## Abstract:

Three experiments were undertaken to determine whether a relationship existed between at-harvest fruit characteristics, harvest maturity or date, rates of CO2 establishment and the occurrence of soft fruit, physiological pitting, fungal pitting and stem end rots in CA-stored 'Hayward' kiwifruit. The at-harvest characteristics, firmness, soluble solids content, and dry matter of fruit from 9 orchards were not strongly related to the incidence of disorders in CA-stored kiwifruit 6 weeks after the end of CA storage. However, the expression of physiological pitting was positively related to the degree of weight loss during CA storage. Response to low O2 stress at-harvest was also not related to disorder incidence. Similarly, the incidence of disorders amongst fruit from 4 orchards harvested at intervals of 5 days, over a period of 15 days during commercial harvest, was not markedly different between harvest dates. The incidence of physiological pitting was reduced by a longer delay prior to, or by a slower rate of CO2 establishment. It is concluded that identification of orchards as suitable for CA storage is not based simply on at-harvest characteristics of fruit, and that store operational factors, particularly those that impact on weight loss and atmosphere management, are likely to be at least, if not more, important than at-harvest variables.