

IGTC survey

ISPM for the International Movement of Grain - version August 2016

1) Are you aware of a list of some sort in your country or region that identifies pests able to cause trade disruption? If so, please provide the name of the list, its (website) location, who maintains it and any other relevant information.

In most cases trade is aware of such lists, see below for examples:

- ⇒ Note that Non-tariff measures (NTMs) are generally defined as policy measures other than ordinary customs tariffs that can potentially have an economic effect on international trade in goods, changing quantities traded, or prices or both (UNCTAD/DITC/TAB/2009/3). The detailed classification of NTMs by United Nations Conference on Trade and Development, (UNCTAD) identifies and distinguishes among the various forms of non-tariff measures. The UNCTAD classification of non-tariff measures is taxonomy of all those measures considered relevant in today's situation in international trade. The classification is an evolving process that should adapt to the reality of international trade and data collection needs.
- ⇒ Corn Gluten Feed (CGF) & Corn Gluten Meal (CGM), as processed products, are not major sources of phyto problems because processing will kill any insects and make any weed seeds that may enter the process non-viable. Also, these products are generally not stored for a long time making storage infestation unlikely. CGF/CGM are eligible to receive a US APHIS Form 578 "Processed Products Certificate" but we are not aware of how frequently these are requested and no instances of trade interruptions related to foreign certificate requirements were reported to us.
- ⇒ In cases where trade indicates that such lists are not available, such information is mainly communicated by the port or export country Phyto authorities.

GLOBAL:

- WTO: https://www.wto.org/english/tratop_e/sps_e/sps_e.htm & https://www.wto.org/english/tratop_e/tbt_e/tbt_info_e.htm

EUROPE:

- EPPO website (www.eppo.int) – list updated from time to time by French Phyto. Council Directive 2000/29/EC on protective measures against the introduction into the Community of organisms harmful to plants or plant products and against their spread within the Community <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:2000L0029:20090303:EN:PDF>
- Julius-Kühn Institut (JKI), Germany www.pflanzengesundheit.jki.bund.de
- AHDB – Agriculture and Horticulture Development Board (was Home Grown Cereals Authority) www.ahdb.org.uk and see publication HGCA Grain Storage Guide for cereals and Oilseeds

⇒ AUSTRALIA:

- Department of Agriculture and Water Resources (DAWR) - Manual of Importing Country Requirements, <http://micor.agriculture.gov.au/Pages/default.aspx> - Lists pests restricted in all markets.
- Plant Health Australia – list of pests that may be a biosecurity risk (mainly incursions but also relates to exports), <http://www.planthealthaustralia.com.au/biosecurity/emergency-plant-pests/pest-categorisation/>
- Department of Agriculture & Food Western Australia – database of pests of concern in Western Australia (Pest and Disease Information Service), <https://www.agric.wa.gov.au/biosecurity/pest-and-disease-information-service-padis> Also links to other State Government Departments of Agriculture that have similar information.

USA:

- <https://www.aphis.usda.gov/aphis/ourfocus/planthealth/plant-pest-and-disease-programs> .
- US APHIS maintains the Phytosanitary Export Database (PExD) which lists the phyto requirements for nearly all countries the US trades with: <https://pcit.aphis.usda.gov/pcit/> Click on (PExD) in the list of links near the bottom of the page.
- US APHIS maintains an import manual for seeds not intended for planting: <https://www.aphis.usda.gov/aphis/ourfocus/planthealth/complete-list-of-electronic-manuals> (list of all manuals) https://www.aphis.usda.gov/import_export/plants/manuals/ports/downloads/seeds_not_for_planting.pdf (direct link to Seeds Not for Planting Manual) This manual includes regulatory requirements for insects, weed seeds, and plant diseases for grain and oilseed imports into the US.

ARGENTINA:

National Health Service and Food Quality (Senasa) has, on its Website, the Portal Export Phytosanitary Certification. Link: <http://www.senasa.gov.ar/Consulta%20de%20Disposiciones%20de%20Ingreso/Inicio.html> (only in Spanish). In this Portal phytosanitary import requirements (RFI) requested by importing countries for various products of plant origin, including grain legumes, grains and oilseeds and their products are available. Main pests, causing trade disruption are viruses, fungi, bacteria, nematodes and weeds. There needs to be a technical justification for their inclusion in the phytosanitary import requirements, due to the intended use of the grains (consumption or processing). Examples: *Trogoderma granarium*

ARGENTINA & URUGUAY:

- *Sorghum halepensis*: (weed seed with common name Johnson grass)
- *Datura ferox*: (weed seed with common name Long Spined Thorn Apple)
- *Stenocarpella maydis*: (fungus which develops in corn fields, its common name is White ear rot and seedling blight of maize)

SOUTH EAST ASIA:

- Jimsonweed, *Datura ferox* seed

AFRICA: Phyto-sanitary and grain quality regulations exist for most importing countries in Africa. Depth and level of enforcement of the regulations varies greatly between countries. For instance, the 'Ambrosia zero tolerance' in Egypt is a clear threat for all grains/oilseed import. Only wheat is regulated (ES 1601-1/2010) but by extension other commodities follow the same pattern without having anything mentioned in the regulation (soybean, maize).

CANADA: The Canadian Food Inspection Agency (CFIA) is the National Plant Protection Organization (NPPO) of Canada and responsible for protecting plant health and the agricultural and forestry sectors by preventing the import and spread of pests in Canada, and export of pests from Canada. The CFIA has the authority to restrict the import, sale and movement of pests into and within Canada under the Plant Protection Act.

Under the authority of the Plant Protection Act, the CFIA maintains a list of pests regulated in Canada. The list may be revised at any time and is linked to policy directives that are available electronically:

<http://www.inspection.gc.ca/plants/plant-pests-invasive-species/pests/regulated-pests/eng/1363317115207/1363317187811> .

The specific CFIA directives relating to Grains and Oilseeds can be found at the following website link:

<http://www.inspection.gc.ca/plants/plant-pests-invasive-species/directives/grains-and-field-crops/eng/1312226480445/1312226624109>

List of regulated pests in foreign countries can be found on International Plant Protection Convention (IPPC) website:

<https://www.ippc.int/en/countries/all/regulatedpests/>

Other sources of importing country phytosanitary requirements would be in legislation, regulations, other official rules or with the permits to import issued by the NPPO of the importing country. Bilateral agreements or memoranda of understanding (MOUs) in the field of plant protection may also indicate the phytosanitary import requirements for specified commodities.

The CFIA is responsible for issuing phytosanitary certificates for Canadian exports. CFIA directive D-99-06: Policy on the issuance of phytosanitary certificates and phytosanitary certificates contains the policy of the CFIA for the preparation and issuance of Phytosanitary Certificates and Phytosanitary Certificates to facilitate exports of plants and plant products, and other regulated articles, to foreign countries. <http://www.inspection.gc.ca/plants/plant-pests-invasive-species/directives/date/d-99-06/eng/1323852257037/1323852358870#a11>

Most importing countries, but not all, require Phytosanitary Certificates. Importing countries not requiring Phytosanitary Certificates from the CFIA include the US, EU and Japan.

CHINA: In China, there are clear name lists of banned pests on the relative import licenses issued by AQSIQ. Also, pest lists can be found in the Protocols between China and origin country. We can find the Protocols on the official website of AQSIQ.

CHINA: Maize weevil (*Sitophilus zeamais*), Rusty Grain beetle (*Cryptolestes ferrugineus*), Red Flour beetle (*Tribolium castaneum*) and Lesser Grain borer beetle (*Rhyzopertha dominica*) are from Argentine soybeans and were provided by CIQ.

Good leaflet issued by APHA (Agriculture Department UK) summarising the EU and global phytosanitary requirements. This leaflet explains the arrangements for the issue of phytosanitary certificates for export of grain to those third countries (i.e. countries outside the European Community) requiring such certification, including the procedures for sampling and inspection of grain by authorised trade representatives. See here for website: <https://www.gov.uk/guidance/exporting-grain-to-non-eu-countries>

UKRAINE: The Order of the Ministry of Agrarian Policy of Ukraine dd. 29th November 2006 No. 716 "On Approval of the list of regulated hazardous organisms (pests)" - (<http://zakon5.rada.gov.ua/laws/show/z1300-06>)

Many national & regional lists available and trade is aware of lists. When not available, the phyto authorities communicate relevant information, including lists of pests capable of causing trade disruption. Trade prefers having the information available in advance on regularly updated websites. In all cases there needs to be a technical justification for pest inclusion in the phytosanitary import requirements, due to the intended use of the grains (consumption or processing).

