ISPM 38 Workshop – SamplingSmall Seed Lots

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4.2.1 Sampling of small lots

Testing of samples that are taken in accordance with ISPM 31 from a small lot may result in the destruction of a large proportion of the lot. In such cases, alternative sampling methodologies (e.g. clustering small samples of different lots for testing) or equivalent phytosanitary procedures should be considered by the NPPO of the importing country, as per the guidance in ISPM 24.

In cases where sampling from small lots is not possible, specific post-entry quarantine requirements may be determined by the NPPO of the importing country.

What are small seed lots?

- Breeding seed
- Parental seed
- Trialing samples

- A single shipment or planting can contain hundreds of unique lots, presenting logistical challenges for pre or post-import testing.

What is the value of these seed lots?

- Breeder seed
  - High value potential in every seed lot
  - Research and development investments
- Parental seed
  - Parental seed increases
  - Enabling current production plan
- Trailing samples
  - Internal trialing
  - Customer trialing
  - Provides data used to drive product advancement and commercialization

The health of small seed lots is critical to company success

- Field contamination – risk to reputation and production
  - Internal locations
  - Customer locations
- Delay or loss of new products – loss of return on R&D investments
  - Abandoned breeding lines
  - Lengthy process of recovering breeding lines
  - Loss of trialing data
- Production failures – lost sales
  - Contaminated parental seed

How are these risks mitigated in the field?

- These lots generally originate from small productions
- As these lots often represent pre-commercial material, the plants are constantly observed and evaluated for field performance (and health)
- For some crops these small productions may be inspected more frequently than commercial productions

How are these risks mitigated through testing?

- Validated test methods
- Accredited laboratories
- Sample size
  - Infected plants in small productions may result in a higher rate of infection in the seed lot
    - 1/10 plants in a breeder production
    - 1/10,000 plants in a commercial production
  - Many seed producers test 5% - 10% of a small lot
    - May be an individual sample or a composite (blended) sample
    - This is often a higher sampling ratio as compared to a standard sample from a commercial lot
    - Consuming higher proportions of these high value lots for testing is both detrimental and unnecessary

Summary

- The health of all seed lots is critical to company success
- Failure or loss of a small seed lot presents unique consequences which may have greater long-term impact as compared to the failure or loss of a commercial seed lot
- To ensure the quality of small seed lots companies leverage the inherent increased scrutiny in the field and may apply testing at a sample ratio that often exceeds commercial lot standards
- A systems approach supports the recognition of these existing actions