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Testing the potential of using the fungus *Neurospora crassa* to convert human waste into edible protein.

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We report on the results of an experiment designed to test the potential of filamentous fungi (mold) to reduce solid waste (feces) while converting it into a consumable, high protein food product. Feces represent an untapped resource. Filamentous fungi are natural decomposers with the ability to use this resource. Many filamentous fungi are safe to eat. Initial studies resulted in rates of conversion which varied considerably with growth conditions. Fungal growth also appears to reduce odor, but we have been unable to confirm this observation via GCMS. The protein content of the resulting fungal biomass was examined using the Kjeldahl Nitrogen Determination method. This gave results ranging from 15% to 50% protein (by weight). Converting waste biomass such as feces into edible material is a possible mechanism to deal with waste & food storage issues on long-term space missions. It also holds the potential to benefit waste processing in diverse situations including large livestock confinement operations and sewage treatment facilities.

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