2) Which phytosanitary measures are available to reduce pest risk:

a. Before export?

- ⇒ Note it is very important to fully understand who in the value stream is responsible for quality and condition at each step of the way. In the US there are multiple measures available prior to export and they are most often sufficient to warrant origin final determination of phytosanitary conditions to meet legitimate import country phytosanitary risk management needs. In summary, it all starts with environmental (including soil / land) management at the point of production right through the loading of export conveyance. In the US some of best information is provided through an extensive network of universities (<http://www.aplu.org/members/commissions/food-environment-and-renewable-resources/>) and long established Federal network generally supported and directed the USDA Agricultural Extension Service. This service communicates information related to such measures to the pre-export value chain.
 - Some of many, many examples: <http://nifa.usda.gov/program/pest-management-programs>
 - <https://fyi.uwex.edu/grain/pest-management/>
- Crop Monitoring & Crop treatment
- Lot selection based on quality.
- Good storage, temperature and moisture control, & avoid comingling with other products
- Store preparation – cleaning and treatment
- Preventive & Curative fumigation for stock
- Dust reduction

- Inspection
- Sieving
- Contact pesticides
- Sampling by the Phyto and Quarantine authorities at loading and pest control.
- Grain protectant treatments (for control of stored grain insects)
- WEED SEEDS: sampling & Inspection & cleaning if found (not a common practice)
- INSECTS: Fumigation (preventive & curative treatments) in silo before shipment & at the loading ports: insect infestation control in the vessel holds (e.g Phosphine, Methyl bromide).
- FUNGI: Propionic acid treatment: control in Feed-grains (corn, wheat, sorghum) to freeze mycotoxin contamination levels.
- BACTERIA: Formic acid treatment: *Salmonella* control in soybean meal. Formaldehyde may be used in Brazil, which can create trade disruption with EU.
- CANADA: => Actions of the importing country to reduce pest risk:
 - Government:
 - An important tool available to reduce pest risk for an importing country is the importing countries phytosanitary lists and import permit requirements
Canada – AIRS – Automated Import Reference System
 - Importing countries need to develop programs and directives to manage risk material such as grain screenings and non-compliant components. This could take form of directives for treatment of the cargo, ordering shipments back to port of origin, ordering the shipment destroyed, imposing a fine in addition to other measures
 - Treatment of non-compliant shipments could take the form of fumigation, cleaning, trapping or other remedial actions.
 - Importers
 - Comply with government phytosanitary regulations in order to minimize pest risks
- CANADA: => Actions by the exporting country to ensure importing countries phytosanitary requirements are met include:
 - Farmers:
 - Following good farm management practices such as undertaking crop rotations to prevent disease, changing seed to latest genetics on regular basis, inspecting and maintaining equipment and storage

- facilities on a regular basis, using fumigants or cleaning when issues arise, undertaking good crop production practices.
- Exporters:
 - Following good grain handling practices such as inspecting facilities on a regular basis, taking actions when required to ensure grain meets importing country phytosanitary requirements, such as cleaning and/or fumigation. Inspecting and ensuring transportation carriers i.e., railcars, are clean and free from non-compliant materials or food safety hazards. Maintaining handling facilities and complying with licensing requirements
 - Government Agencies,
 - Undertaking inspection, sampling and testing programs in order to ensure loaded grain meets phytosanitary requirements of the importing country
 - Ensuring export ships are free from pest risk
 - Ensure licensed grain handling facilities are fully compliant with the CFIA requirements to ensure freedom from regulated stored product pests, as per the requirements of plant health authorities in the importing countries.
 - CHINA: 1) Registration of exporters and grain elevators to make sure that they meet the relevant quarantine conditions and implement of purification measures, such as sifting & 2) Conduction of quarantine and inspection.
 - CHINA: Before export, it should be detected by the exporter's official and independent inspection institution. Then, export after confirming qualified and issue related certificates. And, have a strict fumigation after finishing loading.
 - UKRAINE: The economic entity together with the authorized government body have to carry out phytosanitary activities aimed at detection, localization and eradication of the quarantine and regulated pest organisms (which are able to cause economic damage under favorable weather conditions or pest organisms which are prohibited in the importing country):
 - before planting (seeding) - use of tried, certified and healthy seeds or planting material;
 - observance of crop rotation and preparation of the cultivation area;
 - monitoring (inspection) of the cultivation area or host plants during vegetation in order to detect the quarantined pests or regulated non-quarantine pests which are prohibited in the importing country. In case of detection of abovementioned hazardous organisms, activities of their localization and eradication should be performed;
 - during storage: inspection of harvest storage places in order to detect quarantine pests or regulated non-quarantine pests which are forbidden in the planned importing country. Performing of preventive treatment (including fumigation)

both of storage places and cargo (in case of detection or assumption of detection of quarantine pests or regulated non-quarantine pests);

- phytosanitary control (independent or government control) during transportation from the zones infected with quarantine or regulated non-quarantine pests which are forbidden in the importing country;
- obligatory self-control both of trader and agricultural producer during grain shipment to the port irrespective the zone from which production is taken out.

Many measures available before transport, from soil management, through crop monitoring and crop treatment to loading at port. Good storage facilities also important.

b. During transport?

- Protection of goods from pests during loading, transport, delivery
- Vehicle cleanliness & records
- Previous loads checks and between goods where multi compartment bulk vehicle are used
- Gas application in order to avoid contamination during handling
- For control of stored grain insects: Spraying, grain protectant treatments Fumigation, mainly with APH.
- Cargo fumigated at load port, sealing of holds.
- Fumigation is a possibility, in case for some reason spraying at loading port is not possible
- Make sure fumigation in strict accordance with the fumigation requirements
- Assuming export grain is found to be non-compliant for insects, based on importing country phytosanitary requirements or through previous trade contract agreements, the imported cargo could be fumigated on route or at port or once the vessel arrives.
- UKRAINE: During transportation only control of initial parameters of treatment is possible, the control of fumigation as a rule. Special attention should be paid to:
 - Appearance and quantity of detected pests;
 - Condition (hermetic state) of treated object;
 - Qualification of executor of the treatment;
 - Quality of used materials;

- Matching of initial parameters of treatment with the specific pest (assignment of the dose, exposure time) to weather conditions;
- Matching of the technology of treatment with the requirements of point (country) of destination;
- Matching of the technical documentation with the parameters of performed treatment;
- Awareness of a carrier with safety rules by transportation of treated cargo.

When performing the treatment (fumigation) by private companies, these companies should be authorized by the official NPPO, which is responsible for issuing the phytosanitary certificates.

Several measures available, from protection of goods from pests during loading, transport and delivery, through vehicle cleanliness & records to application of pesticides. Strict application of requirements is crucial.

c. Upon arrival?

- Inspection & Sampling by the Phyto and Quarantine authorities
- Dust reduction
- Control of temperature & moisture during storage
- Processing can be used as acceptable mitigation: sieving, fumigation, and grain protectant treatments – for control of stored grain insects.
- Re-fumigation at destination if required – when insect infestation is detected.
- If the phytosanitary authorities find a quarantine organism, the parcel needs to be destroyed or re-exported, and everything that came into contact with the parcel needs to be sanitized.
- US: APHIS has a Treatment Manual. The procedures and treatment schedules listed in this manual are administratively authorized for use in Plant Protection and Quarantine (PPQ). The treatment of listed commodities prevents the movement of agricultural pests into or within the United States. An officer may determine that other commodities require treatment to prevent similar pest movement.
- CANADA: Assuming export grain is found to be non-compliant for bugs or weed seeds, or by agreement with exporter, a number of risk mitigating measures could be undertaken including:
 - Fumigation/bug destructive cleaning technology/trapping or other insect remedy measures
 - Cleaning at port to remove weed seeds as well as the management of screenings from the vessel or using other seed destruction technology such as processing of the grain.

- CHINA: An import permit issued by AQSIQ should be acquired by Chinese importers in advance before import. The crops should be imported at ports designated by AQSIQ.
- CHINA: In the anchorage, cargo surveyors of CIQ will get samples and do the inspection. Discharging will start only after confirming that the shipment has qualified.
- UKRAINE: On arrival of the cargo and after fumigation in transit, control of its effectiveness performed by authorized national body of phytosanitary service of country of destination (NPPO) is obligatory for the purpose of compliances with the requirements of IPPC. In order to observe the international conventions of the health care and environment such control should be performed after the end of degasification with the following utilization of materials used for transit fumigation.

