PROCEDURE FOR CONTROL OF CONTAMINATION OF SALMONELLA, RESIDUES OF PESTICIDES INCLUDING ETHYLENE OXIDE (EO) IN SESAME SEEDS FOR EXPORT TO EU COUNTRIES

Preamble

Sesame is cultivated in over 60 countries of the world. Asian and African countries are the major producers of sesame. With an annual production of 0.6-0.8 million tonnes, India is the largest producer of sesame seeds on a global basis. By contributing nearly 25% to the international trade, India has also attained the status of the largest exporter of sesame seeds in the world.

Sesame is grown in several states of India. It is cultivated in both *kharif* and *rabi* seasons and accordingly the time of harvest and type/quality of seed varies with the states. All types i.e. off-white, black, yellow, brown-black are grown in India.

While China is the largest importer of sesame seeds in the world, the Korean Republic, Vietnam, Taiwan, the USA, Greece, Germany, Malaysia, Russia, the Netherlands and Iran are the top ten export destinations for the Indian sesame seeds.

After considering the reports of contamination with salmonella in the consignments of sesame seeds having origin in India, the Department of Commerce, Government of India vide its public notice no. 38/2015-2020 dated 1st October 2015, authorized the IOPEPC to develop and implement anoperating procedure for control of salmonella in the consignments of sesame seeds intended for export to the EU countries and also issue the CERTIFICATE OF EXPORT. Accordingly, the IOPEPC developed 'PROCEDURE FOR CONTROL OF CONTAMINATION OF SALMONELLA IN SESAME SEEDS FOR EXPORT TO EU COUNTRIES' which came into effect from 10 March 2016

In compliance with the COMMISSION IMPLEMENTING REGULATION (EU) 2017/186 dated 2 February 2017, the IOPEPC began to issue the 'HEALTH CERTIFICATE' as well.

According to regulation EU 2019/1793 dated 22 October, 2019, the IOPEPC introduced a revised sampling procedure and IOPEPC also approved 'VIDAS-SPT' method for analysis of salmonella vide its notification dated 10 January 2020.

Since September 2020, RASSF notifications have been notified by different EU member states for Ethylene oxide (EO) residue exceeding the prescribed MRL (Maximum Residue Level) of 0.05 mg/kg set by EU in Sesame seeds originating from India.

As a safeguard measure in response to the above situation, the EU has amended its Implementing Regulation (EU) 2019/1793 with regard to sesame seeds originating in India, and has brought into effect another implementing regulation (EU) 2020/1540 of 22 October 2020. Accordingly, in Annex II, in point 1, the entry for sesame seeds originating in India now stands replaced by the following entry:

	Food and feed (intended use)	CN code (1)	TARIC sub-division	Country of origin	Hazard	Frequency of identity and physical checks (%)
-	'Sesamum seeds (Food)	1207 40 90		India (IN)	Salmonella (*) Pesticides residues (**) (***)	20 50

^(*) The sampling and the analyses shall be performed in accordance with the sampling procedures and the analytical reference methods set out in point 1(a) of Annex III to this Regulation.

(***) Residues of ethylene oxide (sum of ethylene oxide and 2-chloro-ethanol, expressed as ethylene oxide).'

ROLE OF IOPEPC

IOPEPC has been assigned the role of Development and Promotion of Export of Sesame seeds by Department of Commerce, Government of India vide its Public notice no 38/2015-20 dated 1st

^(**) Residues of at least those pesticides listed in the control programme adopted in accordance with Article 29(2) of Regulation (EC) No 396/2005 of the European Parliament and of the Council of 23 February 2005 on maximum residue levels of pesticides in or on food and feed of plant and animal origin and amending Council Directive 91/414/EEC (OJ L 70, 16.3.2005, p. 1.) that can be analysed with multi-residue methods based on GC-MS and LC-MS (pesticides to be monitored in/on products of plant origin only).

October 2015. All the sesame seed processing establishments including the merchant exporters engaged in the export of sesame seeds to the EU countries will be required to register themselves with the IOPEPC (competent authority) and follow the procedure prescribed by IOPEPC to ensure that the consignments intended for export to EU countries are free from Salmonella and confirms EU requirements residues of pesticides including EO besides facilitating downstream traceability to the level of initial processing and or packaging establishments.

1. Objective

1.1 To frame and implement controls to ensure that Sesame seed exports to EU are free from Salmonella contamination and residues of pesticides including EO are below the prescribed MRLs by EU.

2. Scope

- 2.1 All the establishments in India where sesame seeds are intended to be processed packaged and then warehoused for export to the EU countries and also the merchant exporters engaged in export of sesame seeds to EU countries. All such establishments including the merchant exporters will be referred to as Food Business Operators (FBO) hereinafter in this document.
- 2.2 The term 'sesame seed' for the purpose of this procedure refers to natural sesame seed, dehulled sesame seed (commonly termed hulled sesame seed), roasted sesame seeds, w/n broken sesame seeds and any other value-added sesame seeds intended for export to EU countries.
- 2.3 The procedure will apply to sesame seeds with the following HS codes:

ITC (HS) Code	Description of goods
12074010	Sesame seeds whether or not broken of seed quality
12074090	Other sesame seeds whether or not broken
20081920	Roasted Sesame seeds
20081990	Other Sesame seed, including mixtures

2.4 To create a web-based monitoring system by establishing a 'Sesame.Net' portal to reduce the paper work and also to provide a 'single window clearance' besides facilitating tracking and downstream traceability

3. Obligations of FBOs

- 3.1 To take all the measures to ensure the absence of Salmonella, along with ensuring the residues pesticides including EO are below the prescribed MRLs set by EU in the sesame seeds intended for export originating from India.
- 3.2 To obtain a Certificate of Export (COE) prior to shipment in respect of each consignment from the IOPEPC- the competent authority.
- 3.3 To affix such label/marking on each packet, bag, box etc. which among others will display adequate information, code no. etc. required for easy identification of the FBO concerned and also enables downstream traceability.
- 3.4 To bring to the notice of IOPEPC any complaint received regarding non-compliance with EU Commission's Regulation along with the corrective measures taken, if any.

