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1. **PREAMBLE**

The most frequent means of soil movement internationally is as a contaminant in the shipment of other regulated articles. Soil is mentioned specifically as a potential medium for harbouring or spreading pests.

The International Plant Protection Convention (IPPC) definition of regulated article is: “Any plant, plant product, storage place, packaging, conveyance, container, soil and any other organism, object or material capable of harbouring or spreading pests, deemed to require phytosanitary measures, particularly where international transportation is involved.” From this definition it can be seen that the focus is any regulated article that might harbour pests, including soil.

Soil, as evidenced from the international restrictions and prohibitions concerning its movement, is considered to be a high risk pathway for spreading a wide range of pests including but not limited to: bacteria, fungi, insects, nematodes and weeds. Numerous soil-borne pests can survive for many years, with or without suitable hosts. Some of these pests can be detected visually while the detection of others requires sophisticated diagnostics.

Based on well-documented evidence from interception reports and published literature, most National Plant Protection Organizations (NPPO) prohibit the movement of soil that has not been treated to reduce the pest risk to an acceptable level that is permitted by the importing country authority. The acceptability of soil as a contaminant of other regulated articles will depend on the limits established by the NPPO of the importing country.

2. **PURPOSE**

This Procedure is to provide a process for the determination of soil contamination in grains, seeds and other plant products (other than horticulture commodities) that are presented for export certification.

3. **THE AQIS ROLE**

Australia Quarantine and Inspection Service’s (AQIS) role is to facilitate market access by providing independent export inspection and certification services, consistent with, Australia’s export laws, obligations under the International Plant Protection Convention and importing country requirements.

Australia’s export laws are designed to support market access opportunities for Australian agricultural products and to provide long term sustainability for the export industry.

AQIS authorised officers and people nominated to inspect grain under approved arrangements play an import role in this process to ensure compliance of prescribed goods for export. AQIS expects high standards from persons performing these roles, including ethical behaviour, when undertaking tasks outlined in these work instructions.
4. SCOPE

To describe the procedures for sampling, inspection and rejection of grains, seeds, stockfeeds and other flowable plant products (excluding horticulture commodities) contaminated with soil.

This instruction is for use by authorised officers and persons approved, under an approved arrangement, for performance of sampling and inspection of grains, seeds and other flowable plant products being, prescribed goods for export.

Separate guidelines and operational procedures for managing other contaminants will be prepared in the near future.

Note: The options and procedures identified below may not be applicable for approved persons operating under approved sampling arrangements as they do not conduct commodity inspection. This end-point sample inspection process does not provide the same efficiencies and commodity management flexibility as would be provided through in-line inspection systems.

5. LEGISLATIVE FRAMEWORK

♦ Export Control Act 1982 - (Part 2)
♦ Export Control (Prescribed Good – General) Order 2005 - (Part 6)
♦ Export Control (Plants and Plant Products) Orders, 2005 - (Part 4, Division 3 (NOI), Schedule 6)

6. DEFINITIONS

Analysis/ Analysed – International Seed Testing Association (ISTA) Purity Analysis Method - International Rules for seed testing, Sampling Method (chapter 2), Purity Analysis – Inert Matter (Chapter 3)

Approved Laboratory – means a laboratory that is accredited by a national accreditation body to conduct the relevant test or analysis.

Detect: Discover or notice the presence, existence of a substance. 1

Hand sieve – means to sieve utilising a pan approximately 30cm round with mesh, appropriate sized and able to allow soil to fall through whilst retaining the primary commodity.

Ethical – behaviour characterised by complying with Australia’s export laws and regulations, including meeting importing country requirements, but also by qualities of truthfulness, openness and freedom from deception and fraud.

Inspection: Official visual examination of plants, plant products or other regulated articles to determine if pests are present and/or to determine compliance with phytosanitary regulations [FAO, 1990; revised FAO, 1995; formerly (Inspect) 2

Obvious: Clearly perceptible or evident: easily recognised. 3

Sub-Sample – A sample of the commodity drawn by an authorised officer or person nominated under an approved arrangement at a sampling rate.

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2 International standards for phytosanitary measures guidelines for phytosanitary certificates Publication No. 12 of May 2001
(a) in the same proportion to the total quantity of the consignment as 2.25 L is to 33.33 t; or
(b) sufficient to enable an inspection to be made.

Soil: Soils form the skin of the Earth. Their thickness varies from a few millimetres – there where the soil is very young or scraped-off by external forces (e.g. water, wind, human activity) – to several metres – there where they occur in protected or stable places. They comprise of layers or soil horizons, each with their own characteristics. Soil material consists of a variable and often complex mixture of organic matter, sand, silt and clay particles, or is composed of dominantly organic debris.

