Traceability in the Phytosanitary Context

Discussion Paper Submitted by North America

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1. Background

1. The concept of “traceability” (of plants, plant products and other regulated articles for export) has emerged as a potential topic of discussion and consideration by the International Plant Protection Convention (IPPC). In 2013, a detailed outline (Specification) for a future IPPC standard for the international movement of grain was developed. The first draft Specification included “traceability” as an element in the standard but the term “traceability” was later removed on the basis that “traceability” was a broad concept that required elaboration outside of the standard on the international movement of grain. The IPPC Commission on Phytosanitary Measures (CPM) subsequently directed the IPPC Strategic Planning Group (SPG) to discuss traceability and its strategic merits at its October 2014 meeting.
2. This discussion paper is intended for the SPG. It examines various uses and applications of traceability in a phytosanitary context, identifies key issues, and provides recommendations for an appropriate and practical approach on this subject. The analysis is based on the North American experience and practices, but may provide insight and perspective which will be relevant to the other IPPC members as they consider future work on traceability.
3. The analysis reflected in this discussion paper is based on interviews with plant protection specialists, review of past and present policies and practices, interviews with key industry sector representatives, and a review of traceability concepts in existing ISPMs.

2. IPPC Standards

1. In reviewing the IPPC Standards, traceability was considered as an overarching term that includes the concepts of origin, trace-back, and trace-forward.
2. The 2013 Grain Strategic Experts Meeting Report (47\_SC\_2013\_Nov )[[1]](#footnote-2) noted that “…Traceability is not identified (in Standards) as a mitigation measure so much as a program management tool and documentation responsibility (of the NPPO) that facilitates distinguishing lots of commodities in trade based on the type of product, pest risks, and specific procedures that are applied to meet particular phytosanitary objectives (e.g., pest free area).”
3. In reviewing existing ISPMs, the uses of the term traceability and associated terms like origin, trace-forward and trace-back are consistent with the definition provided above in which traceability may be a valuable tool for certain phytosanitary programs that is linked to pest risk. To date, the IPPC has used the concept in specific circumstances in published standards primarily for:
4. Ensuring samples for testing or from inspections are traceable back to the shipment/lot they were taken from (ISPM 23, 27, 33 and 27annex 2A)
5. Phytosanitary certification: Traceability to place of origin is an essential part of the system of phytosanitary certification (ISPM 7). Place of origin provides important information to the importing country of the phytosanitary status of the consignment, including pest free area/pest free places of production/pest free production sites, and indicates the phytosanitary import requirements that are applicable to the particular consignment (ISPM 20). Further, place of origin facilitates trace-back in the case of non-compliant imported consignments (ISPM 12)
6. Integrated measures for plants for planting (2.2.1.8 Records in ISPM 36)
7. Supporting the establishment and maintenance of certain pest free areas and production sites (ISPM 10)
8. Moving bio control agents and other beneficial organisms (Section 3 & 4 ISPM 3)
9. Guidelines for use of irradiation as a phytosanitary measure (ISPM 18)
10. Although not currently fully defined, elaborated, or addressed by existing ISPMs, traceability is also considered an essential tool for emergency response in the case of a new pest detection –where the pest may have come from, particularly with respect to human-assisted movement (trace-back) and where it may have spread to through the movement of potentially infested commodities (trace-forward).

3. Current Practices

1. Traceability, including the concepts of place of origin and trace-back and trace-forward, is a tool that is used primarily to:

* Document the phytosanitary status (of the consignment) with respect to origin, e.g. pest free area at place of origin
* Maintain phytosanitary security of a commodity, e.g. virus-indexed fruit trees labeled to ensure they are not commingled with untested trees.
* Determine the relevant phytosanitary import requirements for a shipment, e.g. import requirements may vary depending on the place of origin.
* Trace-back and trace-forward in the case of non-compliance, potentially limiting the scope of the regulatory response by the importing country if the exporting country can demonstrate sufficient traceability to a specific place of origin, or to a limited subset (e.g. lot) of a non-compliant consignment.
* Trace-back and trace-forward in the case of emergency response in the event of pest detection.

