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INSECT PROTEIN AS A VIABLE, SUSTAINABLE RESOURCE FOR ASTRONAUT NUTRITION

Abstract

Sufficient and sustainable crew nutrition will play a crucial role in the success of manned deep space missions. Supplying astronauts with a balanced diet on a spacecraft with limited resources and constrained space presents unique problems which will need to be solved by exploring new sources of food. Although much research has been performed on cultivating plants on spacecraft and other planetary bodies, very few studies have explored insect farming for long-term space nutrition. Insects have been foraged by humans worldwide since prehistory for their accessibility and high nutrient density. In cultivation, insects require very little water and space to farm. For these reasons, insects can be important food sources in space. In terms of nutrient composition, crickets and silkworms can reach 65-70