Superficially: On, or near the surface.

7. INSPECTION / CERTIFICATION PREPARATION

7.0 Authorised Officers or persons nominated under approved arrangements to inspect grains should:

7.1.1 Undertake the following activities:
- Consider risks associated with the commodity and the export pathway
- Assess the establishment for the conditions that may compromise certification integrity;
- Review relevant Standard Operating Procedures and Work Instructions (as applicable to the activity and including OH&S);
- Apply all relevant OH&S principles in conducting activities at the site; and

7.1.2 Be aware of:
- Relevant legislation relating to the individual functions and activities undertaken (including but not limited to sampling, inspection and certification or rejection);
- Importing Country requirements (including any approved contaminant tolerances);
- Commodity identity preservation, maintenance of product integrity at the establishment, through-chain product security to final loading arrangements and establishment rejection procedures;
- Requirements for submitting samples (if required) to the relevant analytical laboratory - as required by the analytical laboratory and may include ISTA rules for the preparation and dispatch of samples)

7.1.3 Certification for export will only be provided where the commodity complies with all importing country authority conditions and restrictions, export legislation and AQIS certification requirements.

7.2 AQIS’ Commitment to Health And Safety (AQIS Employees only)

7.2.1 AQIS is committed to maintaining high standards in Occupational Health and Safety. It recognises and accepts its responsibilities and obligations to take all reasonably practical steps to provide a healthy and safe work environment for all its employees.

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5 The international Soil Reference and Information Centre (ISRIC) – www.isric.nl
7.2.2 All employees are required to comply with the Occupational Health and Safety (Commonwealth Employment) Act 1991, its associated regulations and Codes of Practice as approved by the relevant Minister plus AQIS Health and Safety policies, procedures and instructions issued in line with the legislative framework to ensure their own health and safety and to ensure the wellbeing of others.

7.2.3 **Incident Reporting** - All incidents, accidents and near misses must be reported by using the AQIS Incident Notification Form available on the AQIS OH&S Portal. Incident reporting greatly assists the organisation identify and manage workplace hazards.

7.2.4 **Training** - Before commencing operational duties, all officers where possible should undertake Occupational Safety induction training as part of the Certificate III in Government (Module 8). Before entering a non-AQIS working environment, AQIS personnel should also ensure they receive adequate instruction and training by the premises owner in the conditions and safety protocols of the work environment.

8. **RESPONSIBILITIES**

8.1.1 Before presenting prescribed goods for export, the exporter must ensure that the goods meet the *Export Control Act*, subordinate legislation and importing country requirements.

8.1.2 Persons inspecting and certifying export grain or plant products shall ensure that all sampling and inspection undertaken, for determination of presence of soil contamination, is completed in accordance with this Procedure.

8.1.3 Where an importing country has no established tolerance for a contaminant, an authorised officer or person approved under an approved arrangement will not cause the grain or plant product lots to be exported where soil is superficially obvious in the inspected sample from the line presented for export certification. **Exception**: where the importing country NPPO has provided an established tolerance for certain contaminants and that tolerance has been complied with.

8.1.4 The inspector must record any detection of a prohibited articles (which may include soil) on the Export Inspection Record (EIR) during inspection and shall not sign the export permit or other any other certification if prohibited articles are detected. In the case, and where the importing country has no officially established tolerance, the commodity must not be passed for export.

8.1.5 Receival Procedures – Bulk handlers or packers should ensure that they have effective receival sampling and inspection procedures to detect the presence of prohibited material (regulated articles) including soil, prior to presentation for export.

8.1.6 Where soil is detected at receival or if they are aware of soil contamination concerns due to farming practices or seasonal conditions, the contamination could be managed through the consolidation process to minimise the risk of failure at export inspection. Such processes may include cleaning or grading prior to presentation of the prescribed goods for export inspections and certification.
NOTE: During the introduction year of this Procedure (2006), companies operating under an approved arrangement must notify the AQIS authorised officer, located at the local AQIS office, of all soil rejections to enable assessment of rejection management options. This process will enable AQIS to monitor the implementation of the process management systems utilised at the establishment for dealing with soil contamination in prescribed goods.

9. WORK ACTIVITIES

Attachments 1 and 2 provide a summary of the process flows relating to the procedures detailed in 9.1 and 9.2 (below).