Several measures available. Good inspection and sampling procedures needed. Upon finding quarantine organism, in certain countries re-fumigation is allowed, in other cases cargo is destroyed.

d. During processing?

- Sieving, Cleaning and sanitising, Aeration, Milling/crushing/heat treatment, Fumigation, Pest control (birds, mice, etc..)
- Change of usage (food to feed as to fuel)
- In case of insect infestation during processing stage, curative treatments can be carried out: Biocides can be used to avoid the development of Bacteria and Fungi.
- CANADA: Assuming export grain is found to be non-compliant or by agreement, a number of risk mitigating measures could be under taken at processing.
 - Fumigation/milling/crushing/heat treatment/destructive cleaning/trapping are all possible insect remedy measures.
 - Cleaning at processing with destruction of screenings at the processor or using other seed destructive technology such as processing of the grain.
- CHINA: The crops should be processed at plants designated by AQSIQ. Load and unload, transportation storage and processing should be in compliance with related requirement. In addition, if there is phytosanitary measures before exportation, there should be one during processing.

- CHINA: During processing, spot storage for the screened produce and managed by a specific person. Then, incineration shall be performed in specified area by screening disposal company which is certified by CIQ and issue related certificates.
- UKRAINE: Control of contamination during processing with the next treatment (fumigation) in case of its detection.

Several measures available from curative treatments to destruction.

3) See Annex 1 for long list of identified pests & diseases.

In case you have scientific or other articles that explain one or more pests and their risks to the grain trade, please include in your reply.

- Very large national lists, e.g. Mexico for instance 189 items; US list: snails, Kenya: wild oats; Egypt: cotton seeds, plus many other seeds. Etc....etc....

Information about quarantine pests of all countries in the world is placed on the official website of European and Mediterranean Plant Protection Organization (EPPO): <http://www.eppo.int/DATABASES/pqr/pqr.htm> .

4) Are you aware of any pest incursions via the grain trade? If so, please provide detail, with, where possible, information on the extent of the problem.

- In general, trade is not aware of any pest incursions.
- Virus, Bacteria & Fungi, due to their biological ecosystem are very difficult to monitor and control in the huge bulk grain/by-product operations
- On the contrary, weed seeds and insects have lower risk to spread in the grain trades. Some of the restricted pests today are already globally spread (e.g 1.) *Sorghum halepense* and *Sitophilus zeamays* in Brasil and 2.) *Ambrosia* is now endemic in Egypt).

- Corn Gluten Feed (CGF) & Corn Gluten Meal (CGM) as processed products, are not major sources of phyto problems because processing will kill any insects and make any weed seeds that may enter the process non-viable. Also, these products are generally not stored for a long time making storage infestation unlikely.
- ARGENTINA: The only example may be *Trogoderma granarium*
- CANADA: Woolly cup grass is a tall annual grass weed native to Asia. This grassy weed was first identified as being present in the United States in the mid-1900s. Woolly cup grass is primarily located in Illinois, Iowa, Minnesota and Wisconsin. This is a weed of economic importance in corn and soybeans because of its cost to manage and drag on yields when present. The first identified incidence of woolly cup grass in Canada occurred in 2007. Between 2007 and 2010, a number of additional sites were found.
- EU: In general, the following pest incursions were reported: Ambrosia, European corn borer, and Johnson grass. Besides this, the following events have been recently reported: a) some vessels of wheat in different years coming from Mexico or US contaminated with *Tilletia indica*; parcels were usually re-exported. b) Soya beans to be crushed: import from the USA with high values. Authorities notified and no response so far (notification at the end of February 2016). Procedures in place to prevent Ambrosia dispersion/germination before processing; the process will destroy germination capacity of the seeds and we assume this will be enough evidence for Authorities not to disrupt business.
- UKRAINE: Ukraine is exporter of cereals therefore there have been no pest incursions since 1991 on its territory. However, during export of grain both exporting companies and companies which perform treatment (fumigation) came across cases of non-effective fumigation. In the season 2015-2016 only repeated fumigation was performed in the following countries of destination: Indonesia, Tunisia, Vietnam. Such information is not official as a rule because it's usually spread through commercial channels

There are from time to time pest incursions taking place in the grain trade, but it does not seem to take place on a regular basis. In certain cases this is leading to re-export, change of usage or in some cases even destruction of cargo.

5) What existing international guidance is available? Please provide details and links to the relevant information.

- ⇒ Many of the more important international standards available for phytosanitary guidance can be found on the IPPC website at: <https://www.ippc.int/en/core-activities/standards-setting/ispms/> Commonly used standards include:
 - Pest free areas (ISPM 4)

- Export Certification system (ISPM 7)
 - Determination of pest status in an area (ISPM 8)
 - Pest free places of production (ISPM 10)
 - Pest risk analysis for quarantine pests, including analysis of environmental risks and living modified organisms (ISPM 11)
 - Guidelines for phytosanitary certificates (ISPM 12)
 - The use of integrated measures in a systems approach for pest risk management (ISPM 14)
 - Guidelines for a phytosanitary import regulatory system (ISPM 20)
 - Pest risk analysis for regulated non-quarantine pests (ISPM 21)
 - Low pest prevalence (ISPM 22)
 - Guidelines for Inspection (ISPM 23)
 - Categorization of commodities according to their pest risk (ISPM 32)
- ⇒ IPPC : <https://www.ippc.int/en/countries/all/regulatedpests/>
- ⇒ Web site of FAO and WHO: <http://www.fao.org/docrep/004/y3241e/y3241e06.htm>
- ⇒ Another important standard for the packing of containers is IMO/ILO/UNECE Code of Practice for Packing of Cargo Transport Units (CTU CODE): <http://www.imo.org/en/OurWork/Safety/Cargoes/CargoSecuring/Documents/1497.pdf>
- ⇒ EPPO / EU Council Directive 200/29/EC and EU Regulation 2015/186 of 6 February 2015 amending Annex I to Directive 2002/32/EC of the European Parliament and of the Council as regards maximum levels for arsenic, fluorine, lead, mercury, endosulfan and Ambrosia seeds : www.eur-lex.europa.eu/legalcontent/EN/TXT/PDF/?uri=CELEX:32015R0186&from=FR
- ⇒ GAFTA standards are applied
- ⇒ GTAS Code of Practice for Fumigation and Pest control
(http://www.gafta.com/write/MediaUploads/Trade%20Assurance/GTAS_Fumigation_2015_v6.0.pdf)
- ⇒ Julius-Kühn Institut (JKI), www.pflanzengesundheit.jki.bund.de
- ⇒ US APHIS PExD provides information on international phyto requirements. Some restrictions do not appear to have science-based reasoning to support their need
- ⇒ APHIS Export Program Manual & PCIT, Memorandum of Understanding between FGIS and APHIS, USDA Phytosanitary log / FGIS form 921-1

Several international guidelines available, mainly IPPC based documentation. Some restrictions not science based.

6) More specifically, are there industry or government guidelines and /or practices (in the phytosanitary field) already in place (for example HACCP certification) that have a role in managing pests? Please provide details and links to the relevant information.

- ⇒ No at government, more individual legislations and industry via quality insurance schemes
- ⇒ Supply chain mapping- good husbandry/agricultural practices at source, HACCP and good standards of management
- ⇒ If grain is found to be infested, then industry practice of fumigation directly limits the risk of insect pests being found in international shipments.
- ⇒ Import controls
- ⇒ Pests are generally regulatory issues, not necessarily food safety, so food safety certifications are not a suitable framework to manage pests.
- ⇒ Industry: GTP, GMP+FSA Certifications, AIC, HACCP, ISO 22000
<http://www.gtpcode.eu/>
https://www.gmpplus.org/pagina/288/home_un.aspx
- ⇒ US: CGF/CGM are eligible to receive an APHIS Form 578 "Processed Products Certificate" but not aware of how frequently these are requested and no instances of trade interruptions related to foreign certificate requirements were reported.
- ⇒ US: APHIS Export Program Manual & PCIT, Memorandum of Understanding between FGIS and APHIS, USDA Phytosanitary log / FGIS form 921-1
- ⇒ USDA Fumigation Handbook (https://www.gipsa.usda.gov/fgis/handbook/fumig_inspec.aspx)
- ⇒ APHIS regulates karnal bunt
- ⇒ European Commission's recommendation on the presence of Mycotoxins (2005/576/EU)
- ⇒ UKRAINE: Library of materials, manuals, guidance, and methods of USSR times in print format (not available in internet)
- ⇒ Recommendations of local Chambers of Agriculture or other entitled bodies