4. Criteria for recognition and registration of FBOs

- 4.1 The FBO should have a valid FSSAI License.
- 4.2. FBOs comply with the general and specific hygiene requirements as per EC regulation no. 852/2004 (Annexure A). The FBO should have developed and documented the processing protocols in conformity with GMP and should have created required infrastructure and engaged skilled manpower for implementation of the said protocol. The steps of this protocol must be displayed at appropriate places within the processing unit.
- 4.3 On receiving the application and after satisfying itself about the compliance with various requirements, the IOPEPC will issue a certificate of registration and recognition to the FBO. Application to be submitted by the FBO to IOPEPC for registration is given at the end of this document.
- 4.4 The certificate of registration and recognition will be valid for a period of two years.

5. Recognition and Empanelment of laboratories with IOPEPC.

5.1 The IOPEPC will recognize certain laboratories after ascertaining the availability of adequate infra-structure and qualified personnel for conducting analysis of sesame seed

- 5.2 samples for microbiological and pesticide residue including EO residue. The list of approved labs will be displayed on the website of IOPEPC and will be subject to reviewfrom time to time for additions and deletions.
 - 5.3 The laboratory must be ISO/IEC 17025 NABL accredited for microbiological and pesticides analysis.
 - 5.4 All the registered FBOs will facilitate sampling of their consignments by the representatives of any of the recognized laboratories.
 - 5.5 The format for submitting request for sampling will be as per Annexure B
 - 5.6 Once sampled and sealed, the unit will not shift the consignment to another location or approved premises. In case of exigency, this may be done only under the supervision of the representative of laboratory concerned. The format for submitting request for shifting the sampled consignment is given in Annexure E.
 - 5.7 The consignment which fails the test will be required to be treated appropriately within a reasonable time in consultation with IOPEPC and the FBO concerned will maintain all the related records.

For giving an impetus to the ongoing export of sesame seeds to EU countries, this notification is intended to address the immediate needs of the exporters and the laboratories concerned. A fully revised version will follow in due course.

The general guidelines as articulated in CAC/GL50-2004 on sampling must be followed. The samples for detection of salmonella and pesticide residues (including EO) are to be drawn separately.

6. Sampling and analytical procedures for analyzing possible Salmonella contamination, pesticides and ETO residues in Sesame seeds

6.1 Salmonella

6.1.1 Sampling

As per the new sampling procedure given in regulation EU 2019/1793 dated 22 October, 2019 of page no 121 Annex III (1 a), five samples of 100 g each will be drawn in a random manner from a consignment of less than 20 tonnes and a maximum of 10 samples from a consignment of 20 tonnes or more.

Each of the five samples will be assigned a unique 'Sample ID'. Thus five laboratory samples will be formed. From each of the laboratory sample, a subsample 25 g, will be processed for detection of salmonella.

In case a consignment comprises material from more than one processing lot, the material from different lots will be treated as different consignments and sampled accordingly.

6.1.2 Analytical procedures

Reference method EN/ISO 6579 (updated in 2017 as ISO 6579-1) or VIDAS-SPT (AOAC 2013.01) will be followed.

6.2 Residues of pesticides and EO

6.2.1 Sampling

As per EC no. 2002/63 dated 11 July 2002 for residues of pesticides and EO. Accordingly, a 1000 g sample is to be drawn as detailed below:

	<u> </u>				
Total no. of bags in		No. of bags to be	Weight of	Weight of	
the consignment/lot		selected/no. of	incremental sample	aggregate	
	-	incremental sample		sample	
	1-25	1	1000 g		
	26-100	5	200 g	1000 g	
	> 100	10	100 g		

The aggregate sample is to be divided into two halves of 500 g each, a laboratory sample and a reference sample.

In case a consignment comprises material from more than one processing lot, the material from different lots will be treated as different consignments and sampled accordingly.

6.2.3 Analysis of pesticides residues by multi-residue method based on GC-MS and LC-MS

6.2.4 Extraction and analysis of EO (sum of ethylene oxide and 2-chloroetahnol, expressed as ethylene oxide)

Please refer to Annexure J

6.3 Protocols for sampling & analysis shall be subject to review and refinement in consultation with the member laboratories.

7. Issue of Certificate of Export (COE)

- 7.1. The FBO will be required to apply within 3 days of receipt of laboratory test report to IOPEPC for issue of COE in respect of each consignment (Annexure F).
- 7.2 IOPEPC will issue the COE (Annexure G) by taking into consideration the test report certifying absence of Salmonella and pesticides including EO well within prescribed MRLs set by EU and the status of fulfilling other requirements, if any.
- 7.3 The validity of COE will be 45 days from the date of issue of the laboratory test report.
- 7.4 The COE will bear adequate information and code No. etc. for relating the certificate to the respective consignment.
- 7.5 The FBOs will be required to pay a fee of Rs. 50 per tonne towards issue of COE to IOPEPC.

8. Stuffing

- 8.1 The stuffing of the containers will be done under supervision of representative of the same laboratory which had drawn the samples and found the consignment free from Salmonella and residues of pesticides and ethylene oxide.
- 8.2 The FBO will then request the laboratory for supervision of stuffing (Annexures H) and subsequent issue of stuffing certificate (Annexure I). This stuffing certificate will provide adequate information about the consignment and the container etc. in which the consignment was stuffed.

9. Rejection of consignments at the destination EU ports

- 9.1 In case of rejection of any consignment due to Salmonella contamination and pesticides residue including EO residue more than the prescribed MRL set by EU and/or on any other account by the importing EU country, the FBO concerned will be required to furnish a detailed explanation to IOPEPC clarifying that whether or not there was a lapse on the part of the FBO.
- 9.2 The IOPEPC will issue a NOC in respect of the rejected consignment to enable the exporter concerned reimport the consignment.
- 9.2 A committee constituted by IOPEPC will examine the explanation submitted by the unit and issue advice to the FBO concerned on the measures required to be undertaken by the FBO to prevent recurrence of such complaints.
- 9.3 The consignment once rejected shall be stored separately in the designated area and will be diverted for appropriate treatment within a reasonable time and FBO will maintain the related records.

