Abstract

Fresh tomato quality parameters are measured using chemistry and instrumental methods. These methods are destructive, slow and difficult to execute. NIRS technology could be an important tool to determine fresh normal quality because it is a non-destructive, quick and easy technique. The aim of this work is to obtain calibration models from the NIR spectra, that allow to determine the fresh tomato parameters: texture, colour, hardness, content in soluble solids (° Brix), and acidity. Samples of fresh tomato from Geranium$_s$ Jack and Optima varieties, coming from Navarra and Almeria (Spain), were analysed. The tests included hardness measurement using durometer, colour measurement using digital colorimeter, NIR reflectance using Luminar 5030 spectrophotometer compression and penetration test using texturometer TA-TX2, content in soluble solids (° Brix) measurement using a digital refractometer, and pH measurement using a pH -meter. A Partial Least-Squares Regression (PLS) was made to calibrate NIR using Unscrambler program and cross-validation method was carried out. It has been possible to establish models of calibration for calmer brightness and saturation, soluble solid contents and advances have been made in the determination at the acidity and texture variable, using NIRS technology.