9.1 AQIS approved mechanical sieves

This section applies to inspection of grain at bulk terminals and packing establishments using AQIS approved mechanical sieves (eg. Eirez sieves) as part of an approved automatic sampling system.

9.1.1 If soil is detected (either above or below the screens) during routine inspection of grain or plant products, the inspector is to capture the next 2.25 litre of commodity sample arriving at the inspection point from the grain flow and isolate it for manual sieving as defined in 9.1.2.

9.1.2 This sample shall be sieved with a hand sieve, ensuring to shake the sieve (by moving the sieve on a horizontal plan – 200mm x 40 times in 30 seconds) to ensure smaller contaminants pass through the screen into the pan below (normal sieving process).

9.1.3 The grain or plant product remaining above and below the screen must be examined to detect any superficially obvious soil contamination (either above the screens of the sieve in clumps or below the screens as sand or smaller clumps).

9.1.4 If soil is superficially obvious during inspection of grain or plant products, loading from that source must cease immediately.

9.1.5 The inspector must then notify the exporter, the exporter’s agent or other person responsible for the goods and accountable to the exporter for compliance of the goods in accordance with the Export Control Act 1982 and Export Control (Plants and Plant Products) Orders 2005.

9.1.6 Where the importing country NPPO has an established tolerance, the exporter has the following options:

9.1.6.1 If the contamination level is clearly within the NPPO’s established limits loading may continue but all detections of soil in official samples are to be recorded on the inspection record with appropriate explanation;

9.1.6.2 If the inspector cannot clearly determine that the contamination levels are within established limits, the exporter may choose to either:

♦ commence 50 tonne runoffs (to a maximum of 5 runoffs per storage bin/cell/silo); or
♦ seek analysis of the sample through an approved laboratory to ascertain exact contamination levels to determine compliance.

NOTE: The process of official analysis may only be an option if the importing country has provided an established tolerance.
9.1.7 The person responsible may ‘run off’ up to a maximum of five (5) x 50 tonne lots from the same cell(s). If soil is superficially obvious after the fifth ‘run off’, the cell(s) must be rejected.

9.1.8 The person responsible may elect, at any time, during the process identified in 9.1.7, to have the official sample analysed at an approved laboratory to confirm the contamination level. During this period loading from the source(s) must cease pending the outcome of the analysis and provision of analysis certificate.

9.1.9 Each 50 tonne runoff lot must be treated as rejected commodity, isolated and must not re-enter the export path without appropriate corrective treatment (reconditioning to importing country requirements). Each 50 tonne runoff is to be appropriately recorded on the inspection record as a rejection.

9.1.10 Where the product is being loaded from more than one bin/silo/cell, usual rejection procedures apply – either identification of the offending bin/silo/cell and clearance of the other bin/silo/cell(s) or all bins/silos/cells contributing to that sampled pathway are to be rejected and treated individually as per 9.1.6.2.

9.1.11 The person responsible may elect, in consultation with AQIS, to implement other strategies (corrective actions), to ensure that the grain or plant product meets the importing country requirements, then represent the commodity for sampling and inspection.

9.2 Manual sampling

The following procedure applies to establishments loading through pathways not capable of operating at more than 400t hour and using hand sieve (excluding container packing establishments using AQIS approved mechanical sieves [eg. Eirez sieves]).

9.2.1 If soil is superficially obvious (either above the screens of the sieve in clumps or below the screens as sand or smaller clumps) during routine inspection of grain or plant products, the inspector is to obtain a total of 2.25 litre sample from the grain flow for assessment.

9.2.2 This sample shall be sieved with a hand sieve, ensuring to shake the sieve (by moving the sieve on a horizontal plan – 200mm x 40 times in 30 seconds) to ensure smaller contaminants pass through the screen into the pan below.

9.2.3 The grain or plant product remaining above and below the screen must be examined to detect any superficially obvious soil contamination.

9.2.4 If soil is superficially obvious (either above the screens of the sieve in clumps or below the screens as sand or smaller clumps) during inspection of the grain or plant product, loading from that source should cease immediately.

9.2.5 The inspector must then notify the exporter, the exporter’s agent or other person responsible for the goods and accountable to the exporter for compliance of the goods in accordance with the Export Control Act 1982 and Export Control (Plants and Plant Products) Orders 2005.

