

3. “Utilization of natural antioxidants and antimicrobial compounds from horticulture waste on the quality stability of sea foods”

Duration: April 2013 – March 2015

The growing interest in the replacement of synthetic food antioxidants and antimicrobial agents by natural ones has fostered research on the screening of plant-derived raw materials for identifying new antioxidants and antimicrobial compounds. The special attention of research is focused on inexpensive or residual sources from agricultural industries. The project evaluated the effect of dip treatment with grape seed extract (GSE) and papaya seed extract (PSE) at 0.5 & 1 mg/ml respectively on the quality up gradation of fish steaks during chilled and frozen storage. The GSE contained four time's higher phenolic and six times higher total flavonoid content compared to PSE. The linoleic acid model system with 5 days of incubation showed that addition of GSE and PSE to the reaction mixture inhibited peroxidation by 81.2 and 61.5 % respectively. GSE showed higher antimicrobial activity on gram-positive strains compared to PSE. The study recommends the use of seed extracts as natural antioxidants and antimicrobials agents which express the positive effects on quality parameters and the shelf life of steaks during ice storage and frozen storage.

