Working Group on Biochemical and Molecular Techniques and DNA-Profiling in Particular	**BMT/17/19**

**Seventeenth Session
Montevideo, Uruguay, September 10 to 13, 2018**

Original: English
Date: September 7, 2018

PRESENTATION OF A SET OF ELEVEN SNPS CAPABLE OF DISCRIMINATING EIGHTY SOYBEAN VARIETIES FROM A REFERENCE COLLECTION

Document prepared by an expert from the Seed Association of the Americas (SAA)

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Genia Labs selected a subgroup of 400 SNPs from the Soy6K SNP Infinium Chips to carry out the typing of 80 soybean varieties using the AgriSeq GBS (genotyping by sequencing) with the Ion S5 System of Thermo Fischer.

Genia Labs found on average 80 differential SNPs between two varieties chosen at random.

With the information obtained it was possible to identify 11 markers capable of discriminating all the varieties of the collection.

Genia Labs believes that this mechanism could be extended to all varieties of commercial interest worldwide. Those varieties that have been typified with the Soy6K SNP Infinium Chip could be compared to each other to define a consensus panel with a very small number of SNPs.

It is important to emphasize that it would not be necessary to share more information than that of the consensus SNPs.

Starting from a basic core of markers, each company, in sequential order, would determine if the set is able to discriminate its varieties or not. In those cases where it is necessary, the company will suggest the inclusion in the set of two additional markers, from the Soy6K set, to resolve the discrimination of their varieties. In this way we could reach a consensus set with the information and tools that are currently available.

The typing of a set of 20 SNPs can then be carried out quickly and cheaply with real-time PCR platforms.

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