10. Role and responsibilities of IOPEPC

- 10.1 The IOPEPC will be responsible for developing an online system for regulating and monitoring the entire process of export of sesame seeds from India to EU countries.
- 10.2 The IOPEPC will be the competent authority for issue of COE for the consignments of sesame seeds destined to EU countries.
- 10.2 The IOPEPC will be empowered to issue amendments to the procedures, required if any.
- 10.3 The IOPEPC will constitute standing committees for dealing with rapid alerts and any technical issue requiring its consideration.
- 10.4 On the basis of the recommendation(s) of the committee(s), the IOPEPC will issue advices and directives to the FBO concerned for upgrading its infrastructure and/or amend its protocols to meet the requirements of EU countries.

11. Procedure for dealing with RASFFs and complaints

11.1 The IOPEPC shall communicate the RASFFs to the FBO concerned within 5 working days from the date of receipt.

- 11.2 FBO will be required to conduct a root-cause-analysis for Salmonella, pesticides including ethylene oxide contamination within another 21 days and subsequently, within the period specified by the IOPEPC, furnish an action taken report about the measures undertaken by the FBO to avoid recurrence of such alerts.
- 11.3 The IOPEPC will maintain an FBO wise RASFF database.

LIST OF ANNEXURES

ANNEXURE A	GENERAL AND SPECIFIC HYGIENE REQUIREMENTS
ANNEXURE B	REQUEST FOR SAMPLING OF CONSIGNMENTS
ANNEXURE C	TEST REPORT
ANNEXURE D	APPLICATION FOR SUPERVISION OF SHIFTING/RELOCATION OF CONSIGNMENT
ANNEXURE E	REQUEST FOR ISSUE OF CERTIFICATE OF EXPORT
ANNEXURE F	CERTIFICATE OF EXPORT
ANNEXURE G	APPLICATION FOR ISSUE OF STUFFING CERTIFICATE
ANNEXURE H	STUFFING CERTIFICATE
ANNEXURE I	APPLICATION FOR REGISTRATION WITH IOPEPC FOR EXPORT OF SESAME SEEDS TO EU COUNTRIES
ANNEXURE J	EXTRACTION AND ANALYSIS OF EO (SUM OF ETHYLENE OXIDE AND 2-CHLOROETAHNOL, EXPRESSED AS ETHYLENE OXIDE)

ANNEXURE- A

GENERAL AND SPECIFIC HYGIENE GUIDELINES (As per EC Regulation No. 852/2004)

All the establishments where sesame seeds for export to the EU and exporters carrying out primary processing and associated operations like transport, storage and handling of sesame seeds shall comply with the general hygiene provisions laid down as below:

Hygiene Provisions

- 1.As far as possible, food business operators (FBO) are to ensure that sesame seeds are protected against contamination, having regard to any processing that sesame seeds will subsequently undergo.
- 2. Notwithstanding the general duty laid down in paragraph 2, FBOs are to comply with appropriate community and national legislative provisions relating to the control of hazards in primary processing and associated operations, including:
 - (a) measures to control contamination arising from the air, soil, water, feed, fertilizers, veterinary medicinal products, plant protection products and biocides and the storage, handling and disposal of waste; and
 - (b) Measures relating to plant health that has implications for human health, including programmes for the monitoring and control of zoonoses and zoonotic agents.
- 3.FBOs to take adequate measures, as appropriate:
 - (a) to keep clean and, where necessary after cleaning, to disinfect, in an appropriate manner, facilities, equipment, containers, crates, vehicles and vessels;
 - (b) to ensure, where necessary, hygienic production, transport and storage conditions for, and the cleanliness of plant products;
 - (c) to use potable water, or clean water, whenever necessary to prevent contamination;
 - (d) to ensure that staff handling foodstuffs are in good health and undergo training on health risks;
 - (e) as far as possible to prevent animals and pests from causing contamination;
 - (f) to store and handle wastes and hazardous substances so as to prevent contamination;
 - (g) to take account of the results of any relevant analyses carried out on samples taken from plants or other samples that have importance to human health; and
 - (h) to use plant protection products and biocides correctly, as required by the relevant legislation.
- 4. FBOs are to take appropriate remedial action when informed of problems identified during official controls.
- 5.FBOs are to keep and retain records relating to measures put in place to control hazards in an appropriate manner and for an appropriate period, commensurate with the nature and size of the food business and FBOs are to make relevant information contained in these records available to the competent authority and receiving food business operators on request.
- 6.FBOs producing or harvesting plant products are, in particular, to keep records on:
 - (a) any use of plant protection products and biocides;

- (b) any occurrence of pests or diseases that may affect the safety of products of plant origin; and
- (c) the results of any relevant analyses carried out on samples taken from plants or other samples that have importance to human health.
- 7. FBOs shall, as appropriate, adopt the following specific hygiene measures:
 - (a) Compliance with microbiological criteria for foodstuffs,
 - (b) Procedures necessary to meet the targets set to achieve the objectives of this Regulation,
 - (c) Compliance with temperature control requirements for foodstuffs,
 - (d) Sampling and analysis

ANNEXURE-B

FORMAT OF SUBMITTING REQUEST FOR SAMPLING OF CONSIGNMENTS OF SESAME SEEDS INTENDED FOR EXPORT TO EU COUNTRIES

PART I: To be filled out by the exporter

Date of application	
Application letter No.	
Name and address of the exporter	
IOPEPC RCMC no.	
IOPEPC recognition no.	
Address of the FBO's establishment where the	
consignment is to be sampled	
Details of consignment to be sampled:	
Identification code (lot no./ batch no. etc).	
Number of packages/bags	
Type of packaging	
Total quantity (MT)	
Grade and variety of the product	

