

Technical Working Party on Testing Methods and Techniques**TWM/4/22****Fourth Session****Cambridge, United Kingdom, June 2 to 5, 2026****Original:** English**Date:** May 12, 2026

DEVELOPMENT OF AN IMAGE-BASED TEST FOR SOYBEAN VARIETY IDENTIFICATION*Document prepared by an expert from Argentina**Disclaimer: this document does not represent UPOV policies or guidance*

1. The objective of this study was to compare the already developed tool for variety identification based on a 32 SNP panel, with an image-based software able to identify soybean varieties.
2. To cope with that, we selected soybean varieties, obtained digital images, generated the data and analyzed it comparing molecular results using the 32 SNP panel with the percentage of identity presented by the software (Jaccard similarity vs. % identity of the software).
3. The varieties used in this study were provided by breeders, were samples taken during commerce inspections, taken from seeds saved by farmers and also from grain storage sites.
4. During the presentation we are going to show Jaccard identity and similarity values for the samples tested.
5. In conclusion, from breeder's varieties tested, for which Jaccard and identity results were available, the decision using one tool or the other was the same for 94.44% of cases using a threshold of 80%.
6. The image-based identification tool will be used as a screening method aimed to lower the cost of molecular markers and to providing the possibility of analyzing a larger number of samples. For those image-based results that won't agree with the farmer's official declaration of varieties used, a second test using the 32 SNP panel will be run.

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