

Abstract:

The properties of portable mini cold storage room (PMCSR), made of new type foamed polyethylene, and the application of this type structure for storage of kiwifruit were studied comprehensively. Following a comprehensive technical evaluation it was concluded that the structure made from foamed polyethylene board is more effective than that made from the traditional insulation material, polystyrene board, which was used as the control. Thermal conductivities of the foamed polyethylene structure and the control of traditional material were 0.95 and 1.00 respectively. Other properties of foamed polyethylene board include: the heat-inducing rate of shape change is 3.5%; compression rate is 7%; expansion rate is 15%. Kiwifruit kept in the PMCSR made of new type foamed polyethylene had better quality than fruit kept in the control structure after 86 days storage, with firmness being 14.5kg/cm² and 11.2 kg/cm² respectively.