DECLARATION

It is hereby certified that to the best of my knowledge and belief, the information furnished above i true and correct in all respects.
Signature

PART II: TO BE FILLD OUT BY THE REPRESENTATIVE OF LABORATORY

Sample details as per customer letter		Sample slip no. :
1.	Name and address of the exporter	
2.	IOPEPC recognition no. and validity	
3.	FBO applicationno. and date	
4.	Consignment code (lot/batch no)	
5.	Product (sample description)	
6.	Total no. of bags	
7.	Type of packaging	
8.	Total quantity (MT)	
Act	ual sampling details	
9.	Place and address where sampling was done	
10.	Marks on the bags if any	
11.	Date and time of sampling	
12.	Particulars of the consignment sampled	Consignment no. no.)
		Type of packaging
		Total no of bags/boxes

13	. No. of bags selected for sampling	
14	. Hologram/sticker /seal no. affixed on sampled bags (if any)	
15	. Quantity of sample drawn from each bag/box (g)	
16	. Weight of laboratory sample (g)	
17	. To be tested for	
18	. Sampling procedure adopted	
19	. Seal no. on laboratory sample	
Nan Sam	e and time of receipt of samples:	
Lab	el for sample container	
	Name of laboratory	
	Sample slip no.	
	Sample description	

Weight of each bag/box

A completed copy of this form is to be returned to the FBO while the other copy is to be retained by the Laboratory for future reference, if needed.

Consignment (lot/batch no.)

Test(s) requested

Date of sampling

Address where sampling was done

Name and signature of sampler

Name and signature of customer

ANNEXURE-C Certificate of Analysis

Test Certificate no.:	Dated
Test Certificate no.:	Date

i) General Details:

Exporter's name and address:

Request reference no. and date:

Date of receiving the sample(s):

Dates of start and completion of analysis:

Sample description:

ii) Sampling details (as per sample slip):

Sampled by (name of the sampler and sampling agency):

Sample Slip no.:

Address of place of sampling

Marking on the bags (if any)

Date and time of sampling

Consignment Details

Consignment Code (lot /batch no.)

Total no. of bags

Type of packaging

Total quantity (MT)

No. of bags sampled

Hologram/sticker/seal no. affixed on the sampled bags

Total quantity of sample drawn (g)

Seal no. on laboratory sample

Sampling procedure adopted:

Other details as provided by the FBO:

iii) Test details:

1. Salmonella

Sample identity (no.)	Results	Method of analysis	Acceptance level
1		ISO 6579:2002	Absent
2		-do-	Absent
3		-do-	Absent
4		-do-	Absent
5		-do-	Absent

2. Residues of pesticides and ETO:

Particulars	Method of Analysis	Result	
Pesticide residues listed in EC	Multi-residue methods based on	=< MRL	
585/2020*	GC-MS and LC-MS		
Ethylene Oxide residues	SRM based on GC-MS	=< MRL	

^{*}List attached

Remarks: Sample **CONFORMS / DOES NOT CONFORM** to the requirement of EC REGULATION 1793/2019

±UM for detected molecules

Disclaimer: The analytical findings reported above reflect the quality of the sample at the time of testing. The lab cannot be made liable for the possible consequences of further development of microbes, which may depend upon storage, handling and weather conditions that may influence the results of the sample drawn at a later date/time.

Signature of the authori	zed person	 	
Name and designation		 	
Date and place			

Sr. No.	Name of Pesticides	MRL' s
1	2- Phenylphenol	0.01*
2	Abamectin	0.01*
3	Acephate	0.02*
4	Acetamiprid	0.01*
5	Acrinathrin	0.02*
6	Aldicarb	0.05*
7	Aldrin and	0.02
,	dieldrin	
8	Ametoctradin	0.01*
9	Azinphos- methyl	0.05*
10	Azoxystrobin	0.01*
11	Bifenthrin	0.02*
12	Biphenyl	0.01*
13	Bitertanol	0.02*
14	Boscalid	1.00
		0.02*
15	Bromopropylat e	
16	Bupirimate	0.05*
17	Buprofezin	0.01*
18	Captan	0.07*
19	Carbaryl	0.05*
20	Carbendazim	0.10*
	and benomyl	
21	Carbofuran	0.02*
22	Chlorantranilipr	0.01*
22	Oblement	0.02*
23	Chlorfenapyr	0.02*
24	Chlorothalonil	
25	Chlorpropham	0.01*
26	Chlorpyrifos	0.01*
27	Chlorpyrifos- methyl	0.01*
28	Clofentezine	0.05*
29	Clothianidin	0.02*
30	Cyazofamid	0.02*
31	Cyflufenamid	0.01*
32	Cyfluthrin	0.02*
33	Cymoxanil	0.01*
34	Cypermethrin	0.20
35	Cyproconazole	0.05*
36	Cyprodinil	0.02*
37	Cyromazine	0.05*
38	Deltamethrin	0.02*
39	Diazinon	0.02*
40	Dichlorvos	0.01*
41	Dicloran	0.01*
42	Dicofol	0.05*
43	Diethofencarb	0.01*
44	Difenoconazole	0.05*
45	Diflubenzuron	0.01*
46	Dimethoate	0.01*
47	Dimethomorph	0.02*
48	Diniconazole	0.02*
49	Diphenylamine	0.05*
50	Dithianon	0.02
51	Dodine	0.01*
52	Emamectin	0.01*
	benzoate B1a, ex pressed as	
	emamectin	
53	Endosulfan	0.10*
54	Epoxiconazole	0.10
55	Ethion	0.03*
56	Ethirimol	0.02
30	Lummio	0.05

