

**Title** Risk evaluation of packaged half-finished vegetable products during storage

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**Citation** Abstracts, 14<sup>th</sup> World Congress of Food Science & Technology, October 19-23 2008, Shanghai, China. 721 pages.

**Keyword** vegetable; packaging

### **Abstract**

**Introduction:** Quality of fresh vegetables is influenced by several factors: internal factors and external factors. The perspective storage method for food is packaging in vacuum or modified gas atmosphere. Quality of production is of great importance in application of new technologies in catering enterprises. **Materials and Methods:** Four different types of vegetable salad mixes from the farm “Ezerkaulini” are used in the research: red cabbage salad mix; kale salad mix; lettuce salad mix; cauliflower-celery salad mix. Mixes are packed in a polypropylene box, surrounded by a bag of identical material, applying gas mix. All salad mixes are stored in light at two different temperatures  $+2\pm 1^{\circ}\text{C}$  and  $+6\pm 1^{\circ}\text{C}$ . Quality changes of fresh vegetable salad mixes during storage in packages with protective gasses – modified medium are investigated by applying HACCP principles. **Results and Discussion:** Evaluating the technological process of making salad according to the requirements of HACCP system principles, as the possible stages in emergence of potential risk reasons turn out to be pre-treatment of vegetables, Their storage before and after packaging and the very procedure of packaging. Water vapor migration through the chosen packaging material is insignificant, during storage it provides slight mass loss. By carrying out research it was ascertained that aerobic spore formers – bacteria of Bacillus family, were dominating. Packaging is suitable for storage of Lettuce salad mix because composition of protective gasses changes slightly – carbon dioxide from 10% to 21% and oxygen from 10% to 6.2%. Oxygen concentration is sufficient to prevent anaerobic metabolism processes. The natural aroma of the product is well maintained during storage. Quality of products in modified atmosphere packaging is significantly influenced by modified atmosphere packaging is significantly influenced by temperature. The preferable storage temperature is in the range between  $0\pm 1^{\circ}\text{C}$  and  $+4\pm 1^{\circ}\text{C}$ .