– introduction

Literature, Russian Literature

â€“ INTRODUCTION - DEFINITION Minimal processing is defined to include all unit operations such as washing, sorting, trimming, puling, slicing, coring etc. The purpose of minimal processing is to deliver to the consumer a like fresh with an extended self life whilst ensuring food safety and maintaining sound nutritional and sensory quality i. e. at least 7 days domestic consumption and 7-15 days for overseas consumption. Minimally processed products are also called fresh cuts, semi-processed, ready cut and fresh processed. This increasing popularity of minimally processed fruits and vegetables has been attributed to the health benefits associated with fresh produce, combining with the opening consumer trend towards eating out and consuming ready to eat foods. The minimally processing industries was initially developed to supply hotels, restaurants, catering services and other institutions more recently it was expanded to include foods retailers for home consumption. Most popular in USA. In 1998 the sale volume is near about $ 6 billion. Consumer trends are changing and high quality foods with fresh like attribute are demanded. Consequently less extreme treatment and for additives are being required. Within a wider and modern concept of minimal processing some food characteristics are identified that must be attained in response to consumer demands. These are less heat and chilled damaged, fresh appearance and less acid, solt, sugar and fat. To satisfy this demands some changes or reduction in the traditionally used preservation techniques must be achieved. For this reason we are concerned to talk about this topic. â€“ SOME MINIMALLY PROCESSED PRODUCTS [pic] [pic] [pic] [pic] [pic] [pic] [pic] [pic] [pic] [pic] [pic] [pic] â€“ PYSIOLOGICAL RESPONSES Minimally processed fruits and vegetables are more perishable than fresh as a

consequence of tissue damage resulting from processing operation. Wounding, in fact, leads to an increase in respiration activity and ethylene production rate, alters metabolic activity, reduces shelf-life, increases the rate of nutritional and sensory attributes breakdown and leads to browning of tissues. The greater the degree of processing, the wounding response. Mechanical damages, in addition may enhance susceptibility to decay and contamination by spoilage micro-organisms and microbes pathogenic to consumers. The impact of bruising and wounding can be reduced by cooling the product before processing. Strict temperature control after processing is also critical in reducing wound induced metabolic activity. Other techniques that substantially reduce damage include use of sharp knives, maintenance, of stringent sanitary conditions and efficient washing and drying of cut surface. â€“ MICROBIAL RESPONSES The increasing demand of these minimally processed products represents for a challenge for researches and processors to make them stable and safe. The increased time and distance between processing and consumption may contribute to higher risks of food borne illnesses. Although chemical and physical hazards specific to minimally processed and ready-to-eat fruits and vegetables beside mainly with microbial contaminants. Some of the microbial pathogens associated with fresh produced include Listeria monocytogenes, Salmonella sp., enteropathogenic strains of Escherichia coli, hepatitis A virus, etc. Intact fruits and vegetables are safe to eat partly because the surface of peel is an effective physical and chemical barrier to most organisms. In addition, if the peel is damaged, the acidity of the pulp prevents the growth of organisms (except acid tolerant fungi and bacteria). On vegetables, in microflora is

dominated by soil organisms. Erwinia and Pseudomonos usually have competitive advantage over other organisms that could potentially be harmful to humans. Changes in environmental conditions surrounding a product can result in significant changes in micro flora. Risk of pathogenic bacteria increases - With film packaging (high relative humidity and low oxygen conditions). - With packaging of products of low salt content and high cellular pH - Storage of packaged products at too high temperature. Microbial growth on minimally processed products can be controlled by - Sanitation of all equipment and use of chlorinated water are standard approach - Low temperature during and after processing generally retards microbial growth. - Moisture increases microbial growth. Removal of wash or cleaning water by centrifugation or other methods are critical. - Low pH - Low oxygen and elevated carbon-di-oxide levels, often retards microbial growth. [pic] ---------- CELERY STICKS PINEAPPLE SHREDDED LETTUCE BROCCOLI FLORETS CARROT STICKS PELLED POTTATO DICED ONION MANGOES CHILLED PEACHES MELONS TRIMMED SPINACH JACKFRUITS