57	Etofenprox	0.01*
58	Etoxazole	0.01*
59	Famoxadone	0.01*
60	Fenamidone	0.01*
61	Fenamiphos	0.02*
62	Fenarimol	0.02*
63	Fenazaquin	0.01*
64	Fenbuconazole	0.01*
65	Fenbutatin	0.02*
00	oxide	0.00*
66	Fenhexamid	0.02*
67	Fenitrothion	0.02*
68	Fenoxycarb	0.01*
69	Fenpropathrin	0.01*
70	Fenpropidin	0.01*
71	Fenpropimorph	0.01*
72	Fenpyrazamine	0.01*
73	Fenpyroximate	0.01*
74	Fenthion	0.02*
75	Fenvalerate	0.05*
76	Fipronil	0.01*
77	Flonicamid	0.06*
78	Fluazifop-P	0.00*
79		0.01*
	Flubendiamide	
80	Fludioxonil	0.01*
81	Flufenoxuron	0.05*
82	Fluopicolide	0.01*
83	Fluopyram	0.30
84	Fluquinconazol	0.01*
	е	
85	Flusilazole	0.01*
86	Flutriafol	0.02*
87	Fluxapyroxad	0.90
88	Folpet	0.07*
89	Formetanate	0.01*
90	Fosthiazate	0.05*
91	Haloxyfop	0.01*
31	including	0.01
	haloxyfop-P	
92	Hexaconazole	0.02*
93	Hexythiazox	0.50
94	Imazalil	0.01*
95	Imidacloprid	0.05*
96	Indoxacarb	0.02*
97	Iprodione	0.01*
98	Iprovalicarb	0.02*
99	Isocarbophos	-
100	Isoprothiolane	0.01*
101	Kresoxim-	0.01*
	methyl	
102	Lambda-	0.20
102	cyhalothrin	5.20
103	Linuron	0.01*
103	Lufenuron	0.01*
		0.01
105	Malathian	በ በጋ*
105	Malathion	0.02*
106	Mandipropamid	0.01*
106 107	Mandipropamid Mepanipyrim	0.01* 0.02*
106	Mandipropamid Mepanipyrim Metalaxyl and	0.01*
106 107 108	Mandipropamid Mepanipyrim Metalaxyl and metalaxyl-M	0.01* 0.02* 0.01*
106 107	Mandipropamid Mepanipyrim Metalaxyl and	0.01* 0.02*
106 107 108 109	Mandipropamid Mepanipyrim Metalaxyl and metalaxyl-M Methamidopho s	0.01* 0.02* 0.01* 0.02*
106 107 108 109	Mandipropamid Mepanipyrim Metalaxyl and metalaxyl-M Methamidopho	0.01* 0.02* 0.01* 0.02* 0.05*
106 107 108 109	Mandipropamid Mepanipyrim Metalaxyl and metalaxyl-M Methamidopho s	0.01* 0.02* 0.01* 0.02*
106 107 108 109	Mandipropamid Mepanipyrim Metalaxyl and metalaxyl-M Methamidopho s Methidathion	0.01* 0.02* 0.01* 0.02* 0.05*
106 107 108 109 110 111	Mandipropamid Mepanipyrim Metalaxyl and metalaxyl-M Methamidopho s Methidathion Methiocarb Methomyl	0.01* 0.02* 0.01* 0.02* 0.05* 0.03*
106 107 108 109 110 111 112	Mandipropamid Mepanipyrim Metalaxyl and metalaxyl-M Methamidopho s Methidathion Methiocarb Methoxyfenozi	0.01* 0.02* 0.01* 0.02* 0.05* 0.03* 0.01*
106 107 108 109 110 111 112	Mandipropamid Mepanipyrim Metalaxyl and metalaxyl-M Methamidopho s Methidathion Methiocarb Methomyl	0.01* 0.02* 0.01* 0.02* 0.05* 0.03* 0.01*

