Title Effect of low levels of ethylene on sprouting of potatoes in storage.

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**Abstract**

Potato tubers (cv. Sebago) were stored at 20 deg C in air containing ethylene at <0.005, 0.01, 0.1, 1.0, or 10 micro litre/litre and the level of sprouting was measured over 35 days. The time for tubers to develop an average of one sprout per tuber linearly increased as the log10 ethylene concentration decreased with the effect present over the whole range of concentration. After 35 days of storage, the number of sprouts per tuber was inversely related to the ethylene concentration, but the weight of sprouts was only lower for tubers held in <0.005 micro litres ethylene/litre. The more numerous sprouts on tubers held in 10 micro litres ethylene/litre were short and thick, while the less numerous sprouts on tubers in 0.01-1.0 micro litres ethylene/litre were long, thin, and branched, and resulted in no significant difference in total sprout weight between these concentrations. Reducing the concentration of ethylene in the atmosphere around stored potatoes thus reduced sprouting, but levels <0.01micro litres ethylene/litre are required to minimize both sprout emergence and sprout growth.