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Shock Compression of Seeds in Impacts at 1 – 5 km s^{-1} MARK BURCHELL, GIUSEPPE LEVOCI, Univ. of Kent, DAVID TEPFER, Institut National de la Recherche Agronomique, France — Panspermia ("seeds everywhere") is an old idea, suggesting that life can naturally migrate through space. The survival of microbial life under the shock compression involved with transfer of a body through space between planets has been much studied; e.g. Burchell et al., *Origin of Life and Evol. of the Biosphere*, **33**, 53 – 74, 2003 showed that micro-organisms could survive in high speed ejecta from a hypervelocity impact (the favoured launch mechanism to spray life into space from its home planet) and Burchell et al., *Icarus* **154**, 545-547 2001; *MNRAS* **352**, 1273 – 1278, 2004 showed that micro-organisms carried on projectiles in hypervelocity impacts can successfully transfer to a target (with survival rates that fall with a power law for GPa shock pressures). Here we address survival of more complex biological materials under shock compression, namely seeds. We report on experiments firing seeds at speeds of 1 – 5 km s^{-1} into water targets (∼0.5 to 5 GPa for short durations). The method is described in a preliminary report (Jerling et al., *Int. J. Astrobiology* **7**, 217 – 222, 2008). In new data presented here we are finding intact capture of seeds at 1 km s^{-1}, but above this speed increasing fragmentation occurs. Tests are underway to try to germinate the seeds captured at 1 km s^{-1} and the results will be described.

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