READY TO USE DETECTION SYSTEM FOR BRAZILIAN GMO MONITORING PROGRAM: RR SOYBEN AS A MODEL

Edna Maria M. Oliveira[1], Felipe Vitório[2], Tatiane C. Oliveira[1], Ivanilda S. Lima[3], Thiago Ferreira[4]
1 – Embrapa Food Technology, 2 – Universidade Federal Rural do Rio de Janeiro, 3 – DTI-3/CNPq Scholarship, 4 – Universidade Federal do Rio de Janeiro

GMO analysis has become an integral part on the development of new genetically modified plants, in subsequent breeding, seed production and monitoring programs. GMO detection is a key technology concerning export and import of agricultural commodity products, for ascertaining regulatory compliance of GMO in different countries, for labeling requirements, product authenticity and traceability. Different analytical approaches have been developed for GMO identification and quantification: among all alternatives tested, real-time PCR (q-PCR) proved to be the most successful, accurate and powerful technique and accordingly, it is now the method of choice for GMO quantification. GMO detection system for a routine work requires fast and reliable analysis. For this purpose, was developed an easy to use system for detecting different GM events, and this approach represents only a potential alternative analysis and aims to develop and provide a fast and ready to use in the detection of these events in a single experiment. q-PCR plates were prepared with commercial kits for Roundup Ready Soybean detection (Applied Biosystems and Eurofins). These plates were submitted to lyophilisation and, subsequently, the reagents were resuspended and the reaction were ran in SDS ABI PRISM 7000 (Applied Biosystems) using TaqMan detection system. The comparison between Threshold Cycle (Ct) from pre-lyophilisation and post-lyophilisation showed minimal lost in the reaction yield, less than 1,00 Ct, being a possibility for developing a ready-to-use GMO detection system for Brazilian monitoring programs.