

Enumeration

Efficient and reliable black soldier fly larvae bio-waste treatment requires a reliable estimate on the number of larval offspring dosed per unit of bio-waste and/or larvero (treatment crate), which is determined by laborious manual counting of young larvae [1]. Additionally, there is a tendency of BSF farmers to favor larger flies as they have a higher reproduction rate, the larvae are bigger and thus contain more protein than smaller larvae. Manual selection of such traits at an industrial level is currently infeasible due to the high numbers of larvae making it economically unviable [2].

Through the deployment of computer vision techniques together with deep learning methods;

1. Larvae enumeration can be made more efficient and accurate.
2. The process can be automated.

References

- [1] "Towards automatic enumeration of Black Soldier Fly Larvae offspring," [Online]. Available: <https://www.eawag.com>. [Accessed 23 February 2023].
- [2] M. F. Hansen, "Towards Machine Vision for Insect Welfare Monitoring and Behavioural Insights," *Frontiers in Veterinary Science*, vol. 9, 2022.