- ⇒ Import: pollutant analysis, visual control (insects, ergot, etc.)
- ⇒ AUSTRALIA: Various quality systems both internationally and in Australia adopted by industry/regulated – including:
 - HACCP
 - ISO
 - DAWR – requirements for Registered Establishments exporting grain from Australia and the Plant Export Operations Manual, <http://www.agriculture.gov.au/export/controlled-goods/plants-plant-products> .
 - Internal export/storage operator/port terminal/container packer facility operational procedures (e.g., covering fumigation protocols and grain protection insect management plans)
 - Australian Grain Industry Code of Practice for the management of grain along the supply chain, <http://www.graintrade.org.au/grain-industry-codes>
- All of the above essentially involve the following:
 - Sourcing grains from low risk areas
 - Inspection and certification
 - Treatment of grain
 - Processing of grain at secure facilities
- ⇒ CANADA: Yes, there are numerous guidelines or practices already in place that have a role in managing pest risk.
 - Guidance/practices of the importing country to reduce pest risk include:
 - Government (will vary by country) for Canada:
 - Import Permits: <http://www.inspection.gc.ca/plants/plant-pests-invasive-species/directives/imports/d-97-04/eng/1323791055523/1323803716515>
 - List of Pests: <http://www.inspection.gc.ca/plants/plant-pests-invasive-species/pests/regulated-pests/eng/1363317115207/1363317187811>
 - Regulations for grain and oilseed materials including directives for quarantined pests: <http://www.inspection.gc.ca/plants/plant-pests-invasive-species/directives/grains-and-field-crops/eng/1312226480445/1312226624109>
 - Guidance/practices by the exporting country to reduce pest risk include (will vary by country) for Canada:
 - Farmers:
 - National Voluntary Farm-Level Biosecurity Standard for the Grains and Oilseeds Industry: <http://www.inspection.gc.ca/plants/grains-and-field-crops/biosecurity/national-voluntary-farm-level-biosecurity-standard/eng/1354649087792/1355168633095>

- Producer Guide to the National Voluntary Farm-Level Biosecurity Standard for the Grains and Oilseeds Industry: <http://www.inspection.gc.ca/plants/grains-and-field-crops/biosecurity/producer-guide/eng/1364086061680/1364086625349?chap=0>
- Within the biosecurity standard is numerous links to best practices for pest management. I have attached Appendix D of the Bio-Security Standard to this questionnaire as Appendix A
- There are also numerous crop production grain storage best practices guides available from commodity groups, provincial governments, Canadian universities and farm input supply companies in addition to the ones outlined in the biosecurity standard attached to this questionnaire
- Exporters:
 - The major grain companies are HACCP certified. HACCP is the acronym for hazard analysis and critical control points. HACCP is a food production, storage, and distribution monitoring system for identification and control of associated health hazards. The program is developed for the prevention of contamination.
 - The seven underlying principles of a HACCP program are:
 - Identify the potential consumer health hazards
 - Identify the control points where the identified hazards may occur
 - Establish critical limits for the potential hazards and safety measures
 - Establish monitoring routines to ensure safety measures are working
 - Establish appropriate responses if monitoring indicates a problem
 - Establish an accurate and detailed record keeping system that documents problems and the remedial steps to be taken
 - Establish a verification system that ensures the above steps are being followed.
- Government Agencies – Canadian Grain Commission
 - Grain sampling guidance for producers and grain handlers: <https://www.grainscanada.gc.ca/quality-qualite/sg-eg-eng.htm>
 - Grain sampling system handbook and approval guide: <https://www.grainscanada.gc.ca/guides-guides/ssh-mse/ssh-mse-1-eng.htm>
 - Grain storage guidance: <https://www.grainscanada.gc.ca/storage-entrepot/mqsgm-mqgqe-eng.htm>
 - The Canadian Grain Commission is also responsible for taking representative samples at export. These samples are shared with CFIA for Phytosanitary analysis.
- Government Agencies – Canadian Food Inspection Agency

- Issuance of Phytosanitary Certificates (as in question 1): <http://www.inspection.gc.ca/plants/plant-pests-invasive-species/directives/date/d-99-06/eng/1323852257037/1323852358870#a11>
 - Guidance document for inspecting grain export handling facilities: <http://www.inspection.gc.ca/plants/grains-and-field-crops/exports/pi-001/eng/1382121375928/1382121376834>
 - Guidance document for inspecting grain export vessels: <http://www.inspection.gc.ca/plants/grains-and-field-crops/exports/pi-008/eng/1328495612131/1328495722814>
 - Canadian grain sampling program audit manual: <http://www.inspection.gc.ca/plants/grains-and-field-crops/exports/grain-sampling/eng/1382366137214/1382372718652>
- ⇒ Argentinean Phytosanitary Law: Legislation bans internal transportation and grain exports at loading ports with live insects. This can be considered as tools to improve pest control, in addition to Good Agricultural Practices and Good Manufacturing Practices. In addition, fumigation is prohibited in grain transportation due to safety risks in trucks, railcars and barges. Uruguay, Bolivia and Paraguay do not have legislation on this issue. Argentina has several manuals, from different organizations, both public & private, focussed on the dissemination of good agricultural practices but there is no mandatory application.
- ⇒ CHINA: Import Licenses, and laws and regulations in managing pests.
- ⇒ CHINA: General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ) of the People's Republic of China has recently issued "*Measures for the Supervision and Administration of Grain Inspection and Quarantine of Entry and Exit.*" The *Measures* stipulate that grain originated from North America and South America must be fumigated while entering China, which could significantly reduce the invasion of insects. Moreover, the *Measures* also forces seed quarantine on imported grain and the screenings distinguished out of the original cargo will be disposed under the supervision of specific administration.

Numerous guidelines and practices available, e.g. HACCP, ISO, GMP and many others. Often diverging on national and/or regional level. IGTC to decide which ones (if at all) to promote for inclusion / mentioning in the ISPM.

7) To what extent can these practices be used to address phytosanitary issues?

- Prevention: Plant protection agents (e.g. fungicides), post-harvest treatments (insecticides, fumigation, mold inhibitors, nitrogen blanketing etc.)

- Monitoring Mycotoxins, Microbiological contaminants and contamination, crop protection agents, Botanical impurities.
- Drug fumigation could exterminate most of insect pests under favourable fumigation circumstances and applied on grain from applicable origins. However, it cannot deal with diseases caused by plant-infection. If the imported grain is confirmed to be infected by diseases which are gravely dangerous, it would be disposed on the spot or be rejected by the relevant authorities.
- Fumigation certificates are required on receipt
- For industry systems, procedures, Codes - to some extent these practices can be used, but not fully.
 - Australia: For all grain exports, all DAWR requirements must be met – these outline hygiene, inspection etc. requirements and these are designed to control phytosanitary requirements of the market.
- Electronic format of phyto certificates is needed: this is an opportunity to reduce cost, increase efficiency and security of document processing
- Good practices are useful to help reduce the incidence of phytosanitary problems. But such practices only work if there is mandatory compliance.
- EU: to a restricted extent, they apply mainly on the level of agriculture, and in an inferior measure when it is about storage and trade.
- CANADA: All of the above guidance documents have been developed to assist in the production of healthy plants and/or the prevention and spread of plant pests.
- UKRAINE: In practice above mentioned methods are applied with great difficulties because of particular contradictions between technologies and demands of grain trading companies. As a rule, compromise between private executors of the treatment does not include interests of NPPO, which is prevented from regulating in Ukraine nowadays.
- One respondent questions the use of these practices as 'there is no coordination between governments and each country thinks it has an exceptional local production and imports are poison.'

All practices identified in previous questions can help in reduce incidence of phytosanitary problems, but mandatory compliance is needed. IGTC to decide which of the practices should be elevated to ISPM level.

E-phytos needed to reduce cost, increase efficiency and security of document processing.

8) Are you aware of practices in the field that manage pest risk (e.g. resistant varieties, crop protection products, rotation etc.)? Please provide details and links to the relevant information.