115

Monocrotophos 0.02*

		0.05*
116	Myclobutanil	0.05*
117	Omethoate	0.01*
118	Oxadixyl	0.02*
119	Oxamyl	0.01*
120	Oxydemeton-	0.02*
	methyl	
121	Paclobutrazole	0.01*
122	Parathion	0.02*
	methyl	
123	Penconazole	0.01*
124		0.05*
	Pencycuron	
125	Pendimethalin	0.05*
126	Permethrin	0.05*
127	Phosmet	0.05*
128	Pirimicarb	0.02*
129	Pirimiphos-	0.50
129		0.50
	methyl	
130	Prochloraz	0.03*
131		0.02*
	Procymidone	0.02
132	Profenofos	0.02*
133	Propamocarb	0.01*
		0.02*
134	Propargite	
135	Propiconazole	0.01*
136	Propyzamide	0.01*
137	Proquinazid	0.02*
138	Prosulfocarb	0.02*
139	Prothioconazol	0.02*
139		0.02
	е	
140	Pymetrozine	0.02*
141	Pyraclostrobin	0.20
		0.20
142	Pyridaben	0.01*
143	Pyridalyl	0.01*
144	Pyrimethanil	0.02*
		0.02
145	Pyriproxyfen	0.05*
146	Quinoxyfen	0.05*
147		0.02*
	Spinosad	
148	Spinetoram	0.05*
149	Spirodiclofen	0.02*
150	Spiromesifen	0.02*
		$\cap \cap \vdash *$
151	Spiroxamine	0.05*
151		
151 152	Spirotetramat	0.10*
151 152 153	Spirotetramat Tau-Fluvalinate	0.10* 0.02*
151 152	Spirotetramat	0.10* 0.02* 0.02*
151 152 153 154	Spirotetramat Tau-Fluvalinate Tebuconazole	0.10* 0.02* 0.02*
151 152 153 154 155	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide	0.10* 0.02* 0.02* 0.01*
151 152 153 154 155 156	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad	0.10* 0.02* 0.02* 0.01* 0.01*
151 152 153 154 155 156 157	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad Teflubenzuron	0.10* 0.02* 0.02* 0.01* 0.01* 0.02*
151 152 153 154 155 156 157	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad Teflubenzuron	0.10* 0.02* 0.02* 0.01* 0.01* 0.02*
151 152 153 154 155 156 157 158	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad Teflubenzuron Tefluthrin	0.10* 0.02* 0.02* 0.01* 0.01* 0.02* 0.05
151 152 153 154 155 156 157 158 159	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad Teflubenzuron Tefluthrin Terbuthylazine	0.10* 0.02* 0.01* 0.01* 0.02* 0.05 0.10
151 152 153 154 155 156 157 158 159 160	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad Teflubenzuron Tefluthrin	0.10* 0.02* 0.02* 0.01* 0.01* 0.02* 0.05 0.10 0.02*
151 152 153 154 155 156 157 158 159 160	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad Teflubenzuron Tefluthrin Terbuthylazine Tetraconazole	0.10* 0.02* 0.02* 0.01* 0.01* 0.02* 0.05 0.10 0.02*
151 152 153 154 155 156 157 158 159 160 161	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad Teflubenzuron Tefluthrin Terbuthylazine Tetraconazole Tetradifon	0.10* 0.02* 0.02* 0.01* 0.01* 0.02* 0.05 0.10 0.02* 0.02*
151 152 153 154 155 156 157 158 159 160 161 162	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad Teflubenzuron Tefluthrin Terbuthylazine Tetraconazole Tetradifon Thiabendazole	0.10* 0.02* 0.02* 0.01* 0.02* 0.05 0.10 0.02* 0.02* 0.02*
151 152 153 154 155 156 157 158 159 160 161	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad Teflubenzuron Tefluthrin Terbuthylazine Tetraconazole Tetradifon	0.10* 0.02* 0.01* 0.01* 0.02* 0.05 0.10 0.02* 0.02* 0.02* 0.02* 0.02*
151 152 153 154 155 156 157 158 159 160 161 162 163	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad Teflubenzuron Tefluthrin Terbuthylazine Tetraconazole Tetradifon Thiabendazole Thiacloprid	0.10* 0.02* 0.01* 0.01* 0.02* 0.05 0.10 0.02* 0.02* 0.02* 0.02* 0.02*
151 152 153 154 155 156 157 158 159 160 161 162 163 164	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad Teflubenzuron Tefluthrin Terbuthylazine Tetraconazole Tetradifon Thiabendazole Thiacloprid Thiamethoxam	0.10* 0.02* 0.01* 0.01* 0.02* 0.05 0.10 0.02* 0.02* 0.02* 0.02* 0.02* 0.02* 0.02*
151 152 153 154 155 156 157 158 159 160 161 162 163	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad Teflubenzuron Tefluthrin Terbuthylazine Tetraconazole Tetradifon Thiabendazole Thiacloprid Thiamethoxam Thiophanate-	0.10* 0.02* 0.01* 0.01* 0.02* 0.05 0.10 0.02* 0.02* 0.02* 0.02* 0.02*
151 152 153 154 155 156 157 158 159 160 161 162 163 164	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad Teflubenzuron Tefluthrin Terbuthylazine Tetraconazole Tetradifon Thiabendazole Thiacloprid Thiamethoxam	0.10* 0.02* 0.01* 0.01* 0.05 0.10 0.05 0.10 0.02* 0.02* 0.02* 0.02* 0.02* 0.02* 0.02*
151 152 153 154 155 156 157 158 159 160 161 162 163 164	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad Teflubenzuron Tefluthrin Terbuthylazine Tetraconazole Tetradifon Thiabendazole Thiacloprid Thiamethoxam Thiophanate-methyl	0.10* 0.02* 0.01* 0.01* 0.05 0.10 0.05 0.10 0.02* 0.02* 0.02* 0.02* 0.02* 0.02* 0.02*
151 152 153 154 155 156 157 158 159 160 161 162 163 164	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad Teflubenzuron Tefluthrin Terbuthylazine Tetraconazole Tetradifon Thiabendazole Thiacloprid Thiamethoxam Thiophanatemethyl Tolclofos-	0.10* 0.02* 0.01* 0.01* 0.02* 0.05 0.10 0.02* 0.02* 0.02* 0.02* 0.02* 0.02* 0.02*
151 152 153 154 155 156 157 158 159 160 161 162 163 164 165	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad Teflubenzuron Tefluthrin Terbuthylazine Tetraconazole Tetradifon Thiabendazole Thiacloprid Thiamethoxam Thiophanate- methyl Tolclofos- methyl	0.10* 0.02* 0.01* 0.01* 0.02* 0.05 0.10 0.02* 0.02* 0.02* 0.02* 0.02* 0.02* 0.02* 0.02*
151 152 153 154 155 156 157 158 159 160 161 162 163 164	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad Teflubenzuron Tefluthrin Terbuthylazine Tetraconazole Tetradifon Thiabendazole Thiacloprid Thiamethoxam Thiophanatemethyl Tolclofos-	0.10* 0.02* 0.01* 0.01* 0.05 0.10 0.02* 0.02* 0.02* 0.02* 0.02* 0.02* 0.02* 0.02* 0.01*
151 152 153 154 155 156 157 158 159 160 161 162 163 164 165	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad Teflubenzuron Tefluthrin Terbuthylazine Tetraconazole Tetradifon Thiabendazole Thiacloprid Thiamethoxam Thiophanate- methyl Tolclofos- methyl Triadimefon	0.10* 0.02* 0.01* 0.01* 0.05 0.10 0.02* 0.02* 0.02* 0.02* 0.02* 0.02* 0.02* 0.02* 0.01*
151 152 153 154 155 156 157 158 159 160 161 162 163 164 165	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad Teflubenzuron Tefluthrin Terbuthylazine Tetraconazole Tetradifon Thiabendazole Thiacloprid Thiamethoxam Thiophanate- methyl Tolclofos- methyl Triadimefon Triadimenol	0.10* 0.02* 0.01* 0.01* 0.05 0.10 0.02* 0.02* 0.02* 0.02* 0.02* 0.02* 0.02* 0.01* 0.01*
151 152 153 154 155 156 157 158 159 160 161 162 163 164 165	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad Teflubenzuron Tefluthrin Terbuthylazine Tetraconazole Tetradifon Thiabendazole Thiacloprid Thiamethoxam Thiophanatemethyl Tolclofosmethyl Triadimefon Triadimenol Thiodicarb	0.10* 0.02* 0.01* 0.02* 0.01* 0.02* 0.05 0.10 0.02* 0.02* 0.02* 0.02* 0.02* 0.01* 0.01*
151 152 153 154 155 156 157 158 159 160 161 162 163 164 165	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad Teflubenzuron Tefluthrin Terbuthylazine Tetraconazole Tetradifon Thiabendazole Thiacloprid Thiamethoxam Thiophanate- methyl Tolclofos- methyl Triadimefon Triadimenol	0.10* 0.02* 0.01* 0.02* 0.01* 0.02* 0.05 0.10 0.02* 0.02* 0.02* 0.02* 0.02* 0.01* 0.01* 0.01*
151 152 153 154 155 156 157 158 159 160 161 162 163 164 165	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad Teflubenzuron Tefluthrin Terbuthylazine Tetraconazole Tetradifon Thiabendazole Thiacloprid Thiamethoxam Thiophanate- methyl Tolclofos- methyl Triadimefon Triadimenol Thiodicarb Triazophos	0.10* 0.02* 0.01* 0.02* 0.01* 0.02* 0.05 0.10 0.02* 0.02* 0.02* 0.02* 0.02* 0.01* 0.01* 0.01*
151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad Teflubenzuron Tefluthrin Terbuthylazine Tetraconazole Tetradifon Thiabendazole Thiacloprid Thiamethoxam Thiophanate- methyl Tolclofos- methyl Triadimefon Triadimenol Thiodicarb Triazophos Tricyclazole	0.10* 0.02* 0.01* 0.02* 0.05 0.10 0.02* 0.02* 0.02* 0.02* 0.02* 0.02* 0.01* 0.01* 0.01* 0.01*
151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad Teflubenzuron Tefluthrin Terbuthylazine Tetraconazole Tetradifon Thiabendazole Thiacloprid Thiamethoxam Thiophanate- methyl Tolclofos- methyl Triadimefon Triadimenol Thiodicarb Triazophos Tricyclazole Trifloxystrobin	0.10* 0.02* 0.01* 0.02* 0.01* 0.02* 0.05 0.10 0.02* 0.02* 0.02* 0.02* 0.01* 0.01* 0.01* 0.01* 0.01*
151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad Teflubenzuron Tefluthrin Terbuthylazine Tetraconazole Tetradifon Thiabendazole Thiacloprid Thiamethoxam Thiophanate- methyl Tolclofos- methyl Triadimefon Triadimenol Thiodicarb Triazophos Tricyclazole	0.10* 0.02* 0.01* 0.02* 0.05 0.10 0.02* 0.02* 0.02* 0.02* 0.02* 0.02* 0.01* 0.01* 0.01* 0.01*
151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad Teflubenzuron Tefluthrin Terbuthylazine Tetraconazole Tetradifon Thiabendazole Thiacloprid Thiamethoxam Thiophanate- methyl Tolclofos- methyl Triadimefon Triadimenol Thiodicarb Triazophos Tricyclazole Trifloxystrobin Triflumuron	0.10* 0.02* 0.01* 0.02* 0.05 0.10 0.02* 0.02* 0.02* 0.02* 0.02* 0.02* 0.01* 0.01* 0.01* 0.01* 0.01*
151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad Teflubenzuron Tefluthrin Terbuthylazine Tetraconazole Tetradifon Thiabendazole Thiacloprid Thiamethoxam Thiophanate- methyl Tolclofos- methyl Triadimefon Triadimenol Triadimenol Thiodicarb Triazophos Tricyclazole Trifloxystrobin Triflumuron Vinclozolin	0.10* 0.02* 0.01* 0.02* 0.05 0.10 0.02* 0.02* 0.02* 0.02* 0.02* 0.01* 0.01* 0.01* 0.01* 0.01* 0.01* 0.01*
151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166	Spirotetramat Tau-Fluvalinate Tebuconazole Tebufenozide Tebufenpyrad Teflubenzuron Tefluthrin Terbuthylazine Tetraconazole Tetradifon Thiabendazole Thiacloprid Thiamethoxam Thiophanate- methyl Tolclofos- methyl Triadimefon Triadimenol Thiodicarb Triazophos Tricyclazole Trifloxystrobin Triflumuron	0.10* 0.02* 0.01* 0.02* 0.05 0.10 0.02* 0.02* 0.02* 0.02* 0.02* 0.02* 0.01* 0.01* 0.01* 0.01* 0.01*

