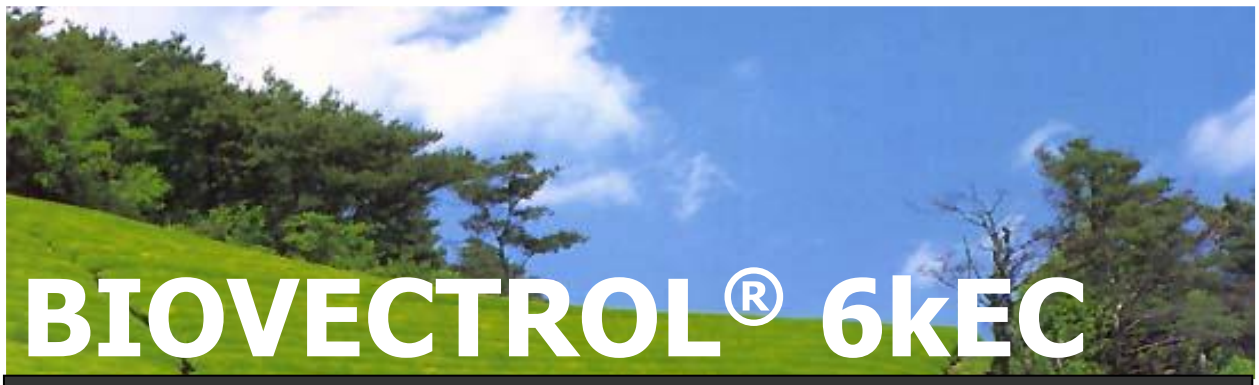

BIOVECTROL® 6kEC

NATURAL FORMULA – INSECT CONTROL AGENT FOR CROP PROTECTION & PLANT STIMULANT FOR HEALTHY GROWTH

INTRODUCTION

BIOVECTROL® 6kEC is a series of environmental friendly organic natural formula based on neem extracts, as active ingredient coupled with a proprietary blend of natural botanical extracts as carrier and synergist; for effective crop protection and growth enhancement.

BIOVECTROL® 6kEC has high biological activities against a broad spectrum of crop insect pests including lepidoptera, hemiptera, coleoptera diptera and orthoptera and yet has extremely weak toxicity to mammals and natural enemies.

BIOVECTROL® 6kEC is an insect control agent with multiple modes of activities such as repellency, antifeedant activities, insect growth regulation (IGR) effects and ovicidal activity; etc. for crop protection. Furthermore, its anti-fungal, anti-viral and anti-bacterial properties protect crops against infections caused by viral, fungal and bacterial. In addition to pest and disease control, **BIOVECTROL® 6kEC** also exhibits plant growth enhancement by means of improved photosynthesis and assimilate translocation.

FEATURES

BIOVECTROL® 6kEC formulations exhibit multiple modes of action which effectively interfere life cycle of insect pests. Almost all groups of insect pests are affected by the following modes of biological activities:

- **REPELLENCY**

BIOVECTROL® 6kEC treated leaf surfaces are less preferred by insect pests for feeding, colonization and production due to the behavior altering feature.

- **ANTIFEEDENT ACTIVITIY**

BIOVECTROL® 6kEC stimulates deterrent neurons and inhibits attractant neurons of insect and thus suppress insect feeding. It also affects insect digestive system leading to alteration in feeding behavior. Furthermore, it inhibits the secretion of insect digestive enzyme with disturbs digestion, absorption and metabolism.

- **INSECT GROWTH REGULATION (IGR) EFFECTS**

BIOVECTROL® 6kEC has IGR effect which is one of the strongest and predominant on immature insect pests. It disrupts molting hormone secretion and prohibits insect

growth. Its IGR effects on immature stages cause growth irregularities resulting in the prevention of larval growth, pupation and adult emergence. All insects groups are susceptible to the growth regulatory effects of **BIOVECTROL® 6kEC**.

- **REPRODUCTION SUPPRESSION**

BIOVECTROL® 6kEC helps in a delay in oviposition and reduction in egg production thus impairing reproduction ability of insect pests.

- **INSECT FITNESS DISRUPTION**

BIOVECTROL® 6kEC exhibits complex effects involving antifeedant, digestion, growth or reproductive disruption and other physiological impacts makes insects weak, leading to natural mortality or predispose them to insecticides, biological and beneficial in an agro-ecosystem.

- **OVIPOSITION DETERRENCE**

BIOVECTROL® 6kEC treated plant surfaces are less preferred by insect pests for egg deposition.

- **OVICIDAL ACTIVITY**

BIOVECTROL® 6kEC impairs the development or hatchability of eggs upon contact. The degree of ovicidal activity varied among different groups of insects.

