
BAO001-11

Room: 301B

Time: May 24 11:45-12:00

Tolerance of Seed for Thermal Cycle Environment

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In order to study the survival possibility of life in extraterritorial environment, exposure experiments of microbes and organic compounds to space environment on the international space station (ISS) are planned. Investigating the tolerance of seed which is advanced and complicated life is very interesting. Thermal cycle test which was simulated for hard temperature change in earth orbit was conducted for six species of plant, Jute, Spinach, Chrysanthemum, Komatsuna, Cucumber, and Okra. Temperature was controlled with a cryostat and a heater that maximum was 100 C, minimum -80 C, and period 90 minutes in a vacuum vessel. The exposure experiments were operated in terms of 6 days and 60 days. After the exposure experiment, the survival rate was measured by the germination rate.

Keywords: Seed, Thermal cycle, Tolerance, Space environment, Exposure experiment