

日向夏100%ジュース製造における最適な加熱殺菌条件の検討

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Investigation of optimal heat sterilization conditions for the production of Hyuganatsu juice

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In this study, we investigated the growth and thermostability of *Alicyclobacillus* spores in 100% hyuganatsu fruit juice in order to redefine the conditions for sterilization of 100% Hyuganatsu juice products. In the growth test, only strain No.2002 showed growth potential among the 10 strains tested. In the calculation of heat sterilization conditions for 100% Hyuganatsu juice, strain No.2002 showed stronger thermostability in McIlvaine buffer solution (pH4.0) than previously reported, and was evaluated as an appropriate strain to be used in the calculation of heat sterilization conditions. In the heat resistance test in 100% Hyuganatsu (pH3.1) juice, $D_{92^{\circ}\text{C}}$ was calculated to be 13.5 min, $D_{95^{\circ}\text{C}}$ was 5.1min, $D_{98^{\circ}\text{C}}$ was 2.4min, and $D_{101^{\circ}\text{C}}$ was 0.9min, z value 7.7°C , and F value at 111°C 12 sec ($0.04\text{min} \times 5$). The current heat sterilization condition of 111°C for 35 seconds is slightly excessive and can be reduced.

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