1. A vital element in defining and applying any phytosanitary measure is pest risk. The Grain Strategic Experts Meeting Report noted, “…traceability is subject to the same disciplines as other phytosanitary concepts. It requires a technical justification, i.e. pest risk basis for its use. It must also be practical to apply and have private sector support to be implemented.”
2. The idea or definition (at a high level) of traceability which appears to be consistent across interviews with different plant health program officials is that “…traceability is being able to follow some defined plant item in a forward and/or backward direction along its life path from some defined starting point to some designated finish. The need for and amount of traceability should be consistent with the presented risks and practicality...”
3. Furthermore, traceability can be valuable as a program management tool to determine the origin of a consignment in the event a significant non-compliance e.g. discovery of a regulated pest. .
4. As with any concept an NPPO (or other entity) is trying to define and apply, there are additional considerations, questions and points of difference which need to be considered that pertain to traceability, including:

* Is there sufficient traceability in existing plant health programs or are other elements or practices needed?
* When is it worth it to track? What is the purpose of tracking?
* When does it stop and start precisely? How many “stops” need to be tracked?
* What is being tracked and why? What are criteria for tracking items?
* What situations present opportunities for partnership to provide enhanced phytosanitary status?

4. Industry Practices and Perspectives

1. Cases exist where there are benefits for the agriculture sector in instituting traceability systems as business decisions that add value to products and processes which may also, as a side consequence, support the existing phytosanitary status or phytosanitary measures that are applied in the country of origin. For some commodities, maintaining traceability is a key component of plant protection programs which ensure the phytosanitary status of a consignment for export (e.g., pest free area or pest free production site).
2. Industry associations can be critical partners in these efforts as can the NPPO, but these programs may assist specific business interests and are not always intended as a required part of pest risk management. The following are key considerations that that are relevant to industry:

* any traceability system needs to fit into private industries’ standard operating procedures and practices and facilitate the collection of relevant information.
* It is beneficial to most industries to have some level of traceability built into their business processes and practices and many have adopted such systems. For example, in the case of fruits and vegetables, food safety requirements have led to increased traceability, a trend that is expected to continue.
* Without traceability systems in place, there is a risk that when an issue arises, access to a whole market could be closed. In some cases, the economic impact could be less severe based on the company’s ability to trace commodities to source. However, there are some cases where the costs of implementing traceability outweigh the value of the commodity and such systems would not be implemented, despite the potential consequences of a market access issue.
* The applications of traceability with respect to phytosanitary status of commodities need to be standardized across countries, risk based, and compatible with existing business practices.
* With respect to seeds for propagation, seed certification systems generally include elements of traceability. Also, as commercial varieties are developed, most companies choose to track individual genetic lines and seed lots to ensure identity and to facilitate later commercialization of seed products.
* In the case of grain, the grain-handling practices among different countries vary significantly. With major grain exporters, the scale of operations, high throughput of material, and commingling of grain at various steps along the export continuum of the same grade and quality make the implementation of a traceability system from farm to point of export at least impractical and potentially impossible.
* Consumers are becoming more interested in the origin of food. This trend is encouraging larger retailers to implement traceability requirements for their suppliers.

5. Key Considerations

1. The following are general conclusions based on the North American experience with traceability:

* Traceability systems are a component to a number of phytosanitary programs overseen by NPPOs. All plant protection activities inherently have some degree of traceability.
* Traceability tools are evident in a number of plant protection programs and practices including: bilateral plant health agreements; verifying shipment manifests at ports-of-entry; certification of exports of plants and plant product; and approving foreign oversight programs.
* Traceability is viewed as one of several phytosanitary tools that may be a combined part of a systems approach, not as a phytosanitary measure itself. It should be considered as a method that can be used in the response to pest detections and in the promotion of trade.
* There are two main situations in which traceability systems could be applied:
* When it is part of a formal phytosanitary program.
* When it supports or enhances the phytosanitary status of consignments.
* The primary advantage of a traceability system is that it may allow for the least restrictive phytosanitary action be taken in the country of import rather than closing an entire market to a particular exporting country or area.
* Traceability is known to add costs to production and distribution prior to export.
* NPPOs in the importing and exporting countries and the regulated parties themselves need to have a mutually agreed-upon definition of a traceability system. For example, does it need to trace back through every step in the production and distribution chain, or can its application be limited to tracebacks to limited check points along the way?