- There are a number of practices (agronomic and otherwise) including relevant phytosanitary measures that contribute to limiting the spread of plant pests to meet industry-trading standards. For example: a) use of pest resistant cultivars; b) use of crop protection products all through the pre and post-emergent and crop growth stage (fungicides, herbicides, insecticides); c) crop rotation (to limit disease build up) c) Rotation of resistance genes, i.e. changing resistant varieties to prevent pathogen evolution and resistance breakdown; d) clean equipment.
 - Australia: Chemicals are registered for use by the Australian Pesticides and Veterinary Medicines Authority, <http://apvma.gov.au/>
 - Australia: Grain Producers comply with the Growing Australian Grain guide, outlining various agronomic practices to control pests <http://www.grainproducers.com.au/>
- Plant Breeding of varieties that are resistant to a range of diseases and insects.
 - Australia: Main breeding now done by private companies, sometimes in partnership with research organisations. A few include:
 - Pulse Breeding Australia <http://www.grdc.com.au/Research-and-Development/Major-Initiatives/PBA>
 - National Variety Trials provide advice on varieties by crop location and their agronomic characteristics <http://www.nvtonline.com.au/>
- GMO events in several crop species to protect the crop from insect attack, herbicide resistance, etc.
- Selection of adequate hybrids and varieties for the environments/regions where crops will grow. This measure may cause better soil water use, lower disease impact, etc.)
- Use of electronic documents.
- Fumigation of soy beans before transportation.
- China: We should take measures that replace non-host crop planting to the field where a pest has occurred, even adopt rice-xerophyte rotation as a way, such as growing rice after harvesting vegetables.
- EU: European Commission's recommendation on the presence of Mycotoxins (2005/576/EU)
- EU: Recommendations of local Chambers of Agriculture; agricultural advisers of industry, industry guidelines

Numerous practices available in the field that manage pest risks, incl. resistant varieties, rotation and resistance stewardship. IGTC to decide which ones to consider for mentioning in ISPM.

9) Are PRAs made available for the grain industry? If so, please provide details.

- ⇒ In certain cases the PRA's are made available to trade, in other cases not.
- ⇒ Available via surveyor and fumigation companies
- ⇒ Industry companies probably run their own contaminant and pest grain risk assessment by keeping information for internal use.
- ⇒ For export, certain companies perform their own PRA for internal use.
- ⇒ Pest risk analysis is part of the individual risk assessments/HACCP plans
- ⇒ Buying specifications define our requirements
- ⇒ In Germany yes. There is the JKI: www.pflanzengesundheit.jki.bund.de
- ⇒ Australia: Not made available to industry by the Government, they are internal documents only. Industry does its own PRA
- ⇒ Canadian Pest Risk Analysis (PRA) reports are available from CFIA upon request.
- ⇒ US: PRAs can be found on the US APHIS website, but they are not easily found, nor easily identifiable as being pertinent to the US grain trade.
- ⇒ ARGENTINA: Official Sanitary Authority (SENASA) has a website where main pest data (presence, distribution, statistics, etc) is recorded and assessed (<http://www.sinavimo.gov.ar/>). SENASA regularly updates the website and publishes the list of quarantine pests in Argentina, which is also available on the website of the IPPC (https://www.ippc.int/static/media/files/reportingobligation/2016/02/16/Quarantine_Pest_List_of_Argentina_-_2016.pdf)
- ⇒ CHINA: Yes. Pest threatens the yield and quality of grain crop badly, and definitely hinder the virtuous circle and sustainable development for grain production. By means of PRA, pest can be determined if it has inspectability, and PRA will also keep official control to potential economically important part of the area which has been threaten or not yet threaten by pest, in order to make a conclusion that if risk rating is acceptable, necessary and reducible. If the risk rating is unacceptable, grain production and trade should be carried out within a certain acceptable range. Meanwhile, the damage to grain planting by part of high-risk pest can be controlled as well.

In certain cases the PRA's are made available to trade, in other cases not. Several companies make their own internal PRA's. Trade would benefit from alignment and easy availability of PRA's.

10) Is the grain industry involved in the development of PRA's? If so, please provide details.

- ⇒ Although there are countries where trade is not or only occasionally involved, in most cases, trade is involved in the developments of PRA's, e.g. via trade associations, such as COCERAL, or FEDIOL.
- ⇒ GERMANY is looking for an agreement on Phytosanitary measures with China for imports of German wheat and malting barley.
- ⇒ ARGENTINA: Local Industry/Exporters (gathered in the Argentinean Oilseed Industry Chamber - CIARA) actively participate and collaborate in this process in which company members provide information and feedback.
- ⇒ ARGENTINA: as a net grain exporter country, this point should be more focused on importing countries. The Official Sanitary Service (SENASA) performs pest monitoring, with the collaboration of the trade to export to China for the purpose of complying with the protocols signed with the Asian country companies.
- ⇒ AUSTRALIA: No, Government produces and occasionally may seek information from industry, but we never see those documents. As per Q9, industry may do their own PRA, but that is a company basis and they are not made available to other industry parties.
- ⇒ CANADA: The grain industry is not directly involved in the development of PRA's but may be asked by the CFIA for any relevant information the grain industry might have relating to the production and storage of the export commodity. Grain industry input about grain production, storage and transport are sought when compiling the technical information package to be provided to the importing country. Importing countries require a technical information package in order to complete their Pest Risk Assessment for determining phytosanitary import requirements for Canadian grain exports seeking market access. This technical information package includes biological information about pests associated with the grain commodity during its production, handling and storage. This package is provided by the NPPO of the exporting country to the NPPO of the importing country

Although there are countries where trade is not or only occasionally involved, in most cases, trade is involved in the developments of PRA's. IGTC to decide whether there should be mandatory inclusion of trade in development process of PRA's.

11) Which are the phytosanitary import requirements most commonly used? Where required, provide specific examples.

- ⇒ The use of phytosanitary import permits is the mostly commonly used phytosanitary import requirement. In addition, the website of the importing NPPO, government legislation and regulations also contain information on phytosanitary import requirements
- ⇒ Fumigation prior to shipment

- ⇒ Freedom from (certain) weed seeds
- ⇒ Freedom from (certain) plant diseases
- ⇒ Free from quarantine pests, specified by the importing country.
- ⇒ Phytosanitary certificate
- ⇒ Import permit
- ⇒ Phytosanitary legislation at destination.
- ⇒ Official phyto certificates based on Directive EU/2000/29 (for reference, see above).
- ⇒ ARGENTINA: Free shipping of *Trogoderma granarium* is the most common measure.
- ⇒ AUSTRALIA: Pre-shipment fumigation, either prior to loading or in-transit, despite a nil tolerance applied by DAWR at export. Fumigation rates are often set for products such as methyl bromide and phosphine, depending on the temperature of the commodity. These rates can be in excess of legal label rates used and thus require a special off-label permit. Certification is required to verify treatment.
- ⇒ CANADA: The reliance on phytosanitary certificates by importing countries is indicated by the number of phytosanitary certificates issued by CFIA. In 2014-15, CFIA issued 94,999 Phytosanitary Certificates for all plant commodities, of which 38,760 were issued for field crop commodities.
- ⇒ CHINA: Pls refer to all the phytosanitary requirements protocol signed between AQSIQ and relevant governmental authorities of exporting country. An import permit issued by AQSIQ should be acquired by Chinese importers in advance before import. Other requirements are specified in the protocols. Shipments need to be in conformity with general standard practices as well as regulations of import country.
- ⇒ CHINA: The following pests are strictly prohibited: *Sorghum alvum*, *Sorghum halepense*, *Cuscuta*, tobacco ringspot virus, South mustard cauliflower mosaic virus, *Callosobruchus analis*, gray weevil, *Phytophthora sojae*, southern bean mosaic virus, tomato ringspot virus. (黑高粱、假高粱、菟丝子属、烟草环斑病毒、南芥菜花叶病毒、鹰嘴豆象、灰豆象、大豆疫病菌、南方菜豆花叶病毒、番茄环斑病毒)
- ⇒ ITALY: parcels coming from *Tilletia indica* affected areas (US, Mexico, Iran, etc) are stopped before custom clearance, sampled and tested; only if test is negative the goods can be custom cleared.
- ⇒ UKRAINE: "Objects of regulation" are subject to inspection and they include: any plants, plant products, places of their storage and packing, vehicles, containers, soil and other organisms, objects and materials which can bear and spread regulated hazardous organisms.
 - The Law of Ukraine dd. 30.06.93 No. 3348-XII "On the quarantine of the plants" (with changes and addenda);

- The Resolution the of Cabinet of Ministers of Ukraine dd. 12.05.2007 No. 705 "On some issues of exercise of the law of Ukraine "On the quarantine of the plants"
- The Resolution of Cabinet of Ministers of Ukraine dd. 24.10.2002 No. 1569 "On approval of the order of levying of single impost in the check points through state border of Ukraine";
- The Order of Ministry of Agrarian production of Ukraine (now - Ministry of Agrarian Policy and Food of Ukraine) dd. 23.08.2005 No. 414 "On approval of phytosanitary rules of import from abroad, transportation within the borders of Ukraine, transit, export, order of processing and realization of quarantined materials»;
- The Order of Ministry of Agrarian Production of Ukraine dd. 22.12.2005 No. 731 "On approval of phytosanitary rules of import from abroad, transportation within the borders of Ukraine, transit, export and production of wooden packing material"
- ⇒ Testing and relevant certification from both exporter and importer
- ⇒ Quite often, it appears that phyto-requirements are used as a technical barrier to trade, or a non-tariff trade barrier.
- ⇒ The product was grown in area where (quarantine pest name) is known not to occur in the country / area of production.

