Shock compression and recovery of microorganism-loaded broths and an emulsion\textsuperscript{1} PAUL HAZELL, Cranfield University, CLIFF BEVERIDGE, KATHY GROVES, Leatherhead Foods International, CRANFIELD UNIVERSITY COLLABORATION, LEATHERHEAD FOODS INTERNATIONAL COLLABORATION — The microorganisms \textit{Escherichia coli}, \textit{Enterococcus faecalis} and \textit{Zygosaccharomyces bailii} and an oil-based emulsion, have been subjected to shock compression using the flyer-plate technique to initial pressures of 0.8 GPa (in the suspension). In each experiment, a stainless steel capsule was used to contain the broths and allow for recovery without contamination. Where cavitation was suppressed by virtue of simultaneous shock and quasi-static compression, no kill was observed. By introducing an air gap behind the suspension, limited kill was measured in the yeast. Results also suggest that emulsification occurs in oil-based emulsions that are subjected to shock.

\textsuperscript{1}This work was sponsored by DEFRA (UK) under the LINK grant collaborative research programme (AFM 264).