration None	
17. अतिरिक्त सूचनाएं / Additional Information 1. For 10/11/15, 1. For 10/11/15, 1. For 10/11/15		
18. दिनांक / Date 28/11/15	19. निर्यात स्थान / Place of Issue New Delhi	
20. कोड नं. / Code No. None	21. प्रमाणित अधिकारी का नाम / Name of Authorised Officer Dr. P. K. Singh	

Phytosanitary certificate for export

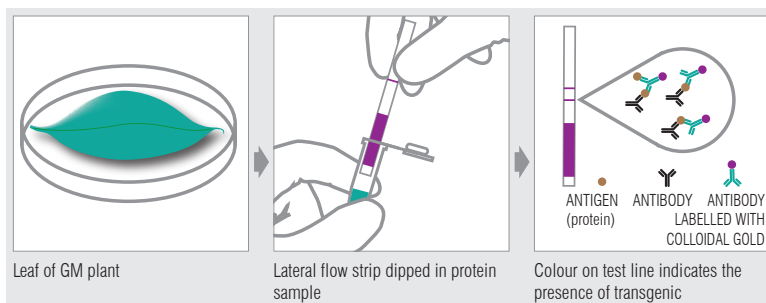
Strengthening customs to ensure enforcement of GMO import regulations

The customs officials can play a crucial role in ensuring legitimate import of GMOs in the country. Besides GMOs authorised for import, there may be occasions when unauthorized GMOs are being imported. Also, non-GMO consignments may contain mixtures of GMO material. For example, GM soybean seed may have been intentionally or unintentionally mixed in a consignment of non-GM soybean. Threshold for such contamination has been notified by many countries but not in India so far.

Customs officials need to be appropriately equipped to play a wider role of:

1. Verifying the validity of accompanying documents and compliance with conditions therein through online access of the relevant decisions, including import permit, phytosanitary certificate, bilateral or multilateral agreements and Biosafety Clearing House information status.
2. Detecting illegal GMO imports involving **Random Sampling** and **Rapid detection of GMOs**

Lateral flow strip method using a dip-stick gives reliable evidence of the presence of GMO in 2-5 minutes.



Lateral flow strip method for rapid GMO detection

Sophisticated tests for precise detection and quantification of GMOs are carried out at the following laboratories:

- National Bureau of Plant Genetic Resources (NBPGR), New Delhi.
- Punjab Biotechnology Incubator (PBTI), Mohali, Punjab.
- DNA Fingerprinting and Transgenic Crops Monitoring Lab, Hyderabad, Telangana.
- Export Inspection Council of India, Kochi, Kerala.

3. Accessing online information on status of GMO approval

The work of custom officials can be vastly facilitated by developing an online system of document verification and knowledge and information modules on GMOs specifically related to their duties.

Some sources of information on GMOs approved for various purposes:

National:

- IGMORIS - <http://igmoris.nic.in/>
- MoEF&CC - <http://www.moef.nic.in/>
- GEAC - <http://www.moef.nic.in/division/genetic-engineering-approval-committee-geac>

Global:

- Biosafety Clearing-House (BCH) - <https://bch.cbd.int/>
- International Service for the Acquisition of Agri-biotech Applications (ISAAA) - <http://www.isaaa.org/>
- The Food and Agriculture Organization (FAO) - <http://www.fao.org/home/en/>
- Center for Environmental Risk Assessment (CERA) - <http://www.cera-gmc.org/>

Key Contacts:

NATIONAL PROJECT DIRECTOR

Shri Hem Kumar Pande

Special Secretary

Ministry of Environment, Forest and Climate Change

Indira Paryavaran Bhawan

Aliganj, Jor Bagh Road

New Delhi - 110003

India

NATIONAL PROJECT COORDINATOR

Dr. Ranjini Warriar

Advisor

Ministry of Environment, Forest and Climate Change

Indira Paryavaran Bhawan

Aliganj, Jor Bagh Road

New Delhi - 110003

India



Ministry of Environment, Forest and Climate Change
Indira Paryavaran Bhawan, Aliganj, Jor Bagh Road, New Delhi - 110003



CABI South Asia

2nd Floor, CG Block, NASC Complex, DP Shastri Marg, Pusa, New Delhi - 110012
Tel: +91 (0) 11 2584 1906; Email: india@cabi.org