

VectoBac[®] WG

Reg No./Nr. L 7224 Act / Wet No.36/1947

A water dispersible granule biological larvicide
for the control of mosquito larvae and fungus gnat
larvae.

'n Water disperseerbare korrel biologiese
larfdoder vir die beheer van
muskietlarwes
en swammuggielarwes.

INSECTICIDE GROUP 11 INSEKODODER GROEP

Active ingredient /Aktiewe bestanddeel

Bacillus thuringiensis subsp. israelensis / Bacillus thuringiensis subsp. israelensis
3000 ITU/mg / 3000 ITE/mg

NET MASS 500 GRAM..... NETTO MASSA

REGISTRATION HOLDER / REGISTRASIEHOUER:



REG NO 98/10658/07 REG NR
P O BOX 442 POSBUS
SOMERSET WEST / WES 7129
Tel. (021) 851-4163

VectoBac[®] is the registered trade name of / is die geregistreerde handelsnaam van
Valent BioSciencesTM Corporation, 870 Technology Way,
Libertyville, IL 60048 USA.

Batch No Lotnummer



CAUTION/VERSIGTIG



WARNINGS

Handle with care.

May cause slight skin irritation.

Store in a cool, dry place away from food, feed, seed and fertilizer.

Do not leave or store containers in direct sunlight.

KEEP OUT OF REACH OF CHILDREN, UNINFORMED PERSONS AND ANIMALS.

AERIAL APPLICATION: Notify all inhabitants of the immediate area to be sprayed and issue the necessary warnings.

ALTHOUGH THE REMEDY HAS BEEN EXTENSIVELY TESTED UNDER A LARGE VARIETY OF CONDITIONS THE REGISTRATION HOLDER DOES NOT WARRANT THAT IT WILL BE EFFICACIOUS UNDER ALL CONDITIONS BECAUSE THE ACTION AND EFFECT THEREOF MAY BE AFFECTED BY FACTORS SUCH AS ABNORMAL GROWTH MEDIUM, CLIMATIC AND STORAGE CONDITIONS, QUALITY OF DILUTION WATER, COMPATIBILITY WITH OTHER SUBSTANCES NOT INDICATED ON THE LABEL AND THE OCCURRENCE OF RESISTANCE OF THE PEST AGAINST THE REMEDY CONCERNED, AS WELL AS BY THE METHOD, TIME AND ACCURACY OF APPLICATION. THE REGISTRATION HOLDER FURTHER DOES NOT ACCEPT RESPONSIBILITY FOR DAMAGE TO CROPS, VEGETATION, THE ENVIRONMENT OR HARM TO MAN OR ANIMAL OR FOR LACK OF PERFORMANCE OF THE REMEDY CONCERNED DUE TO FAILURE OF THE USER TO FOLLOW THE LABEL INSTRUCTIONS OR TO THE OCCURRENCE OF CONDITIONS WHICH COULD NOT HAVE BEEN FORESEEN IN TERMS OF THE REGISTRATION. CONSULT THE SUPPLIER IN THE EVENT OF ANY UNCERTAINTY.

PRECAUTIONS

Avoid inhalation of dust and contact with eyes. In case of eye or skin contact, flush eyes or skin with copious amounts of water. If irritation persists contact a physician.

Wash contaminated clothing daily.

Wash with soap and water after use.

Avoid spray drift onto crops, grazing, rivers and dams.

Clean applicator before using with other remedies and dispose of wash water where it will not contaminate crops, grazing, rivers and dams.

Rinse empty container three times with a volume of water to at least one tenth of that of the container and add the rinsing to the contents of the spray tank before disposing of the container in the prescribed manner.

Destroy empty container and DO NOT re-use for any other purpose.

Prevent contamination of food, feeds, drinking water and eating utensils.

CHARACTERISTICS OF VectoBac® WG

The active ingredient of VectoBac[®] WG is *Bacillus thuringiensis subsp. israelensis*, a naturally occurring bacterium. **VectoBac[®] WG is a larvicide and will not control adult mosquitoes or adult fungus gnats.** It effectively controls the larval stage. Once ingested it disintegrates the wall of the digestive tract of the larvae, feeding stops and death of the larvae occurs within 24 hours.

DIRECTIONS FOR USE: USE ONLY AS DIRECTED

MIXING AND APPLICATION INSTRUCTIONS

Mosquito larvae control:

Application equipment and mixing instructions

VectoBac[®] WG may be applied by conventional ground application methods or aerial application equipment with quantities of water sufficient to provide uniform coverage of the target area. For application, first add the VectoBac[®] WG to water to produce a final spray mixture. The application equipment must be properly calibrated. The amount of water needed per hectare will depend on weather, spray equipment and mosquito habitat characteristics.

