POSTHARVEST TECHNOLOGIES

NPARR 2(1), 2011-0129, **Effect of different harvest methods on olive yield and work capacity**

In this research, olives were harvested by four different methods (wood rake, wood stick, mechanical bough shaker + wood stick and electronic harvesting rake + wood stick) and an effort was made to determine their effect on olive yield. From the data obtained during a two year period, the method with the highest work capacity was determined to be the third method (mechanical bough shaker + wood stick), and the lowest work capacity was obtained from the first method (wood rake). When the average work capacities for two years are examined, the highest work capacity was obtained for the 3rd method (51.53 kg/man hour), followed by the 2nd method (31.43 kg/man hour), 4th method (28.01 kg/man hour) and the 1st method (19.19 kg/man hour), respectively. When the yield averages for two years are examined, the highest yield was obtained for the 3rd method (21.64 kg), followed by the 4th method (14.06 kg), 2nd method (13.64 kg) and 1st method (19.19 kg), respectively [G. Cicek*, S. K. Sumer and H. Kocabiyik (Department of Agricultural Machinery, Canakkale Onsekiz Mart University, 17020 Canakkale, Turkey), *African Journal of Agricultural Research* 2010, **5**(23), 3246-3250].

NPARR 2(1), 2011-0130, **Fresh-cut broccoli florets shelf-life as affected by packaging film mass transport properties**

In this work, the influence of packaging film mass transport properties on the quality loss of fresh-cut broccoli florets is addressed. The work was divided into two subsequent experimental steps; first, the selection of potential packaging films was carried out by monitoring the headspace gas concentrations in package of broccoli. Then, the mass transport properties of some previous selected films were assessed on product shelf-life. To this aim, unpackaged fresh-cut broccoli and intact broccoli wrapped in polyvinyl chloride were used as controls. Headspace gas concentration, mass loss, sensorial quality and spoilage microbial growth were monitored. The micro-perforated films were the most effective in reducing mass loss, wilting and maintaining sensory quality for a longer period. In particular, the micro-perforated film that had the lowest OTR value showed the best performance in prolonging of the product shelf-life if compared to either control samples and fresh-cut broccoli packaged in the non-perforated film. The results highlighted that an approximately 50% shelf-life increase of fresh-cut florets broccoli compared to whole broccoli, and of about 30% respect to the unpackaged fresh-cut produce was obtained [A. Lucera, C. Costa, M. Mastromatteo, A. Conte and M.A. Del Nobile* (Istituto per la Ricerca e le Applicazioni Biotecnologiche per la Sicurezza e la Valorizzazione dei Prodotti Tipici e di Qualità, BIOAGROMED, Via Napoli 52, 71122 Foggia, Italy), *Journal of Food Engineering*, 2011, **102**(2), 122-129].

NPARR 2(1), 2011-0131, **Effects of passive and active modified atmosphere packaging conditions on ready-to-eat table grape**

The effects of passive and active modified atmosphere packaging conditions (MAP) on quality of packaged table grape were investigated. To this aim, three films made up of oriented polypropylene and characterized by a different thickness (20, 40 and 80 μm, respectively) were used to package the grape in air (passive MAP) and under three different initial headspace gas compositions (active MAP). As controls, grape samples were also stored without packaging. During a prolonged storage period at refrigerated temperature (5 °C) the headspace gas concentrations, the mass loss, the microbiological stability and the sensory acceptability were monitored. Results obtained highlight that all selected packaging films significantly prevent product decay, thus promoting a substantial shelf life prolongation, if compared to the unpackaged product. In particular, the best results were recorded with the thickest polymeric matrix sealed in air, that assured a shelf life more than 70 days. The active MAPs were not found significant for a shelf life prolongation, due to the fast equilibrium of gas reached in the bags and due to a more pronounced product dehydration [C. Costa, A. Lucera, A. Conte, M. Mastromatteo, B. Speranza, A. Antonacci and M.A. Del Nobile*(Istituto per la Ricerca e le Applicazioni Biotecnologiche per la Sicurezza e la Valorizzazione dei Prodotti Tipici e di Qualità, BIOAGROMED, Università degli Studi di

Foggia, Via Napoli, 25 – 71100 Foggia, Italy), *Journal of Food Engineering,* 2011, **102**(2), 115-121].

NPARR 2(1), 2011-0132, **Flavonoids changes in fresh-cut onions during storage in different packaging systems**

Consumers demand healthy, natural and fresh foods, which require only a minimum amount of effort and time for preparation. This was the reason for comparing the effects of different mild preservation technologies on onion flavonoids. Onions were minimally processed to produce fresh-sliced onions, which were packed either in closed plastic cups or under vacuum conditions, taking into account the effect of light exposure. In all cases, the commodity was acceptable after the storage period, with the exception of vacuum packaging (score 5, fair/poor, on a 1–9 scale), due to water loss (about 4%) colour loss and a glassy appearance. In general, after storage in the dark, a slight increase in flavonols was observed, whereas a clear decrease in the relatively low amounts of anthocyanins was evident. However, the best performance was obtained when the more transparent polystyrene cups were stored under light. Both types of flavonoids increased, with an enhanced increase of total flavonols by 58%, and an increase in total anthocyanins of 39% [M.R. Pérez-Gregorio, M.S. García-Falcón and J. Simal-Gándara*(Nutrition and Bromatology Group, Analytical and Food Chemistry Department, Faculty of Food Science and Technology, Ourense Campus, University of Vigo, E-32004 Ourense, Spain), *Food Chemistry,* 2011, **124**(2), 652-658].