9.2.6 Where the importing country NPPO has an established tolerance, the exporter has the following options:

9.2.6.1 If the contamination level is clearly within the NPPO’s established limits loading may continue but all detections of soil in official samples are to be recorded on the inspection record with appropriate explanation;
9.2.6.2 If the inspector cannot clearly determine that the contamination levels are within established limits, the exporter may choose to either:
- commence 50 tonne runoffs (to a maximum of 5 runoffs per storage bin/cell/silo and subject to silo/bin/cell capacity); or
- seek analysis of the sample through an approved laboratory to ascertain exact contamination levels to determine compliance.

NOTE: The process of official analysis may only be an option if the importing country has provided an established tolerance.

9.2.7 The person responsible may ‘run off’ up to a maximum of five (5) x 50 tonne lots from the same cell(s). If soil is superficially obvious after the fifth ‘run off’, the cell(s) must be rejected. Note: this option is only applicable to bins/silos/cells that may contain adequate commodity to accommodate a 50 tonne runoff and then recommence export loadout sampling and inspection.

9.2.8 The person responsible may elect, at any time during the process identified in 9.2.7, to have the official sample analysed at an approved laboratory to confirm the contamination level. During this period loading from the source(s) must cease pending the outcome of the analysis and provision of analysis certificate for records.

9.2.9 Each 50 tonne runoff lot must be treated as rejected commodity, isolated and must not re-enter the export path without appropriate corrective treatment (reconditioning to remove the contaminant). Each 50 tonne runoff is to be appropriately recorded on the inspection record as a rejection.

9.2.10 The person responsible may elect, in consultation with AQIS, to implement other strategies (corrective actions), to ensure that the grain or plant product meets the importing country requirements, then represent the commodity for sampling and inspection.

10. DOCUMENTATION

10.1 Completion of Paperwork

10.1.1 If the cell(s) is rejected, the inspector must complete a ‘rejection notice’ and hand it to the exporter or their nominated agent.

10.1.2 If the sample, under an approved arrangement or a non-AA grain inspection is found to be contaminated, the inspector must record all detections of regulated articles on the ‘EIR ‘rejection notice’ and hand it to the exporter/agent or person responsible.

10.1.3 The exporter or their agent must complete the ‘rejection notice’, in the appropriate place, detailing the treatment conducted and hand the completed ‘rejection notice’ to the inspector before re-inspection of commodity from the original source.
11. IMPLEMENTATION OF PROCEDURES AND VERIFICATION

11.1 Implementation

11.1.1 AQIS Regional Export Managers are responsible for the implementation of the requirements in these procedures by all inspectors, including approved arrangements that include inspection of the prescribed goods, from the date that this document is issued.

11.1.2 An Industry Advice Notice (IAN) will be issued to exporters and their agents, through regional offices to ensure that the prescribed goods presented for AQIS export inspection and certification conform to the conditions contained in this document.

11.1.3 Approved arrangements should reflect these requirements in their ‘Process Management System and any relevant Work Instructions.

11.1.4 The AQIS Grain Exports Program (GEP) will be shortly providing authorised officers with an assessment tool that will provide a visual guide to contaminant levels where a tolerance is officially afforded by an importing country NPPO.

11.2 Post-Implementation Review

11.2.1 AQIS Regional Exports Managers will conduct a review of the implementation of this standard operating procedure three months after commencement.

11.2.2 This review will be conducted to ensure compliance to the procedures and standards specified herein, with particular focus on consistent application of the requirements by all inspectors.

11.2.3 The GEP, Canberra, will conduct a national review of the implementation and application of this procedure six months after implementation and thereafter reviewed annually or as required following identification of non-compliant activities.

11.2.4 A proficiency program is currently being developed by the GEP to verify consistency of application of the requirements defined in this procedure and competency of individuals in assessing for soil contamination in these prescribed goods for export. This program will underpin the GEP review of the implementation and application of these procedures by both authorised officers and persons approved under an approved arrangement for conducting sampling and inspection.

11.2.5 The assessment tool mentioned in 11.1.4 is to be utilised in proficiency assessment of all inspectors, both authorised officers and persons approved under an approved arrangement, where they are undertaking inspection of prescribed goods for export.

12. DISPUTE RESOLUTION

Any dispute regarding the detection of soil (a prohibited article) in grains, seeds or other flowable commodities being, prescribed goods for export, will be handled as defined in 9.1.6 or 9.2.6 (as applicable to the sampling method) and must be lodged with an authorised officer only and must be notified at the time of inspection. This may be then referred to the Regional Export Manager (Plants) for action.
Any further dispute regarding test results or rejection of prescribed goods for export are to be lodged in writing through the Regional Export Manager (Plants) in the regional AQIS office. These will be dealt with by Regional AQIS Management in consultation with the GEP, Canberra through due process.