A Preliminary Study for Developing a High Nematode Density Formulation of *Steinernema carpocapsae* Weiser

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Entomopathogenic nematodes, *Steinernema carpocapsae* Weiser, invade insect hemocoel, release symbiotic bacteria, *Xenorhabdus nematophilus*, and kill the host insects within 48h. The nematodes are very labile to sunlight and desiccation. Nematode formulations intend to prevent these weakness. Some practical formulations of the entomopathogenic nematodes such as wettable powder, water-dispersible granules, edible alginate gels, etc, have been developed for field application purposes. An ideal nematode formulation is designed to hold high density infective juveniles in a granule which would be easy to dissolve and release the nematodes in spraying solution. We selected and modified the water-dissolved granule (WDG) type formulation for the purpose. First, we modified the formulating ingredients of WDG: semoline & peat moss, semoline only, flour & peat moss, and flour only. There was no significant difference in nematode survivals among all modified formulations at 20℃ when all the formulations contained 40,000 infective juveniles/㎖. But, there were significant differences in nematode survival according to humidity contents of the formulations. Second, we tried to increase the nematode density in the formulation. Sufficient formulation density was recorded as 10^6 infective juveniles/㎖. These results strongly suggest a promising WDG formulation holding high nematode density.