Several phyto import requirements used, with phyto certificate / import permit most commonly used. Trade is critical that all requirements have sound scientific basis.

12) Which ones of the import requirements do you consider most suitable to be transferred in one way or another into the Standard?

- ⇒ Active standards are sufficient
- ⇒ Ban the zero tolerance and introduce allowance, even if minimal sample ec. 50 ppm on ambrosia versus zero for Egypt.
- ⇒ Freedom from weed seeds and plant diseases can be very restrictive requirements. This SHOULD NOT be included in an international standard.
- ⇒ Phytosanitary Legislation at destinations is the most suitable data to be transferred to the Standard. This information needs to be permanently updated to allow exporters to be in compliance. In addition, Best Practice of Biological Contaminant Management in bulk products would be important to be included.

- ⇒ Fumigation certificate with delivery and certificate of analysis
- ⇒ The low risk pest to be transferred as “*substantially free from*” & Fumigation
- ⇒ The content of inspection and the method to do the inspection in both importer and exporter.
- ⇒ Argentina: Phytosanitary requirements should not be part of an international phytosanitary standard because these are very specific to the product in question and pests that are defined in the PRAs.
- ⇒ Australia: Nil tolerance for live stored grain insects in exported grain should be a common goal for all industry. DAWR have a three-pronged approach to export regulations and this should be considered by all exporting country governments:
 - Exports permitted only from Registered Establishments.
 - Loading into empty vessels/containers that have been inspected and approved.
 - Grain inspection (e.g. nil tolerance for live stored grain insects at loading).

Although no perfect consensus, it seems there are a number of principles that are being proposed for transfer into the ISPM. For example, there is no consensus on banning zero tolerance.

Also within the existing ISPM's there several principles that can be transferred into ISPM for the International Movement of Grain:

- “In particular, the phytosanitary procedures and phytosanitary regulations should take into consideration the concept of minimal impact and issues of economic and operation feasibility in order to avoid unnecessary trade disruption.”
- “The IPPC and the principle of transparency (ISPM 1) require that countries should, on request, make available the rationale for phytosanitary requirements. The whole process from initiation to pest risk management should be sufficiently documented so that when a review or a dispute arises, the sources of information and rationale used in reaching the management decision can be clearly demonstrated.”
- “Requirements for phytosanitary certificates should respect the principles of transparency, non-discrimination, necessity and technical justification.”
- “A combination of phytosanitary measures in a systems approach is one of the options which may be selected as the basis for phytosanitary import requirements.”

13) Which treatments do we wish to promote in the Standard? And please explain your rationale.

- ⇒ Phytosanitary import requirements determined based on categorization of the commodity, as guided by ISPM 32

- ⇒ Phytosanitary export certification based on sampling, inspection and testing for regulated pests
- ⇒ Certification based on area pest freedom and lack of association with the commodity
- ⇒ Inspection of vessels prior to loading for export
- ⇒ Inspection of licensed export facilities
- ⇒ Cleaning & sieving: these reduce content of botanical impurities and fungi.
- ⇒ Gas application & fumigation to reduce content of live insects
- ⇒ Fumigation in transit as cheap & effective when done correctly
- ⇒ Nowadays phosphine is the only fumigant acceptable by IMO for fumigation of grain in transit.
- ⇒ Aluminium Phosphide –approved for use
- ⇒ Sourcing grains from low risk areas – reduces the initial pest burden
- ⇒ Inspection and certification – Inspection of vessels to ensure will not lead to contamination issue. Inspection of product at approved rates to ensure it meets requirements.
- ⇒ Treatment of grain – to reduce/remove presence of pests.
- ⇒ Appropriate GAP and GMP along the supply chain
- ⇒ Promote crop rotation, plant protection agents
- ⇒ Processing of grain at secure facilities – to prevent unwanted contamination of nearby pests. Relates to bulk sampling and testing cannot guarantee complete freedom of pests.
- ⇒ FGIS Inspections and Fumigation
- ⇒ Scope: Grain & By-products are mostly handled in bulk and big volumes in the whole supply chain. Thus, it would be worth promoting treatments in the Standard to prevent products from having pest & contaminant presence, as follows:
 - a) Preventive Treatments for avoiding insect infestation
 - b) Curative Treatments in case of live insect detection
 - c) Sieving etc
 - d) Biocide Treatments with weak acids (preventive) for mitigate Salmonella and Fungi contamination.
 - e) Cargo fumigation is for sure a good practice for insect control when properly done. Fumigant dosage depending on the degree of infestation and the climate condition

- ⇒ Standardize processes to prevent crops get affected by pests during the planting and processing in export country, and establish a crops traceability system. The standard treatment to PRA area and the draw up the pest's list with different country's inspection organization
- ⇒ Argentina: None, see Q12

Many treatments identified by IGTC for promotion into ISPM on Grain.

One mention of crop traceability system. Considering IGTC history of blocking traceability, this comment not to take over.

14) Are there conditions (for production, packaging, storage, transport & handling) that we wish to promote? And please explain your rationale.

- Good Agricultural Practice
- Existing guidelines of industry
- Hygienic precautions throughout the transport chain
- Absence of fungicidal treatments on container floors. Sufficient packaging protection of material in transit
- Production – no, up to country to regulate pest management
- Storage – no, up to country to manage grain storage and transport in exporting country
- Processing – no, up to country to manage processing
- Loading for export – yes. As for Q13.
- Electronic format of documents (E-docs, E-phytos) is needed: this is an opportunity to reduce cost, increase efficiency and security of document processing
- Conditions must be adequate (temperature, moisture, facility housekeeping, contaminant control best practice, etc.) in each stage of the supply chain in order to keep products in good conservation condition (quality) and full compliance (FS/Regulatory). Phyto-issues are strongly related to domestic grain transportation from port to final destination; leaks of product in this chain are the responsible for environment impacts, and not necessarily pest presence in imported cargo while it's still confined to destination port.
- For soybeans, increase the sealing measures of storage; improve the environment of workshops or warehouses.
- Planting, storage and transport.
- Sieving
- GAP and GMP along the supply chain and inside operations units

- Argentina: None, see also answers at Q12 and Q13
- Systems approach where:
 - Production – Best Management Practices
 - Packaging/storage/handling – HACCP principles to apply – as above
 - Transportation for export – inspection of vessels prior to loading; container cleanliness guidelines (IMO-UNECE guidelines)
- The systems approach should provide the highest level of protection as no single approach would be as good as the summation of a number of different approaches. Best management practices should provide the flexibility required to allow for the best outcomes in continually evolving environments. Prescriptive approaches will not necessarily provide the best practice in all situations especially when systems are evolving and changing on a continuous basis.

Although not in all cases consensus, many practices have come forward that IGTC wishes to promote. Potentially to consider 'systems approach'. Need for electronic format of documents.

15) Are there best practices or other documents that are produced and available (e.g. CCCF Mycotoxin Code of Practice etc.) that may assist meeting importing country requirements rather than inclusion in a Standard?

