The Variety Committee has members from locations spanning across the globe.

We are seeking new members. If you are involved in variety testing and wish to apply, please contact any member.
OUR MEMBERS

Ana Laura Vicario  Argentina – Chair
Daniel Perry    Canada – Vice-Chair
Berta Killerman  Germany – ECOM contact person
Keshavulu Kunusoth India – ECOM Contact person
Marie-José Côté  Canada
Verena Peterseil Austria
Chiara Delogu    Italy
Anne Bernole     France
Ksenija Taski-Ajdukovic Republic of Serbia
Ksenija Markovic Republic of Serbia
Elisa Vieira     Brazil
Hedwich Teunissen Netherlands
Kae-Kang Hwu*  *Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu
• New Comparative Tests (CTs) were organized and initiated for Oat, Pea, Soybean and Barley.

• The aim for each crop species is to select a set of microsatellite markers to be introduced as new methods in Chapter 8 of the Rules.

• CTs Leaders: The CTs for Oat, Pea and Soybean are being led by Marie-José Côté from the Ottawa Plant Laboratory of the Canadian Food Inspection Agency. Verena Peterseil from the Austrian Agency for Health and Food Safety, AGES, is leading the Barley CT.

• Participating laboratories are located in a wide range of countries including Austria, Canada, UK, USA, France, Italy, Serbia and Argentina.

• Anyone interested in participating in subsequent rounds of any of these CTs is encouraged to contact the corresponding leader.
Since technologies for DNA analysis are continuously evolving and there are a variety of instrument types and procedures available that may yield equivalent results, we have adopted a semi-performance based approach (SPBA) for DNA-based methods.

Laboratories are permitted to choose some components of the test method while other components are prescribed.

In the case of microsatellite DNA-based testing, specific PCR primers that define a set of microsatellite markers are prescribed while the analytical procedures used to interrogate those markers is left to the discretion of individual laboratories, so long as those procedures have been evaluated as fit for purpose and the end result meets acceptable standards as set by ISTA.

This SPBA provides guidance to laboratories and will facilitate processes for laboratories seeking accreditation for these types of tests.
• In recent years, a primary objective has been the introduction of DNA-based variety identification methods into Chapter 8 of the Rules.

• A new reference DNA-based method for verifying varieties of maize was accepted and published in the 2018 edition (8.10.3). It describes eight prescribed microsatellite markers required for reports and issuance of ISTA Certificates.

• Also in the 2018 edition, there was a minor change made to the wording under testing principles (8.3.2) to improve consistency.

• For the next edition, we are again proposing changes aimed at improving consistency for protein gels electrophoresis. The proposed changes will allow the same options for gel polymerization reactants to be used for all of the various protein-based methods.
Proficiency test organization for DNA-based tests

- The Variety Committee is now endeavoring to set up proficiency tests (PTs) that will enable an ongoing evaluation of laboratories accredited for methods validated using the SPBA.

- Once established, the PTs will be mandatory for laboratories that have DNA-based methods in their scope of accreditation, but will also provide opportunity for non-accredited laboratories to benchmark themselves with accredited laboratories and prepare for future accreditation.

- Together with the Accreditation Department and the Statistical Committee we are developing the PT strategy, which includes a test design and a rating system for measuring laboratory performance.
Proficiency test organization for DNA-based tests

• Initially, our focus is on Wheat, the first crop to have DNA-based methods included in the Rules.

• PT participants will receive two sets of samples: one set of four reference varieties for which allele profiles will be provided, and a separate set of eight unknowns.

• Participants will analyze individual seeds from both sets using the prescribed microsatellite markers and they will submit allele profiles for each unknown, with allele sizes calibrated using the profiles of the reference samples.

• Laboratories will be rated based on the percentage of alleles correctly called and the number of varieties with correct profiles.

• Our goal is to start the first PT on DNA-based methods for wheat during 2018.
Seedling root fluorescence (SRF) is currently the only means available in the ISTA rules to assess annual types in perennial ryegrass seed. However, SRF can sometimes overestimate the amount of annual types in a seed mixture. DNA-based tests that target specific genes relating to growth habit may be more reliable.

In 2017 a small preliminary study of a real-time PCR diagnostic test commonly referred to as the Pure PRG test was carried out prior to launching a full validation study.

But two laboratories experienced in real-time PCR were unable to achieve satisfactory target amplification.

Full validation study was postponed while we worked with Eurofins BioDiagnostics to determine why the method did not perform as expected...
Special project: Annual ryegrass in perennial ryegrass seed

Update...

Successful target amplification and discrimination between annual and perennial varieties using a different master mix.
Topics will include protein-based methods, DNA-based methods, evaluation of morphological traits. There will be an overview of Chapter 8, the ISTA organization, as well as an introduction to laboratory accreditation for variety testing methods.
This is an open meeting... all are welcome to participate

Date: Wednesday, June 13
Time: 10:30 – 12:30
Room: Cattleya

Discussion Items:
• Proficiency tests/accreditation scheme for DNA methods
• Advancing additional crops to DNA rules proposals
• CTs for additional crops and marker types (SNPs)
• Handbooks (DNA and protein electrophoresis)
• Any other proposal from member and participants
Thank You for your Attention!