• Germination is one of the most important criteria of seed quality, because it affects crop establishment and therefore the yield and quality of the future harvest.

• Germination is a complex physiological mechanism. It has been studied for many years and more and more studies are being conducted at a molecular level in order to more fully understand the succession of events leading to germination.

• Depending on the species, mechanisms are more or less complex due to many factors influencing seed production, dormancy, and seed health quality and storage ability.
A reliable assessment of germination quality is essential to ensure that the users of seed lots get the level of quality they expect.

It is for this reason that so many ISTA technical committees are working to improve germination methods, seedling evaluation, methods to estimate viability of seeds and other new methods with the objective of getting more reliable, quicker and less expensive methods for seed testing laboratories.

Finally, to ensure this reliability, other tools are needed: some of these tools are for statistical calculations and quality assurance.
• Several more improvements seem possible and even desirable.

✓ The introduction of germination methods for species not yet present in the ISTA rules (tropical and subtropical species, flower and ground cover species)

✓ The development of more flexible germination methods, without affecting the harmonization and standardization of results (this topic is being discussed within the germination committee)

✓ The development of new tools based on image analysis and molecular biology