^{*}Pesticide residues

ANNEXURE-D

Application for supervision of shifting/relocation of consignment from sampling location to stuffing location

Date
To (Name of lab which had drawn sample for analysis)
This refers to your certificate of analysis no
Stuffing location:
 Test certificate no. and date Name and address of the FBO IOPEPC recognition no. and validity Name and address of the FBO where sampling was undertaken Name and address of the processing unit where sample was drawn one Name and address of the place where the lot is intended to be shifted Consignment details: No. Number of bags/packages Quantity (MT) /container Date of packing Grade and variety of the produce Destination port and country
Date: Signature of the representative of FBO Name and designation
This is to certify that, I have supervised the shifting/relocation of the aforesaid lot from the sampling location to the stuffing location as mentioned above.
Date: Signature: Name of the representative of lab: Seal of Lab

ANNEXURE-E APPLICATION FORM FOR GRANT OF CERTIFICATE OF EXPORTS

To:
IOPEPC

This is to certify that the representative of undermentioned laboratory has drawn and analyzed samples of sesame seeds from the consignment bearing the following details:

1	Name of the laboratory
2	Lab Test Report no (please enclose printed copy)
3	Name address of the Exporter
5	IOPEPC Recognition certification no. and validity
7	Destination port and country
8	Consignment Details
	Lot No.
	Number of bags/ packages
	Quantity (MT)/container
	Date of sealing
	Seal No.
9	HS code

It is requested that Certificate of Export may p consignment to(country name).	lease be issued to enable us effect shipment of the above
Date: Place:	(Signature) Name and designation

ANNEXURE-F CERTIFICATE OF EXPORT

This is to certify as follows:-

- 1. The under mentioned consignment of sesame seeds has been tested and found free from Salmonella contamination.
- 2. The under mentioned consignment is also tested for pesticides mentioned in the Commission Implementing Regulation (EU) 2020/585 of 27th April 2020 and EO (sum of ethylene oxide and 2- chloroethanol expressed as ethylene oxide) and found to be below prescribed MRLs set by EU.

