



## **BioNEEM®**

### **Instructions:**

#### **Caution**

Harmful if swallowed. Avoid contact with skin, eyes, or clothing. Avoid contamination of feed and foodstuffs. Avoid breathing spray mist. In case of eye contact, flush eyes with plenty of water. If on skin, wash with soap and water. Wash contaminated clothes before reuse. If irritation persists, get medical attention.

#### **Environmental Hazards**

This product may be hazardous to fish and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present or to areas below the mean high water mark.

It is violation of Federal law to use this product in a manner inconsistent with its labeling.

#### **General Information**

The effectiveness of BioNEEM® is based on several modes of action. It disrupts insects' hormonal balance so they die before they molt to the next life stage. BioNEEM® suppresses some insects' desire to feed and also repels in areas that have been sprayed. These different modes of action result in broad spectrum control of the majority of insects that harm your yard and garden. BioNEEM® spares many beneficial insects such as honey bees and lady bugs that prey on undesirable insects. Without beneficial insects to control pest populations, plants are even more vulnerable to new infestations.

Neem-based products have been extensively tested and used as effective insecticides in commercial green houses. The Neem seed has been the subject of extensive testing throughout the world since World War II. Neem has been tested at major universities throughout the U.S. since 1982. The active ingredient in BioNEEM® is organic. It comes from a natural source: an extract from seeds of the neem tree, a renewable resource. The neem tree is native to India, Africa and several other tropical countries.

## Directions for Use

Shake well before using. Spray solutions should be used within 8 hours of mixing for maximum effectiveness. Do not store diluted spray solution for later use. Not for use in food handling areas.

BioNEEM® is most effective when applied 2-3 times at 7-10 day intervals. Application directly onto the target pest will increase efficacy. Time applications for early to mid morning or in the late afternoon.

Do not add other chemicals to BioNEEM® solutions. Do not apply to wilted, stressed or newly transplanted materials prior to root development. Do not apply to known sensitive plant species without prior testing. Known sensitive plants: hibiscus flowers.

### Foliar Application (Bedding & Potted Plants):

For use on bedding plants, potted and foliage plants, ornamentals, trees and shrubs in and around homes to control the immature or larval forms of the following insect pests: APHIDS, BEET ARMYWORMS, CATERPILLARS, FRUIT FLIES, LEAFHOPPERS, LEAFMINERS, LOOPERS, MEALYBUGS, MEXICAN BEAN BEETLES, THRIPS, AND WHITEFLIES. Dilute BioNEEM® to a concentration of 3 fl. Oz. (6 tablespoons) of BioNEEM® per gallon of water (1 part BioNEEM® to 40 parts water). Mix thoroughly. Apply with a hand sprayer as a fine spray to leaf surfaces to the point of run off. Be sure to coat the underside of leaves as this is where many insects hide. Excessive application is unnecessary and should be avoided.

### Foliar Application (Trees & Shrubs):

For use on trees and shrubs on residential landscapes to control the immature or larval stages of the following insect pests: BAGWORMS, ELM LEAF BEETLES, GRASSHOPPERS, GYPSY MOTHS, HORNWORMS, LEAFHOPPERS, LEAFMINERS, PINE SAWFLIES, SPRUCE BUDWORMS, PSYLLIDS, TENT CATERPILLARS, WEEVILS and WEBWORMS: Dilute BioNEEM® to a concentration of 3 fl. Oz. (6 tablespoons) of BioNEEM® per gallon of water (1 part BioNEEM® to 40 parts water). Mix thoroughly. Apply with a hand sprayer as a fine spray to leaf surfaces to the point of run off. Be sure to coat the under-sides of leaves as this is where many insects hide. Excessive application is unnecessary and should be avoided.

### Lawn Application:

For home lawns to control the following insect pests: BILLBUGS, CHINCH BUGS, CRAIN FLIES, FALL ARMYWORMS, HYPERODES WEEVILS, MOLE CRICETS, SOD WORMS, and WHITE GRUBS: Dilute 2 fl. Oz. (4 tablespoons) of BioNEEM® in 1 gallon of water. Apply at the rate of 5 gallons spray solution per 2000 square feet. Apply BioNEEM® at least 3 times on a 7-10 day interval to insure .....tive control of surface and sub-surface ...ing pests. BioNEEM® should not be ... to newly seeded lawns. Best timing for ...white grub application will vary by region. ...is generally early to mid summer and a.....the fall. If in doubt, contact your local university research or extension specialist....the periods when white grubs are feeding in your area.

