

## Introduction of the Microbial Pesticide (Hasumon Killer<sup>®</sup>) against *Spodoptera litura*<sup>©</sup>

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### INTRODUCTION

The common cutworm, *Spodoptera litura* (Fabricius) (*Lepidoptera:Noctuidae*), is a strong harmful insect, and the larvae attack more than 80 kinds of plants, such as vegetables, flowers, and fruit trees. In Japan, the expanding of the damage started from the second half of 1950s. In the warm area of central Kanto and farther south, this damage is occurring yearly at present. Concern is growing because *S. litura* can pass the winter now in plastic greenhouses and the glass greenhouses built mostly from 1950s, and because the global temperature is rising under the influence of the global warming.

We, Ibigawa Kogyo Co., Ltd., developed the microbial pesticide Hasumon Killer<sup>®</sup> from *Spodoptera litura* nucleopolyhedrovirus (SpltNPV) with a strong insect-killing activity against *S. litura* in collaboration with Gifu Prefectural Agricultural Technology Center (Registration No. 23056, Ministry of Agriculture, Forestry, and Fisheries, Japan).

### REGISTRATION INFORMATION

- Application crops: Soybean, green soybean (edamame), strawberry, beefsteak plant, and basil.
- This agent is a wettable powder.
- Water is added to Hasumon killer<sup>®</sup> specified quantity and it is diluted 1000 times.
- Use of a spreading agent is recommended.

### FEATURES

- In order to infect the virus must be ingested by a larva, an effect is demonstrated after about 3 to 7 days.
- Host specificity of the virus is high; the safety is very high; with no susceptibility and pathogenicity to humans, other living creatures including honeybees, and natural predatory insects, and plants.
- It fulfills the standards of the organic agriculture rule of Japan. It is possible to use it for organic culture and there is no restriction in the number of spraying times.

We sell these agricultural chemicals on a large scale for the fiscal year in 2013. And we are starting preparations aiming at the application expansion to other green vegetables of Hasumon Killer<sup>®</sup>.

Table 1. A list of the agricultural chemicals which are uninfluential even if it uses with 'Hasumon killer<sup>®</sup>', together.

Germicide	Benrate wettable powder Sumirekusu wetable powder Sutorobi floable	Rari wettable powder Topzin M wetable powder Amisuta 20 floable	Ropura-ru wetable powder Kinondo- wetable powder Geter wettable powder	Moresutan wetable powder Dakoni-ru 1000 Ousosite wettable powder	Torihumin wetable powder Z Borudo
Insecticide	Baroku floable	Danitoron floable	Maitokone floable	Adomaiyer floable	Koromaido emulsion
Microbial germicide	Tafuparl	Baiotorasut wetable powder	Botopika wetable powder	Botokiller wetable powder	Vegekeeper wetable powder
Filming agent	Mairino- Gramin S	Approach BI New gramin	Agurar New lino	Squash Needs	Kumiten



Fig. 1. Damaged leaf of soybean (*Glycine max* (L.) Merr.) plant.



Fig. 2. Dissolved body of *S. litura* by 'Hasumon killer<sup>®</sup>'.