

Title            Effect of refrigerated and controlled atmosphere storage on suppression of postharvest diseases (rots) of ware potatoes

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### **Abstract**

A study compared the different cool storage methods controlled atmosphere (CA) and refrigeration/cold store (CS) of ware potatoes, and their effects on the incidence of the postharvest diseases black dot (*Colletotrichum coccodes*), silver scurf (*Helminthosporium solani*), common scab (*Streptomyces scabies* [S. scabiei]), black scurf (*Rhizoctonia solani*) and skin spot (*Polyscytalum pustulans*) of potato cultivars King Edward, Desiree and Maris Piper. Assessments were performed after 150 and 210 days in storage. No significant differences were observed in disease incidence between CA and CS for Maris Piper and King Edward after 150 days. For Desiree, differences were observed in the suppression of the development of black dot and black scurf diseases. Disease incidence was lower in CA-stored samples compared with samples out of CA in ambient temperature after 7 days of shelf life. No significant differences were observed between the two regimes in the control of silver scurf, common scab and skin spot for Desiree samples in or out of storage after 7 days of shelf life. No significant differences in disease incidence were observed between treatments for King Edward after 210 days. For Maris Piper, differences were observed between CA and CS in silver scurf control. CA reduced the disease development significantly compared with CS. There were no significant differences between CA and CS in controlling common scab, black scurf and skin spot. For Desiree, silver scurf was reduced significantly by CA compared with CS over the 210 days of storage. No significant difference was recorded between treatments in the control of black dot, black scurf, common scab and skin spot.