

**Common house fly maggots' and their series of technologies for the
improving of agricultural nutrient circulation efficiency and acquiring new products**

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Summary

Innoen has developed a technology named maggot technology to improve the efficiency of agricultural nutrient circulation and production of more products. By means of culturing local house fly (*Musca domestica*) and acquire high counting of eggs and maggots for inoculating into animal manure, considerable amount of organic nutrients was transferred to maggots. This method substantially solves the nutrient effluent discharge for water body eutrophication, also get high valued products. Maggots have proven to be high quality feeding materials for various animals and aquaculture fishes, also numerous enzymes and proteins from maggots are potentially could create new industries.

This technology has been validated extensively in many regions and climates in China and patents are acquired. Tremendous technological details have been documented. Till now this technology has been developed into three generations. Generation one technology application document and video have been submitted through Innocentive to EPA and its partners Tetrattech for the challenge 9933114. All these submission materials could be used for research purpose or public training, if Innoen could be referred to. However, for commercial fund raising and grant application, it should inform or collaborate with Innoen.

Generation two technology is specifically designed for extension in developed countries, such as UA, Canada, New Zealand, Australia and Europe, where labor cost is relatively high. It is yet based on maggots, however, new commercial devices have been designed and validated which greatly reduce the labor of farmers, thus quite fitted in above mentioned countries. The patents of these devices still in process. Unless large funding or collaboration partners is initiated and confirmed, Innoen in generally will not release these technologies, since we still need them for funding application.

For both generation one and generation two technology, although extensive research topics could be posted on them. Such as the gut microbiome, stress gene and metabolic network, digestive tract physiology, nitrogenase and antibacterial protein network etc.. They are actually “ready to use” application technologies which can be extended to more than 90% of farmers in above mentioned countries. Very lower cost and quite conveniently established.

For generation three technology, it refers to the radical change of future agricultural and energy flow model. Although it is still based on maggot technology, great steps have been jumped. It is in the middle of research, so it needs large research funding, and not like its predecessors, which could be applied in the right way. It is still waiting for large research funding.