- **SYSTEMIC EFFECTS**

BIOVECTROL® 6kEC exhibits systemic activity when applied through soil, seedling root dip, seed treatment and tree injections. The most pronounced systemic effect is antifeedant and growth inhibition activity. Pests affected by systemic effects include caterpillars, beetles, whiteflies, leaf miners, mites, aphids and thrips; etc.

- **INSECTICIDE EFFECT ENHANCEMENT**

Insect pests exposed to **BIOVECTROL® 6kEC** will exhibit a greater level of susceptibility when treated with insecticides subsequently. The exposure of insects with **BIOVECTROL® 6kEC** will lead to physically and physiologically weak and growth regulated making insects lose their ability to resist the insecticide and thus enhance susceptibility.

Combination of **BIOVECTROL® 6kEC** enable other pesticides broaden the pest spectrum besides efficacy enhancement. It is a good strategy to use **BIOVECTROL® 6kEC** with other pesticides in combination or alteration for pesticide effect enhancement.

- **PEST RESISTANCE SUPPRESSION**

BIOVECTROL® 6kEC is an ideal tool for preventing or delaying insect resistance due to the reduction of mixed function oxidase (MFO) levels in insects which contributes to the reduction of resistance possibilities among insect pests. The property of resistance possibilities reduction due to its interference with MFO synthesis will help to manage, prohibit or delay resistance in key pests.

- **PREVENTION OF FUNGAL, VIRAL AND BACTERIAL INFECTION**

BIOVECTROL® 6kEC has anti-fungal, anti-viral and anti-bacterial properties which protect plants from infection. Its insect control properties will greatly reduce insect feeding thus reducing plant infections.

- **IMPROVEMENT OF SOIL CONDITIONS**

BIOVECTROL® 6kEC is effective against nematodes, fungi, virus and bacteria present in the soil and at the same time, more organic matters are being introduced thus improved soil conditions for better farming environment.

- **ENVIRONMENTAL AND ECO-FRIENDLY**

A holistic approach to extremely safe and effective pest management.

- **PLANT GROWTH STIMULANT / ENHANCEMENT**

BIOVECTROL® 6kEC is known to enhance plant health and possibly yields. It will show enhancement in photosynthesis and positive assimilate translocation thus promoting plant health.

- **HARMLESS / LOW IMPACT TO NATURAL ENEMIES**

BIOVECTROL® 6kEC is practically harmless to honeybees, earthworms, predators and parasites under normal out-door application conditions.

- **NON-PHYTOTOXIC**

No phytotoxicity is observed on most crops at recommended / practical dosages.

ADDITIONAL FEATURE

BIOVECTROL® 6kEC exhibits additional benefits as a disinfectant. The following test results show the basic bactericidal activity of **BIOVECTROL® 6kEC** at 80 times dilution (1:79):

Test Organism	Reduction in viability, % killed after contact time of 60min
Pseudomonas Aureus	> 99%
Salmonella Typhimurium	> 99%
Eschrichia Coli	> 99%

APPLICATIONS

Recommend dilutions :

	BIOVECTROL® 6kEC
Seed Treatment	1 : 20 ~ 30
Seedling Root Dip	1 : 400 ~ 600
Soil Drench	1 : 1000 ~ 2000
Spray (at 14~21 days interval)	1 : 500 ~ 2000
Chemigation (at 14~28 days interval)	1 : 1000 ~ 2000

SAFETY OF BIOVECTROL®6kEC (AZADIRACHTIN)

Toxicology	Acute Oral – Rat LD_{50}	: > 5 gm/kg
	Acute Dermal – Rat LD_{50}	: > 2 gm/kg
	Acute inhalation - Rat LD_{50}	: > 0.72 gm/kg
	Skin Irritation – Rabbit	: No irritation
	Eye Irritation – Rabbit	: Slight
	Skin Sensitization – Guinea Pig	: Slight sensitization

Long term toxicology	Mutagenicity	: Non Mutagenic
	Carcinogencity	: Non Carcinogenic
	Neurotoxicity	: No Neutrotoxicity (NOAEC 1000 mg/kg)
	Developmental Toxicity – Rats	: NOAEC 50 mg/kg/day
	Dietary Toxicity – Rats	: NOAEC 100ppm

STORAGE & HANDLING PRECAUTIONS

- Keep container closed when not in use.
- Store away from foodstuffs and feeds.
- Avoid direct sunlight and high temperature storage.
- General ventilation and industrial preventive clothing is sufficient.

PACKING

BIOVECTROL® 6kEC is available in 1 Liter, 5 Litres and 20 Litres pails. Other packing is also available upon request.