



ISTA
Seed Quality Assurance

ISTA Secretariat

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www.seedtest.org

ISTA-FAO: Working Together for Quality Seed

Seed Health – a Critical Determinant of Food and Nutritional Security

Providing food and nutritional security for a constantly growing population while managing limited resources sustainably in the face of climate change is an ongoing problem for humanity. The global population is expected to reach 9.9 billion by 2050, increasing the demand for plant-based food. This demand is driven by urbanisation and a growing middle class, who demand higher nutritional quality food. Seed-based crops will be increasingly critical for food security. Climate change will also bring changes patterns of insect and disease (pest) incidents further posing challenges for crop production and consequently to food security and nutrition. Seed are one of the key vectors for the spread of pests. To prevent the spread, national and international systems for seed health will need to have capacity and capability to identify pests moving nationally and international in seed trade. This will require ongoing development rapid and efficient nationally and internationally accepted methods that are accepted by regulatory authorities. This is required to allow the continued movement of seed without which food and nutritional security and Sustainable Development Goal 2 (SDG 2) of zero hunger.

The Food & Agriculture Organisation of the United Nations mandate is to ensure food security, with sustainable management and use of natural resources and its objectives serve as road map for projects and strategies aimed ending hunger, food security and malnutrition. As part of this mandate The International Plant Protection Convention (IPPC) an intergovernmental treaty “aims to protect the world's plants, agricultural products and natural resources from plant pests” through the development, adoption and implementation of International Phytosanitary Measures”.

The International Seed Testing Association (ISTA) founded in 1924 is an international organisation informed by seed science and technology working with a mission of “uniformity in seed testing worldwide”. ISTA is governed an Executive Committee empowered to do so by the governments who have appointed a designated authority to ISTA, who elect the ISTA Executive Committee. ISTA functions with the objectives of developing, adopting and publishing standard procedures for sampling and testing of seeds including seed health testing; promoting uniform application of these procedures for evaluation of seeds moving in international seed.



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Seed Health is a critical part of this mission. ISTA, that comprises seed health experts from across the globe, develops and validates methods for seed health testing, and reviews current methods for required updates; organises seed health proficiency tests for laboratories accredited for seed health testing, organises workshops and trainings on seed health testing. The primary focus for ISTA Seed Health Methods is to provide methods for assessing seed quality however these methods and ISTA-accredited laboratories can also be used by NPPO's to assess seed health for phytosanitary needs.

ISTA will continue to develop methods and accredit laboratories for seed health testing worldwide. However, ISTA recognises that to accelerate capacity and capability-building in seed health collaboration across national and international organisations including NPPO's, Regional Plant Protection Organisations and IPPC, as well as industry, is needed. ISTA is looking to facilitate collaborations across a range of organisations. A key limitation to both seed health method development and implementation of those methods is availability of seed health laboratories worldwide. The ISTA accreditation system provides a system for verifying the competence of laboratories to undertake seed health testing. A strength of this system is that it is approved by the governments who have appointed a designated authority to ISTA. ISTA will continue to review for seed health testing to ensure it is able to meet the need for growing capability and capacity in seed health testing. Further, ISTA implemented its eCertificate system, where results of Seed Health tests can be reported in a uniform and secure way. ISTA will also continue to support the ongoing development of the ISTA Reference Pest List as a key pillar for providing data needed on seed health issues within specific crops to identify need method development needed.¹

The expertise within ISTA through the Seed Health Committee combined with the ISTA accreditation system places ISTA as a government-driven organisation with a global presence in a unique position to undertake seed health method development. The methods can be used for both seed quality testing and phytosanitary purposes. ISTA's activities will need to expand in collaboration with IPPC, RPPO's and NPPO's, to meet future needs in seed health testing.

¹ N. Denancé, V. Grimault; Seed pathway for pest dissemination: The ISTA Reference Pest List, a bibliographic resource in non-vegetable crops; EPPO Bulletin OEPP, first published 30 April 2022 (<https://doi.org/10.1111/epp.12834>)