DO NOT SPRAY IN THE HEAT OF THE DAY!

Aerial application:

For aerial application apply in between 2.5 and 10 litres of water per hectare and use either a fixed wing aircraft or helicopter, either equipped with conventional boom and nozzle system or rotary atomizers to provide uniform coverage of the target area.

Fill the mix tank or aircraft hopper with the required quantity of water. Start the mechanical or hydraulic agitation to provide moderate circulation before slowly sprinkling the VectoBac[®] WG onto the water. VectoBac[®] WG suspends readily in water and will stay suspended over normal application periods. Brief re-circulation may be necessary if the spray mixture has stood over for several hours or longer. Do not mix more VectoBac[®] WG than can be used in a 48 hour period.

AVOID CONTINUOUS AGITATION OF THE SPRAY MIXTURE DURING SPRAYING.

Ground application:

For ground spraying, apply in between 50-100 litres water per hectare, using hand-pumps, boom- or hydraulic sprayers, or mist-blowers. Fill the mix tank or spray tank with the required quantity of water. Start the mechanical or hydraulic agitation to provide moderate circulation before slowly sprinkling the VectoBac[®] WG onto the water. VectoBac[®] WG suspends readily in water and will stay suspended over normal application periods. Brief re-circulation may be necessary if the spray mixture has stood over for several hours or longer. Do not mix more VectoBac[®] WG than can be used in a 48 hour period.

Knapsack & compressed air sprayers may be agitated by shaking the spray equipment after slowly sprinkling the VectoBac[®] WG onto the water. VectoBac[®] WG suspends readily in water and will stay suspended over normal application periods.

AVOID CONTINUOUS AGITATION OF THE SPRAY MIXTURE DURING SPRAYING.

Fungus gnat larvae control

Application equipment and mixing instructions

Apply VectoBac[®] WG as a soil drench through sprinkler-, flood- or drip irrigation systems.

VectoBac® WG needs to be mixed with water prior to injection. The material may be mixed separately and then put into the injector. Fill the mix tank with the required quantity of water. Start the mechanical or hydraulic agitation to provide moderate circulation before slowly sprinkling the VectoBac® WG onto the water. VectoBac® WG suspends readily in water and will stay suspended over normal application periods. Brief re-circulation may be necessary if the spray mixture has stood over for several hours or longer. Do not mix more VectoBac® WG than can be used in a 48 hour period.

Apply VectoBac® WG with adequate water to sufficiently wet the soil surface above and under the benches where larvae are found. Areas under benches should be treated at high rates as this is one of the primary breeding areas. Re-apply as needed. In situations where all life forms (eggs, larvae, pupae and adults) are present, such as with existing infestations, make three (3) weekly applications at the suggested rate for heavy infestations. Regular follow-up applications using the suggested light infestation rates will establish a long-term maintenance program. **VectoBac® WG is a larvicide and will not control adult fungus gnats, therefore applications must be timed for a stage of development when larvae are present in the soil.**

Fungus gnat larvae generally respond to VectoBac® WG treatment within 24 hours following application.

RECOMMENDATIONS

| PEST | APPLICATION RATE | REMARKS |
|--------------------|--------------------------------|--|
| MOSQUITO LARVAE | 200 gram per hectare | Clean clear water |
| | 300 gram per hectare | Moderately polluted water |
| | 1 kg per hectare | Heavily polluted water |
| FUNGUS GNAT LARVAE | 100 gram per 100 litres water. | Light infestation (1-30 adults per trap) |
| | 400 gram per 100 litres water | Heavy infestation (30+ adults per trap) |

WAARSKUWINGS

Hanteer versigtig.

Mag matige vel irritasie veroorsaak.

Stoor in 'n koel, droë plek, weg van voer, voedsel, saad en kunsmis.

Moenie houers in direkte sonlig laat of stoor nie.

HOU BUIITE BEREIK VAN KINDERS, ONINGELIGTE PERSONE EN DIERE.

LUGBESPUTTING : Stel alle inwoners van die gebied in kennis van die area wat bespuit gaan word en reik die nodige waarskuwings uit.