- There is a large range of materials/documents that assist industry and government to manage the pest load in grain. Codex produces many of these, but there are also a number produced by individual countries and within countries by industry. These should all be listed, reviewed for applicability and housed centrally provided any updates can be managed. This is a job for IGTC but not at present.
- HACCP with control & corrective action. Well at beginning of the chain. The later the control, the more expensive.
- Electronic format of documents: this is an opportunity to reduce cost, increase efficiency and security of document processing
- Good Manufacturing Practices (GMP) + Feed Safety Assurance (FSA) Certification, COCERAL Mycotoxins monitoring and prevention
- TASC
- Material Certificate of Analysis (C of A) for product quality along with a fumigation certificate

- Sellers should supply grain complying with destination phyto requirements; this is commercial condition, and buyers are responsible to communicate sellers of applicable phyto requirements. Relevant information to assist /meet compliance would be the following:
 - a) Annual Contaminant Risk Assessment: to have an idea of the contamination risks and the possibility of meeting FS Legislation at destination.
 - b) Contaminant Monitoring of the volume to be exported (to confirm compliance or not)
 - c) Contaminant Best Practice Management
 - d) GMP+ Certification Standard B2/B3 could represent a solid document for specific customers and destinations (e.g. Europe)
 - e) Other certifications: AQIS , Halal , Kosher, etc may help to confirm FS standards.
- Argentina: Pest management measures should not be part of an international phytosanitary standard
- For Germany: „Maßnahmen für den sicheren Umgang mit Getreide, Ölsaaten und Leguminosen“ – published by 9 associations in the chain

Large range of materials/documents that assist industry and government to manage the pest load in grain, but not reviewed for applicability and not available in central place.

Sellers need to comply with destination phyto requirements; buyers are responsible to communicate sellers of applicable phyto requirements.

16) Does the grain trade work in your country/region with pest free areas and areas of low pest prevalence? If so, how are these created, maintained and communicated to industry.

- No, opposite, less treatment = more pest
- Australia: DAWR determines the pest free areas. These areas are managed and local advice sought through the State Government Department of Agriculture. DAWR provides advice to individual exporters via verbal communication (they have a register of all exporters) and via advice to all registered exporters (via Industry Advice Notices located on their website <http://www.agriculture.gov.au/export/controlled-goods/plants-plant-products/ian>)
- US: APHIS regulates karnal bunt (KB): <http://1.usa.gov/1UTidw4>
- USDA handles regulated issues.

- Canada: The grain trade in Canada works with pest free areas but not with areas of low pest prevalence. Pest free areas do work in Canada because there is a natural separation between western Canadian grain production areas and eastern grain production areas. As way of example, western Canadian wheat production is free of dwarf bunt whereas other areas of Canada are not. Western Canadian wheat is sold with phytosanitary certificates indicating that this grain is free of dwarf bunt. This is achievable because virtually no grain is transferred from the eastern growing areas into western Canada. Low pest prevalence would not be expected to work within the western Canada region because of the wide movement of grain within the western crop production area and comingling of grain at port from all areas of western Canada.
- There should be a sampling protocol to declare if a cargo has been infested, e.g. is one live insect found in cargo considered as infested?
- Sanitary Authorities are in charge of assessing and communicating presence or absence (free) of main pests in the geographies.
- LOW PEST PREVALENCE: Some regions may be characterized as low risk in terms of specific pest presence by the industry instead of the official source. In this case, industry should conduct lab monitoring in order to assess the possibility of pest occurrence. This is not a frequent duty due to high cost.
- Supervise the condition of the soil when planting the seed to prevent harmful organisms spreading, and the plant-protection organization should supervise the origination and treatment when diseases and insect pests appear.
- We promote good practices upstream the supply chain and engage our business partners to follow them. Selection of suppliers/warehouses is part of our product safety management systems. We have developed requirements to work in a low pest prevalence environment (implemented inside silos and pest)

In certain countries the application of pest free areas works, in other countries not. Under certain circumstances, it can facilitate trade. Not opportune to promote this as a general practice in an ISPM. Best agreed upon on national basis with involvement of industry and on clear scientific basis.

17) If so, does the application of pest free areas curtail or assist the efforts of the trade?

- Good pest control assists the efforts for trade
- Pest Free Areas (PFA) assist trade by enabling exports to occur from those areas provided traceability is maintained and industry is aware of those areas. Movement of grain across boundaries hampers those clear boundaries of PFAs

and industry also has some difficulty when seeking exports from areas near PFAs and proving the grain is free of pests (due to timeframes for stock selection, laboratory analysis, sourcing suitable laboratories to conduct the required analysis).

- In the case of Karnal Bunt (KB), being regulated assists in the export of wheat because it allows us to get an Additional Declaration (AD) on the Phytosanitary Certificate, stating the wheat did not come from an area where KB is known to exist. Since this AD is a requirement of many importing countries, if APHIS did not regulate it, we would not be able to get the AD on our phytos.
- Not really: even if in US only the south might be affected by *Tilletia indica*, also vessels transporting spring wheat coming from the Lakes are treated as high risk
- Canada: The application of pest free areas does assist in the efforts of the trade in western Canada as outlined in the example above.
- Official Sanitary Authority could confirm that specific pest is not present in the country. In some way, this example can be considered as a “pest free area”. This information can be used to facilitate decision taking for the grain trading.
- Favourable factors are to make the product more secure, reduce trade tools. Disadvantages are the increasing costs and increasing prices.
- The methods we are putting in place (RU, UA, PL, and RO) have protected our supply chains. In the last 7 years, we had only a few incidents (mites, moulds, beetles).

The application of pest free areas can in certain cases assist trade

18) Are you aware of general practices that mitigate pest risk??

- General industry practices include:
 - Sieving, cleaning and disinfection, pest control, post-harvest treatments
 - Refuse contaminated loads inland.
 - Cargo found carrying harmful organisms, need to fumigate before use. To do epidemic surveillance at crop planting area.
 - Hygiene programs for dust control and management, grain spills, pest harbourages etc.
 - Integrated Pest Management (IPM)
 - Sealed storage treatments (such as Australian Phosphine Resistance Management Programs - Phosphine Strategy <http://www.graintrade.org.au/nwpgp>)

- Fumigation protocols (such as those outlined on the Australian Stored Grain website <http://storedgrain.com.au/> including AS2628 standard for sealed silos <http://storedgrain.com.au/?s=as2628>)
- USDA Inspections & Fumigation
- Electronic format of phyto certificates.
- ARGENTINA: See answers to Q7 and Q8
- CANADA: All of the practices outlined in questions #6, #8, #11, #13, #14 and #16 are used to mitigate pest risk

Many general industry practices available to mitigate pest risk, from good hygiene and storage to fumigation

E-phytos may facilitate pest risk mitigation

19) Does your experience show there is a need for guidance on specific situations (e.g. sampling or inspection protocols for pest detection)? Please provide details.

- There is no specific need, since it is already done by GAFTA, FOSFA, GTP code. However, generally speaking, good storage is the key for mitigating pest risk.
- Current shipping standards already have an adequate inspection protocol in relation to inspection of empty vessel work procedures and inspection processes for grain while being loaded.
- However, in general trade feels that there is a need for more guidance
- Lack of sampling procedures / rules. In some countries nonexistence of sampling procedure and no specialised laboratories.
- On fumigation there is a need for better understanding of the process
- Weed quarantine technology, systematic sampling of plants and preparation of specimen.
- A standard summarising pest mitigations method.
- Good industry practice is to be followed, supported by clear documentation defining the necessary requirements
- AU: A major flaw is that inspection processes at export in Australia have been set at approved rates by DAWR to obtain representative samples. In importing countries, the same representative inspection rates on discharge (or prior to discharge) are not used creating non-representative samples leading to disputes.
- Many sampling rates used for sampling/detection/further analysis for pests (mycotoxins etc) are extremely high. Many of these are not realistic to be applied given the quantity of grain collected during sampling.

- Example: In the Paraguayan soybean export program to Europe in which it is critical to meet with the pesticide residue EU MRLs, sampling procedure protocols and specific lab methods are carried out in order to be in compliance.
- CANADA: There is the need for guidance/harmonization on sampling as sampling at export may be different from sampling at load resulting in some discrepancy in results. Harmonization of diagnostic testing methodology would prevent discrepancy in results between the exporting and importing country

Trade has a preference for harmonized sampling/inspection protocols, as this would provide certainty that official procedures of each NPPO follow the same criteria. But given the existence of differing regulatory requirements in individual countries, unlikely they can be harmonized.

There is a clear need to have a global database highlighting legislation discrepancies between origin and destination. Especially true for destinations countries where legislation is not well known/defined.

20) Can you think of situations where the guidance in the Standard could affect biodiversity and the environment? If yes, please provide details.

- EU: No.
- CANADA: No, the expectation is that guidance in a standard would not affect biodiversity or the environment.
- The use of insecticides, herbicides and all kind of pesticides have to be used in a responsible way to prevent the environment or biodiversity from being harmed. Over treatment with pesticide or insecticide could harm biodiversity.
- Only approved fumigants and venting should be considered. The requirement for pre-shipment treatment using methyl bromide, without alternative fumigants being offered, creates difficulty in using/re-cycling this fumigant given the Montreal Protocol and lack of this chemical.

