"Working Together to Make Trade Work"

NAEGA MAP Trip Report – Risk Based Sampling Symposium – Baltimore, MD – June 2017

Name of Traveler: Arvid Hawk, NAEGA Senior Advisor

Dates of Travel: June 25-30, 2017

Purpose of Travel:
Consistent with advancing NAEGA UES objectives Arvid Hawk, NAEGA Senior Advisor, travelled to Baltimore, Maryland and Arlington, VA, USA on June 25-30, 2017. The primary purpose of this mission to Baltimore and Arlington was attendance at the North American Plant Protection Organization's (NAPPO) International Symposium for Risk-Based Sampling (RBS) on June 26-30. The RBS Symposium, sponsored by the USDA, sought to educate industry and regulators on risk-based sampling methods that provide a consistent and reliable measure of action rates for commodities, approach rates for pests, and infestation rates for shipments. Mr. Hawk is an expert on sampling and meeting product specifications. He attended and gathered information in order to advance understanding of RBS applications to GRNOS.

Following his attendance at the RBS Symposium, Mr. Hawk traveled on to Arlington, VA to brief NAEGA staff and discuss his work plan for the remainder of 2017.

Summary of Findings

Day 1 – June 26
Day one began with a general overview of risk based sampling. Risk Based Sampling (RBS) is a statistically valid sampling method. It assigns the number of samples to be taken from a lot of material based on the assigned confidence level desired, the risk you are willing to take (detection level) and the lot size. RBS is a paradigm shift in the application of risk-based inspection and better implementation of ISPM 31 Methodologies for sampling of consignments using hypergeometric based sampling. It encourages samplers to gather statistically valid inspection data, including no finds and it focuses on process, including sharing and collaboration, harmonization and implementation.

As part of the introductory session, countries in attendance shared their experiences with RBS. The European Plant Protection Organization (EPPO) provided two examples of RBS and recommended that any risk based system needs to be dynamic to respond to changes in reads within and between years. Following presentation by the EPPO, the United States, Mexico, New Zealand and Indonesia presented. Of particular note was Mexico presentation on their "Comprehensive system for inspection services" (SISI), New Zealand's discussion on their production and supply chain analyses using statistical sampling to provide for simple decision making and measurement of overall system performance, and Indonesia's description of their wheat import method.

Day 2 – June 27
At the beginning of Day 2 the symposium heard the views of industry and stakeholder groups, including the American Horticultural Association, Seed for Planting/Monsanto USA, Canadian Grain Commission and the Canadian Horticultural Council.

These presentations were followed by sessions lead by the U.S. federal agencies concerned with food safety and trade. The U.S. Food and Drug Administration (FDA) gave a presentation on their import inspection system "Predictive Risk-based Evaluation for Dynamic Compliance Targeting", which included the following points:

- The goal of the system is to improve import screening and targeting to prevent entry of adulterated, misbranded, or otherwise violative goods into the United States.
- The system mines the data automatically to look for patterns.
- The system seeks to improve targeting of entry lines by:
    - Evaluating each line on a the basis of risk factors and surveillance requirements
    - Facilitating the number of automated releases by the system (i.e. System May Proceed), where by giving FDA more time to evaluate higher risk lines.
    - For those lines not given a may proceed by the system, it provides users with crucial information to make an admissibility decision.

Following the FDA's presentation, Custom and Border Protection (CBP) gave a presentation on their risk based sampling system, including the concept of "entity" based sampling, or tracking by foreign exporter to the US and using this information to decide on increasing or decreasing sampling of their product. CBP also gave an overview of the WTO Trade Facilitation Agreement (TFA) and what the agreement means for customs processing and sampling.

Day 3 – June 28
During the morning session of Day 3, Rebecca Espanchin-Niell gave an interesting presentation on U.S. legal attempts to control invasive species. Her research and presentation focused on two studies dealing with how to allocate fixed sampling resources to minimize acceptance of infested plant units (expected slippage). They concluded that: targeting inspections towards the largest, dirtiest shipments greatly reduces infested plant imports; and dual goals of slippage minimization and baseline sampling of all shipments can be achieved without substantial compromise.

The Canadian Food Inspection Agency (CFIA) kicked off the afternoon of Day 3 with a description of their food safety plan during which they attempted to show how it would work in the phytosanitary world. The U.S. Animal and Plant Health Inspection Service (APHIS) followed with a description of their National Agriculture Release Program (NARP), which is an inspection and pest data driven, science based program for fruits and vegetables that requires less frequent, intense exams. Under APHIS's experience, practitioners should consider the following before setting up an RBS system:

- Data Quality flow
- Establishment of program criteria
- Training of Inspection workforce
- Data Analysis
- Communication and Cooperation

- Impact to Trade

Discussion by APHIS was followed up by presentations from Australia, Mexico, China AQSIQ, and South Korea:

- *Australia:* described the importance of incentives in driving biosecurity and economic behavior. Ignoring the incentives leads to unintended consequences.
- *Mexico:* Mexico described their proposal for risk based sampling, including the use of two types of sampling:
    - 100 percent shipments inspection by sampling for high risk products.
    - Skip lot sampling for low risk products. Based on the plan, some lots of low risk products are not inspected
- *China AQSIQ:* China AQSIQ described the Chinese system for fresh fruit; propagative material; bulbs, root tubers and tubers; plants; seeds and bulk grains and oilseeds.
- *South Korea:* South Korea described the systems used for different products and concluded with the following points.
    - More research is needed for various situations;
    - Analytical approach are needed with available data;
    - Appropriate measures in exporting countries must be pursued;
    - Lot formation is vital;
    - Understand the statistics;
    - More systematic monitoring after clearance is needed.

Day 4 – June 29

The final day of the symposium began with a presentation by Andrew Robinson of the University of Melbourne. Dr. Robinson discussed several sampling case studies and how to get buy-in to change methods and processes. Recommendation for getting buy-in included:

- Integrating stakeholder incentives into the design of rules;
- Making it in the stakeholders best interests to comply;
- Focusing on outcomes rather than how stakeholders achieve them;
- Using a menu of contracts to give stakeholders a choice of rule and reveal important information to the regulator;
- Using economic theory to design appropriate candidate regulatory schemes;
- Drawing on behavioral economics to improve operation of incentive-based schemes;
- Fine-tuning design through experimental testing;
- Further refining through structured pilot program

Conclusions

It appeared that all countries in attendance were in favor of deploying RBS and several are already moving in that direction. However, Mexico and China vocalized their insistence to a zero tolerance. It is my understanding that RBS does not recognize zero tolerances. However, the tables presented allow the use of a 0.0001 (0.01%) detection level, which might as well be zero. The system is designed for distinct entities like plants. It is unclear how it would work in bulk grain unless you were to correlate a unit of weight (like 1,000 kg) as a unit in a lot. Some countries are moving toward compliance based and even entity based plans. The entity (a company) based plan

opens the door for using it as a method to blacklist those entities not in compliance rather than dealing with a non-compliant lot on a case by case basis. The U.S. CBP is moving this direction but only to increase sampling rate on non-compliant entities.

Recommendations

- Continue to monitor RBS and discuss it with government officials when appropriate.
- Monitor international developments and trends related to RBS, particularly with regard to efforts to achieve zero-tolerance.
- Pursue further research on the compatibility of RBS with zero-tolerance schemes.
- Invite APHIS to discuss RBS at the next Grades and Inspections Committee meeting.

Attachments

- *Business cards*
- *Agenda*