### Yard And Landscape:

For use around...home to control the following insects...APHIDS, BAGWORMS, BOX ELDER..., CATERPILLARS, GYPSY MOTH LARVAE, MATURE TENT BEETLES, LACE BUGS, HOPPERS, PSYLLIDS, SAWFLY LARVAE, WEBWORMS, and WOOLY APHIDS:

....use freshly mixed spray solution. Use....water whenever possible. Use with ca... on new tender foliage and do not app....paints in direct sunlight. When insect...first noticed, apply a mixture of 3 fl. oz.....tablespoons) of BioNEEM® per gallon of water (1 par BioNEEM® to 40 parts water). Repeat applications 2-3 times on a 7-day interval. Heavy infestations may require more frequent applications on a 3-4 day interval until populations are reduced.

### **House Plant Application:**

For use on house plants to kill or repel the following insect pests: APHIDS, BEET ARMYWORMS, CATERPILLARS, FRUIT FLIES, FUNGUS GNATS, LEAFHOPPERS, LEAFMINERS, MEALYBUGS, MEXICAN BEAN BEETLES, THRIPS and WHITEFLIES. Dilute BioNEEM® to a concentration of 0.42 fl. oz. (2 teaspoons) per pint of water. Mix thoroughly. Adjust spray bottle nozzle to spray setting and apply BioNEEM® to leaf surfaces until completely wet. Be sure to coat undersides of leaves, especially those at the soil surface as this is where many insects hide. Excessive application is unnecessary and should be avoided.

### **Vegetable And Fruit Crop Application:**

For use on vegetable and fruit crops to kill or repel the following insect pests: APHIDS, ARMYWORMS, BEAN LEAF BEETLES, BOLLWORMS, BUDWORMS, CODLING MOTHS, COLORADO POTATO BEETLES, CORN EAR WORMS, CUCUMBER BEETLES, CUTWORMS, DIAMONDBACK MOTHS, EUROPEAN CORN BORERS, GRAPE LEAF SKELETONIZERS, HORNWORMS, IMPORTED CABBAGEWORMS, LEAFMINERS, LEAFROLLERS, LOOPERS, MELONWORMS, MEXICAN BEAN BEETLES, PICKLEWORMS, PINWORMS, SQUASH BUGS, TENT CATERPILLARS, THRIPS, TOMATO FRUITWORMS, TWIG GIRDERS, VINE BORERS, WEEVILS and WHITEFLIES on the following crops: ALMONDS, ANISE, APPLES, APRICOTS, ARTICHOKE, ASPARAGUS, BASIL, BEANS, BEETS, BOK CHOY, BROCCOLI, BRUSSELS SPROUTS, CABBAGE, CANTALOUPE, CARROTS, CASHEWS, CAULIFLOWER, CELERY, CHERRIES, CHIVES, COLLARD GREENS, COLLARDS, CORN, CUCUMBERS, DILL, EGGPLANTS, FIGS, GARLIC, GINGER, KALE, KOHLRAVI, LEMONS, LENTILS, LETTUCE, LIMES, MACADAMIA NUTS, MARJORAM, MELONS, MINT, MUSTARD GREENS, MUSTARD, ONIONS, ORANGES, PARSLEY, PEACHES, PEANUTS, PEARS, PEAS, PECANS, PEPPERS, PISTACHIOS, PLUMS, POTATOES, TARRAGON, THYME, TOMATOES, TURNIP GREENS, TURNIPS, WALNUTS and WINTERGREEN: Always use freshly mixed spray solution. Use soft water whenever possible. Use with caution on new tender foliage. When insects are first noticed apply a mixture of 3 fl. oz. (6 tablespoons) of BioNEEM® per gallon of water (1 part BioNEEM® to 40 parts water). Repeat applications 2-3 times on a 7-day interval. Heavy infestations may require more frequent applications on a 3-4 day interval until populations are reduced.

Repellency Against Japanese Beetles and Other Pests: BioNEEM® repels a variety of pests including armyworms, aphids, and Japanese beetles. Apply to plants at labeled rate, being sure to completely cover foliage and flowers. Apply just before pests emerge or at the first sign of infestation. Repeat applications every 3-7 days or immediately after significant rainfall.

## **Storage And Disposal:**

**Storage:** Keep in original container. Store in a cool, dry place, away from direct sunlight, feed or foodstuffs. Keep container tightly sealed when not in use. Do not store below 50°F (10°C) or above 95°F (35°).

**Disposal:** Do not reuse empty container. Securely wrap original container in several layers of newspaper and discard in trash. Rinse thoroughly before discarding in trash.