

## Consideration of completely fermentation process

- Reduction of microbial growth.
- Reduction of CO<sub>2</sub> bubble.
- Reduction of alcoholic smell.
- Dropping of sour smell.
- Dropping of pH down to 3-4.



## Utilization and application rate of insect pest control substance from microbial activator Super LDD 7

- Dilute with water 1:100, spray every 3-5 days and spray continues 3 times in spread period of insect pest.
- Mix surfactant such as dishwasher 10 ml into insect pest control from microbial activator Super LDD 7 10 liters.
- Field crop Vegetable and flower: spray 313 liters in area 1 ha.
- Fruit tree: spray 625 liters in area 1 ha, leaf stem or insect.

### Reference

Land Development Department (LDD). Thailand.



## How to production of insect pest control substance

By

**Microbial Activator  
Super LDD 7**

# Insect pest control substance produce by microbial activator Super LDD 7

Microbial activator Super LDD 7 is a group of microorganisms which can active the process of fermentation and digestion of herbs for producing insect active ingredient. They consist yeast (*Saccharomyces* sp.), acetic acid bacteria (*Gluconobacter oxydans*) and lactic acid bacteria (*Lactobacillus fermentum*). Biological extracts produced from fermented herbs by activity of microorganisms contains active ingredients, insect repellants and high amount of several kind of organic acids.

## Kind of herb for insect pest control

### 1. Herb for insect pest control: mealybug and aphids

- Tobasco
- Long pepper, pepper
- Chilli
- Derris
- Asiatic bitter yam

### 2. Herb for insect pest control: common cutworm and short-hole worm

- Sweet flag rhizomes
- Yam bean seed
- neem seed
- Curcuma rhizomes
- Mexican marigold

## Ingredient of production

Insect pest control from herbs 50 Liters  
(Fermentation time: 21 days)

### Fermentation of fresh herbs

- >>Herbs >> 30 kg
- >>Molasses >> 10 kg or Brown sugar 5 kg
- >>Water >> 30 Liters
- >> Microbial Activator Super LDD 7 >> 25 g (1 pack)



### Fermentation of dry herbs

- >>Herbs >> 10 kg
- >>Molasses >> 20 kg or Brown sugar 10 kg
- >>Water >> 60 Liters
- >> Microbial Activator Super LDD 7 >> 25 g (1 pack)

## Method of production

Chop or pound each type of herbs into small pieces



Suspend Molasses in water, pour microbial activator Super LDD 7, 5 minutes stirring.



Taking herb in the tank



Close a cover and put the tank under shady area, stir these substances every day, fermentation time 21 days.