6. Guiding Principles

1. In further considering the concept of traceability CPM should consider the following principles:
2. Need for a Harmonized Definition

* A glossary entry and supplement for the IPPC that defines the concept of traceability in the phytosanitary context and harmonizes countries‘ understanding of the concept and its application is needed.
* Text which can be considered for a definition of “traceability” are:
* an information-based management tool that can mitigate the consequences of a phytosanitary risk by tracking a plant or plant product in a forward and/or backward direction along its path in production and/or trade from a defined starting point to a defined end point.”
* a tool that identifies the source of risk or the probable path of movement and the end point (destination) of risk. “
* There is a need to harmonize international understanding regarding the applications of the “trace-back” concept and term. Are specific check points needed at every step in the production and trade chain, or only back to certain designated points along the way?

1. Risk Based Approach

* Needs for traceability should be supported by Pest Risk Analysis (PRA). That is, the need for and the amount of traceability required for plants and plant products should be consistent with the known pest risks and practicality of applying such measures.
* A classification system for traceability that is based on pest risk practicality/feasibility of implementation, and technical justification for its use in the phytosanitary context would benefit CPM members. A tier system for classifying levels of traceability may be a way forward to address this issue and could build on phytosanitary import requirements that are already commonly accepted and practiced. For example:
* Level 1 traceable – a phytosanitary certificate without additional declaration (country of origin, pest free)
* Level 2 traceable – phytosanitary certification with additional declarations (origin from a pest free area or pest free place of production, treatment).
* Level 3 traceable – there is a strong incentive and phytosanitary justification for a rigorous traceability system. For example: Plants for planting; seeds that also need to be certified pure.
* Criteria to be considered when weighing different traceability option levels:
* intended use in the importing country (propagation versus non-propagation end use)
* Existing traceability measures already in place.
* Oversight by the NPPO (also includes the discussion on diversion from intended use, which is a regulatory management issue of the importing country) - specific pest risks
* costs and benefits;
* handling methods
* existing infrastructures
* history (past problems or effectiveness)

1. Operational Feasibility

* Industry practices should be considered. The value of traceability to the industry could be a relevant factor. NPPOs should consult the relevant industry sector when considering traceability for particular commodities.
* Existing business practices could form the foundation of a traceability system with phytosanitary application for a particular industry, with the possible exception of emergency phytosanitary measures that are technically justified.
* The costs associated with developing and maintaining a traceability system should also be a consideration. Are additional costs justified by the pest risk and are industry stakeholders able and willing to bear those costs?
* The development of traceability may be better handled through bilateral negotiations between trading partners rather than a multilateral project.The applicability of traceability may vary, depending on the ease of identifying a product to origin, level of processing, transportation/distribution logistics, and other factors.

7. Concluding Remarks

1. Is "traceability" a priority topic for CPM contracting parties? Is harmonization of traceability practices or policies a critical need in order to prevent the spread of pests? Has there been a pattern of problems in trade that are associated with the application or misuse of traceability systems or requirements? Does this represent an important gap in the suite of IPPC standards?
2. The North American perspective is that lack of detailed guidance on the concept of "traceability" is not a practical issue that has emerged and requires an urgent response through the IPPC. However, there may be merit in having the Glossary Panel review and harmonize some key terms that may be associated with “trace-backs” and “trace-forward” actions that can be found in existing ISPMs.
3. It may also be practical for a small group to build on this paper, together with points of consensus that emerge from the SPG discussions, to draft a white paper on the concept for CPM aimed at clarifying, informing, and building a shared understanding on the role of traceability in the plant protection area. Such a white paper will allow for a deeper discussion about traceability among CPM members and is needed before embarking on any specific recommendations for future work on this subject.

8. References and Acknowledgements

1. This discussion paper is based on policy analysis conducted by USDA, APHIS. This analysis examined current uses and applications of traceability in USDA’ Plant Protection and Quarantine (PPQ). The analytical team interviewed program Directors and staff from across PPQ’ core functional areas, PPQ Deputy Administrator’s office, representatives from key plant commodity sectors, and conducted a literature review (IPPC, ISPM, US Federal Register, and other PPQ program documents).
2. Special thanks to Anna Rinick and Blondel Brinkman for leading and coordinating the primary analysis. Robert Griffin and John Greifer were involved in advocating the analysis and providing reviews and input along the way.
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1. The Grain Strategic Experts Meeting was held November 18-20, 2013 to develop recommendations for the Standards Committee regarding strategic issues associated with the draft specification for a proposed standard on the international movement of grain [↑](#footnote-ref-2)