Certificate no. and date	
Validity	
(30 days from the issue of test report)	
Name and address of the FBO	
IEC Code number	
IOPEPC RCMC number	
IOPEPC recognition certificate number	
Name and address of FBO	
Destination port and country	
Details of consignment:	
Lot no.	
Number of bags	
Quantity (MT)/container	
Date of sealing	
Seal no.	
Lab test certificate no. and date	
Name and place of laboratory	
HS code	

	Quantity (MT)/container	
	Date of sealing	
	Seal no.	
	Lab test certificate no. and date	
	Name and place of laboratory	
	HS code	
	This certificate is not valid if the seal numbers bags/packages/lots/pallet or if the seals are tan	s indicated above do not match with the seal numbers on the npered.
S	Signature	
N L	Signature	

ANNEXURE - G

Application for Stuffing Supervision

Date	2.	
To,		
(Naı	me and address of the recognized lab)	
	refers to your certificate of analysis no	datedissued against our
	se depute your personnel for supervising the stuffing the co	ontainer.
	details of the consignment are given below:	
1.	Name and Address of the Exporter	
2.	IOPEPC recognition no. and validity	
3.	Place and address where stuffing is to be carried out	
4.	Details of consignment:	
	Product details	
	Consignment code (lot/batch no)	
	Number of bags/packages	
	Packaging size (weight)	
	Total quantity (MT) in offered lot(s)	
	Date of packing	
	Grade and variety of the produce	
5.	Port of dispatch	
6.	Port of destination	
7.	COE no. and date (copy to be attached).	
	DECLARATION	,
This	is certified that to the best of my knowledge and belief the	ne information furnished is true and correct
	l respects.	
	nature of FBO representative:	
	ne of FBO representative:	
Stan	nn/seal of the FRO:	

ANNEXURE-H

STUFFING CERTIFICATE FOR EXPORT OF SESAME SEEDS TO EUROPEAN UNION

This is to certify that the consignment of(name of product) with the following details is allowed to be shipped to.....(name of destination country)

	<u> </u>	
1.	Pre-shipment stuffing certificate	No
2.	Name and address of the Exporter	
3.	Details of consignment: Product details Consignment code (Lot / batch Nos). Number of bags/packages Packaging size Quantity (MT) (gross)	
4.	Date of stuffing/loading into the container	
5.	Address where stuffing/loading was carried out	
6.	Container No.	
7.	Name of the agency and stuffing supervisor	
8.	Bill of lading no. and date	
9.	Voyage/Vessel no./name	
10.	Port of discharge	
11.	Country of final destination	
12.	Seal no. of the container	
13.	Details of lab analysis certificate	No
14.	Details of IOPEPC Certificate of Export	No

CERTIFICATE

This Pre-shipment/Stuffing Certificate is issued after verifying the Certificate of Quality issued by the authorized laboratory and Certificate of Export issued by IOPEPC.

It is certified that stuffing/loading of the packages/bags of the above consignment has been carried out at the place of sampling. In case of shifting/relocation of the goods, if any, has taken place, the same has been done with the prior consent of this laboratory.

1. The seal numbers of the lots are the same as those at the time of sampling.

- 2. Stuffing/loading of sesame seeds into the containers has been carried out under the supervision of the authorized official of this laboratory.
- 3. It is certified that after stuffing/loading, the container has been sealed by the authorized official of this laboratory.
- 4. It is certified that, to the best of my knowledge and belief, the above information is true and correct in all respects

Signature of the authorized person
Name and designation:
Date and place

Seal of lab

ANNEXURE- I APPLICATION FOR REGISTRATION WITH IOPEPC FOR EXPORT OF SESAME SEEDS TO EU COUNTRIES

To:

Chairman, IOPEPC

I am an exporter exporting / intend to export sesame seeds to establishment with IOPEPC as per the required procedure. I am alr information is submitted below for your needful.	
1. Name of the FBO	
2. Address of the FBO	
3. Address of the Processing unit if owned by the FBO	
4. IEC Code No.	
5. IOPEPC RCMC no.	
6. FSSAI certificate no.	
Signature and Seal of the FBO	
Name	
Designation	

ANNEXURE-J

Method of extraction and analysis of ethylene oxide (sum of ethylene oxide and 2-chloroetahnol to be expressed as ethylene oxide) for separation and quantitation by GC-MS or GC-MS-MS

Take 2 g of uncrushed sample in a 50 ml centrifuge tube Add 6 ml of 0.02 N H₂SO₄ and 1 ml saturated NaCl. mix well and sonicate at 50°C for 180 minutes Add 4 ml of water and 10 ml of ethyl acetate (mix well) Add 10 g of anhydrous sodium sulfate salt (mix and place in a shaker for 10 minutes) Centrifuge at 15000 X g in a refrigerated (4-5°C) centrifuge for 5 minutes Transfer 1 ml of supernatant into a 2-ml-eppendroff and add 25 mg of primary secondary amine (PSA) Filter using PTFE 0.2 µm filter into a 2 ml vial and use (inject) 4 μl for analysis In GC-MS, monitor 2-chloroethanol through the quantifier ion as 49 and qualifier ions as 51 and 80 OR In GC-MS-MS, monitor 2-chloroethanol through quantifier ion as 80-31 and qualifier ion as 80-44

Conversion factor for 2-chloroetahnol value into ethylene-oxide equivalent

Concentration in sample*0.55 OR Concentration in sample/1.83