Abstract:

The authors have been working for many years in a team from the University of Food Technologies, Plovdiv (Bulgaria). This team has developed and implemented several generations of machines for automatic, non-destructive determination of quality and for sorting various fruits and vegetables for fresh consumption, processing and storage for a long period of time. The integration of the efforts of scientific teams and experts from all over Europe, with the aim to improve the quality of life, reckons as a priority the traceability of quality and safety of raw materials and foods in the chain, from manufacturer to consumer. In this paper the possibilities for automatic, non-destructive (on-line) determination of important quality characteristics of various fruits and vegetables while moving in the chain are discussed. The results of analysing the possibilities for adaptation of some common methods, used in other fields of science and technique, for automatic classification are discussed. The specific problems arising from the complexity of biological products have been analysed (Damyanov, 2000). The practical implementation of various stochastic, determinative, etc. methods for automatic classification, when developing devices and systems for tracing the quality in the chain, are shown.