

Effects of storage conditions on allicin content in garlic (*Allium sativum*)

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Abstract

This research aims to find treatments to increase allicin content in garlic after harvesting. The harvested garlic was stored at various conditions, including room temperature (Tr1); 4-6°C and 60-70% RH (Tr2); 4-6°C and 80-90% RH (Tr3); 8-10°C and 60-70% RH (Tr4); 8-10°C and 80-90% RH (Tr5); room temperature for 90 days and following at 4-6°C for 30 days (Tr6) room temperature for 90 days following at 4-6°C and 80-90% RH for 30 days (Tr7). Allicin content and weight loss were measured every 20 days for 120 days. The results showed that the allicin content of garlic in all treatments has increased during storage. The garlic in each treatment had only 4-11% weight loss during storage for 120 days. The maximum allicin content was found in Tr3 after storing for 60 days (36.5 mM/g dry weight). After storage for 120 days, the allicin content in treatment 2, 3, 4, 5 and 7 was higher than that in treatment 1 and 6. The allicin content in Tr7 increased quickly after transferring from room temperature to low temperature and high humidity.