

Title Future trends and innovations in CA storage and MAP technologies
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Abstract

Controlled atmosphere (CA) and modified atmosphere packaging (MAP) technologies have experienced continuous increases in their importance to society and their degree of complexity since their inception. The history for CA storage can be argued to date back perhaps 2000 years to the time of grain storage by the Romans in sealed pits, and that of MAP to the first synthesis of suitable polymers for produce packaging in the 930s and 940's by ICI in the United Kingdom. Commercialization of both technologies in the 20th century spurred marked developments and expansion of their use both geographically and in terms of commodities used. Current applications tend to focus on the inhibition of a relatively select group of physiological targets including the suppression of ethylene-dependent ripening, inhibition of cut-surface browning, decay suppression, inhibition of meristematic activity, and prevention of chlorophyll degradation. The basic functions of modified atmosphere technologies are relatively static, but improvements in control systems, sensor systems, and chemical regulators of growth and development. This presentation will review where we have been, the biology of responses to modified atmospheres, and promising avenues for technological advancement taking place to day and new possibilities for the future.