Information for Agritech- Amnon Lers

Biotechnology-based approaches for reducing postharvest losses

Postharvest losses of fresh produce are very high worldwide resulting with profound economic losses and limited food supply. The ability to maintain the quality of stored fruits and vegetables during postharvest storage is highly related to the physiological, biochemical and molecular characteristics of the plant from which they derive. These characteristics are genetically determined and might be amenable to manipulation using genetic breeding or biotechnology. Biological processes highly relevant to postharvest storage of fresh produce will be discussed. Examples will be given for successful manipulation of these processes for improving postharvest qualities by modulating the expression of specific genes. Topics discussed for example include ethylene biosynthesis, leaf senescence, organ abscission, chilling sensitivity and texture quality. Basic research had identified potential genes which manipulation can be used already today for improving crop plants postharvest qualities. Biotechnological application of this knowledge should lead to major improvements of postharvest-related qualities of fresh produce as well as better human food supply.