Application guidelines of pesticides to be strictly followed in terms of process and quantity.

21) When shipments are interrupted due to phytosanitary measures, who is notified? Is the grain trade industry notified, or only government to government?

- In general, trade (relevant industry affected parties eg exporter, Registered Premise) is notified. Depends largely on the destination country.
- In certain cases, the purchaser must be formally notified for any reason of delay

- NPPO of the exporting country should be notified (not always the case), but it may also be the exporting country's agricultural attaché in the importing country that receives the notification.
- Industry trade groups
- Example : when Official Sanitary Inspectors at the export port conveyor belt detect a Phytosanitary incident , they notify the finding to the shipper, loading port authorities and, depending on how serious the incident is, the Authority decides whether cargo loading will continue or not. When a phytosanitary incident is detected by the shipper/exporter, depending on the severity and regulatory impact of it, an FS Alert is triggered and communicated to the customer, importer, destination country and official local Authorities.
- In accordance with ISPM No. 13, importing country has to send notification about non-compliance of the phytosanitary measures with government body NPPO (Ukraine: State Veterinary phytoservice).
- CANADA: Notification of interrupted shipments due to phytosanitary measures is dependent of the importing country. In some incidences, the importing country may notify the importer who normally then informs the exporter first. In other instances, the importing country government may notify their government counterparts in the exporting country. The exporting country government would then notify the exporter
- CHINA: When shipments are interrupted due to phytosanitary measures, importers are notified by AQSIQ.
- First of all, the grain trade industries should be notified first, and then report to the Government.
- In Europe the notification is managed via the Rapid Alert System for Food and Feed (RASFF; http://ec.europa.eu/food/safety/rasff/index_en.htm). For example, in the case of notification of Ambrosia, the information goes to the owner.
- The government-to-government authorities of the countries involved. The business operator is obliged to segregate the batch and inform the local authorities. If the inspection of the goods confirms the non-conformity, the authority of the Member State informs the European Commission via RASFF system. The alert is made public on the EU websites. The EU Commission informs the control authorities of the others members states (if the product is placed on their markets).

IGTC feels that the process is unclear and seems to vary by importing country and/or regulatory agency. Having a defined notification process, including a rapid response mechanism, should be a key piece of the internal standard.

22) Is the notification process a standard practice?

- The notification process does not seem to be standardized. Certain countries do not have a notification process, whereas others do.
- In practice, official notifications are sent very seldom and regulation of arisen phytosanitary issues takes place privately.
- AUSTRALIA:
 - For affected industry parties – no.
 - Government: Dept. of Agric. & Water Resources (DAWR) – yes
 - The timeliness of these notifications is generally good and should be vessel by vessel but some Governments only notify infrequently hence the issue cannot be dealt with/future shipment risks mitigated to the extent the trade would like. The ISPM relating to this notification is not always followed.
- When an incident is detected, the notification process is a standard practice. A Food Safety Alert procedure is followed and reported to destination. An Incident investigation is conducted. The root cause of the incident is issued. Corrective Action plan shared to show commitment in incident mitigation.
- At destination (e.g. Europe) – Rapid Alert for Food & Feed Safety (RASFF) could be randomly conducted by the FS Authorities at roads discharge ports and in case a pest or contaminant is detected, a FS Alert is launched and communicated to the FS Authorities of the origin country. For example: *Salmonella* presence detected in Soybean Meal (SBM) cargoes in Italian ports.
- ARGENTINA: Yes, this should be the case, but it is not always applied by the importing NPPO
- CANADA: Notification by Canada is a standard practice and follows the procedures outlined in the ISPM 13 – Guidelines for the notification of non-compliance and emergency action:
https://www.ippc.int/static/media/files/publication/en/2016/01/ISPM_13_2001_En_2015-12-22_PostCPM10_InkAmReformatted.pdf
- CHINA: Yes. Importer will be notified by AQSIQ, then importer will notify the exporter (supplier).
- EU: There is no international standard, but publication within EU, regulation in food & feed law. Should be based on RASFF procedure

The notification process is not standardized. Certain countries do not have a notification process, whereas others do. Having a defined notification process, including a rapid response mechanism, should be a key piece of the internal standard.

23) How are trade disruptions dealt with: in a common manner or case by case?

- In general, trade disruptions are handled on case-by-case basis for affected parties => claim, negotiation or arbitration on a case-by-case basis according to contracts.
- In certain cases, the government handles trade disruptions in a common manner but this is not always made transparent to industry.
- It also depends on the severity and frequency of the trade disruption. If it only affects one exporter, it is likely to be dealt with on a case-by-case basis. However, if an importing country institutes a requirement that impacts the entire industry (e.g., ambrosia or ergot in Egypt), US APHIS and potentially North American Export Grain Association will engage on behalf of the industry.
- CANADA: Trade disputes are generally dealt with in a common manner after notification has been received. NPPOs in exporting and importing countries will exchange information regarding reasons for the trade disruption and attempt to come to a resolution. If no resolution is achieved the dispute is moved up to the political level.
- CHINA: CIQ notifies the owner (or his or her agent) about the elimination, return or destruction. After a treatment of disinfection, the shipment is allowed to enter the country.

Divergence on how trade disruptions are dealt with: some jurisdictions 'case-by-case', others in a common manner. IGTC has preference for higher level of transparency

24) Is a register kept of trade disruptions? Is industry aware of issues? Or are they kept outside of the public domain? If so, please provide details.

- There is no register, only dissemination of information. E.g., in the case of Ergot, the information on the block implemented by Egypt was given by official media (Reuters) and not notified by the phytosanitary offices.
- Trade disruptions are mostly kept outside of the public domain. One example of incident registration to which industry has access to is the RASFF report. In this case, information stays in official hands
- The register of situations of disruption of trading process is not kept. Information is not public.
- (http://ec.europa.eu/food/safety/rasff/reports_publications/index_en.htm)
- Australia: Yes by the Government, but not made available to industry – the industry DAWR consultative committee <http://www.agriculture.gov.au/biosecurity/partnerships/consultative-committees/gppeicc> is kept abreast of major issues that arise.

- USDA and company's legal and government affairs departments
- Canada: A registry is not kept of all trade disruptions although most in the industry will be aware of trade disruptions when they occur.
- Argentina: At NPPO level, records do exist (when they notify importing countries).

In general, industry is not aware of any register, any coordination, or instances of trade interruptions. These are kept outside of public domain. IGTC to decide whether it wishes to argue in favour of availability of such records. Extrapolating from Q23 it seems there is a wish for a higher level of transparency.

ANNEX – LIST OF ABBREVIATIONS

- AD: Additional Declaration
- AHDB – Agriculture and Horticulture Development Board
- APHA: Animal and Plant Health Agency (UK)
- APHIS: Animal and Plant Health Inspection Service (US)
- AQIS: Australian Quarantine and Inspection Service
- AQSIQ: Administration of Quality Supervision, Inspection and Quarantine (China)
- CFIA: Canadian Food Inspection Agency
- CGF: Corn Gluten Feed
- CGM: Corn Gluten Meal
- CIQ: China Inspection and Quarantine
- CTU: Cargo Transport Unit
- DAWR: Department of Agriculture & Water Resources (Australia)
- EPPO: European Plant Protection Organization
- FAO: Food and Agriculture Organization (UN)
- FGIS: Federal Grain Inspection Service (US)
- FSA: Feed Safety Assurance
- GMP: Good Manufacturing Practices
- HACCP: Hazard Analysis and Critical Control Points

- IMO: International Maritime Organization
- IPM: Integrated Pest Management
- IPPC: International Plant Protection Convention
- ISPM: International Standard for Phytosanitary Measures
- JKI: Julius-Kühn Institut
- KB: Karnal Bunt
- NPPO: National Plant Protection Office
- NTMs: Non-tariff measures
- PExD: Phytosanitary Export Database
- PFA: Pest Free Areas
- PPQ: Plant Protection and Quarantine
- PRA: Pest Risk Analysis
- RASFF: Rapid Alert System for Food & Feed Safety
- RPPO: Regional Plant Protection Office
- SBM: Soy Bean Meal
- TASCC: Trade Assurance Scheme for Combinable Crops
- UNCTAD: United Nations Conference on Trade and Development
- USDA: United States Department of Agriculture
- WHO: World Health Organization (UN)
- WTO: World Trade Organization