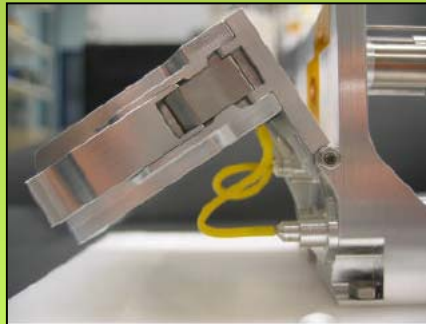




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**MULTIGEN-3
Molecular and Plant
Physiological Analyses of the
Microgravity Effects on Multi-
Generation Studies of
Arabidopsis thaliana - Part 3**



MULTIGEN-3

Molecular and Plant Physiological Analyses of the Microgravity Effects on Multi-Generation Studies of *Arabidopsis thaliana* - Part 3

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N-USOC: The mission of the Norwegian User Support and Operation Centre (N-USOC) is to provide qualified support to International Space Station (ISS) related life science activities in general and the EMCS in specific.

EMCS: The European Modular Cultivation System (EMCS) is an ESA gravitational biology payload to be operated on board the U.S. "Destiny" Laboratory on the ISS.

MULTIGEN-3: To achieve successful long duration space exploration, a renewable food source for the astronauts must be available. In MULTIGEN-3, *Arabidopsis thaliana* will be used for studies of plant behavior in micro-gravity.

MULTIGEN-3 involves observation of plant circumnutations in roots. The scientific objective is to reveal the rotational movements, which the *Arabidopsis* plant-root performs during growth, around the plumb line (circumnutations). The movements seem to be driven by inherent oscillatory processes but are also modified by the acceleration force (gravity or centripetal forces).

The MULTIGEN-3 hardware has been produced by EADS Space Transportation, Friedrichshafen, Germany.

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