

#### Abstract:

'Brown heart' and subsequent development of 'cavities' are important physiological disorders in 'Conference' pears during the CA-storage. In 1999 and 2000, pear trees were sprayed with B several times starting 2 months before harvest in order to study the effect of preharvest B sprays on fruit minerals (Ca, Mg, K, P, B), vitamin C, and the subsequent incidence of brown heart in pear fruits stored under  $-0.5^{\circ}\text{C}$ , 2%  $\text{O}_2$  + 5%  $\text{CO}_2$ . The results of the first year showed that up to 60% of the control fruits were affected with brown heart after 4 months storage. On the other hand, the B treated fruits remained completely healthy till the end of the storage period. There were no differences in Ca, Mg, K, P uptake, but a more than 10 fold B-uptake between the control and B-treated fruits. In contrast to the first year, the effect of B application on the prevention of brown heart was less effective in the second year. Simultaneously the B uptake was much lower, only the half of the first year. This could be partially an explanation for the reduced effectiveness of boron in 2000.