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Self mixing of fly larvae during feeding OLGA SHISHKOV, CHRISTOPHER JOHNSON, DAVID HU, Georgia Institute of Technology, Mechanical Engineering — How do we sustainably feed a growing world population? One solution of increasing interest is the use of black soldier fly larvae, pea-sized grubs envisioned to transform hundreds of tons of food waste into a sustainable protein source. Although startups across the world are raising these larvae, a physical understanding of how they should be raised and fed remains missing. In this study, we present experiments measuring their feeding rate as a function of number of larvae. We show that larger groups of larvae have greater mixing which entrains hungry larvae around the food, increasing feeding rate. Feeding of larvae thus differs from feeding of cattle or other livestock which exhibit less self-mixing.

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