

Abstract:

CA-technology in the Netherlands is used mostly for storage of apples and pears; main varieties for apples are Elstar and Jonagold. The main pear variety Conference is stored in CA after a specific delay time to prevent the pears from getting internal defects. For a wide range of produce (e.g. flower bulbs, strawberry-plants, cabbage, red currants etc.) a growing interest is noticeable in application of CA-storage. Storage conditions always are a balance between the required quality demands and prevention of physiological disorders. In the Netherlands ATO and Applied Plant Research (PPO) are leading Institutes for the recommendations of optimal storage conditions, procedures and facilitate practical implementation of new storage techniques.

The state of the art of CA-storage with emphasis on delayed CA-application, centralised scrubber systems, ethylene management techniques, measurement and control of defrosting water will be described. Further, future developments such as Dynamic Control System will be discussed in relation with biological variation, new storage conditions, disorders, scale-up effects and interactions. Elements like technical feasibility of DCS and adaptation of products to CA-conditions in relation with chain-perspectives are current and future challenges will be discussed.