ALHOEWEL HIERDIE MIDDEL OMVATTEND ONDER 'N GROOT VERSKEIDENHEID TOESTANDE GETOETS IS WAARBORG DIE REGISTRASIEHOUER NIE DAT DIT ONDER ALLE TOESTANDE DOELTREFFEND SAL WEES NIE, AANGESIEN DIE WERKING EN EFFEK DAARVAN BEÏNVLOED KAN WORD DEUR FAKTORE SOOS ABNORMALE GROEI-MEDIUM- KLIMAATS- EN BERGINGSTOESTANDE; KWALITEIT VAN VERDUNNINGSWATER, SOWEL AS DIE METODE, TYD EN AKKURATHEID VAN TOEDIENING. VERDER AANVAAR DIE REGISTRASIEHOUER NIE VERANTWOORDELIKHEID VAN SKADE AAN GEWASSE, PLANTEGROEI, DIE OMGEWING OF VIR NADELIGE EFFEK OP MENS OF DIER OF 'N GEBREK AAN PRESTASIE VAN DIE BETROKKE MIDDEL AS GEVOLG VAN DIE VERSUIM VAN DIE VERBRUIKER OM ETIKETAANWYSINGS NA TE KOM OF AS GEVOLG VAN DIE ONTSTAAN VAN TOESTANDE WAT NIE KRAGTENS DIE REGISTRASIE VOORSIEN KON WORD NIE. RAADPLEEG DIE VERSKAFFER IN DIE GEVAL VAN ENIGE ONSEKERHEID.

VOORSORGMAATREËLS

Voorkom inaseming van stof en aanraking met oë. In die geval van kontak met oë of vel, was oë of vel met genoegsame hoeveelheid water. Verkry mediese hulp ingeval irritasie voortduur.

Was besoedelde klere daaglik.

Was met seep en water na gebruik.

Voorkom wegdrywing van spuitnewel na ander gewasse, weiding, riviere en damme.

Maak toediener skoon voordat dit vir ander chemikalieë gebruik word en gooi waswater weg waar dit nie gewasse, weiding, riviere en damme sal besoedel nie.

Spoel leë houer drie keer uit met 'n volume water wat ten minste gelykstaande is aan een tiende van die inhoud van die houer. Gooi die spoelwater by die inhoud van die spuittenk voordat die houer in die voorgeskrewe wyse vernietig word.

Vernietig leë houer en MOET NIE vir enige ander doel gebruik nie.

Voorkom besoedeling van voedsel, voer, drinkwater en eetgerei.

EIENSKAPPE VAN VectoBac® WG

Die aktiewe bestanddeel van VectoBac® WG is *Bacillus thuringiensis subsp. israelensis*, 'n bakterium wat natuurlik voorkom. **VectoBac® WG beheer nie volwasse muskiete of swammuggies nie.** Dit beheer effektief die larwale stadia. Na inname word die wand van die larwe se spysverteringskanaal afgebreek, voeding gestaak en die larwe vrek binne 24 uur.

GEBRUIKSAANWYSINGS: GEBRUIK SLEGS SOOS AANGEDUI

MENG-EN TOEDIENINGSINSTRUKSIES

Muskietlarwebeheer

Toedieningstoerusting en menginstruksies

VectoBac® WG mag toegedien word deur middel van konvensionele grondtoedieningsmetodes en lugtoedieningstoerusting in voldoende hoeveelheid water, om uniforme bedekking van die teikenarea te voorsien. Maak finale spuitmengsel op deur VectoBac® WG by water te voeg. Maak seker dat die toedieningstoerusting korrek gekalibreer is. Die hoeveelheid water per hektaar wat benodig word sal afhang van klimaat, spuitapparaat en die eienskappe van die muskiethabitat.

MOET NIE OP DIE HITTE VAN DIE DAG SPUIT NIE!

Lugtoediening:

Vir lugtoediening dien in tussen 2.5 en 10 liter water per hektaar toe en gebruik of 'n vastevlerk vliegtuig of 'n helikopter wat toegerus is met of 'n konvensionele spuitbalk en punte of 'n roterende atomiseerder om uniforme bedekking van die teikenarea te voorsien.

Vul die mengtenk of vliegtuigvulbak met die verlange hoeveelheid water. Skakel die roerder aan om matige sirkulasie te verskaf voordat VectoBac® WG stadig op die water oppervlak gestrooi word. VectoBac® WG suspendeer geredelik in water en sal gesuspendeer bly vir die normale periode van toediening. Kort periodes van hersirkulasie mag nodig wees indien die mengsel vir 'n aantal uur gestaan het. Moet nie meer VectoBac® WG meng as wat in 'n 48 uur periode opgebruik kan word nie.

VERMY AANHOUDENDE VERMENGING VAN DIE SPUITMENGSEL GEDURENDE BESPUITING.

Grondtoediening:

Vir grondbespuiting dien toe in 50-100 liter water per hektaar deur gebruik te maak van handpomp-, balkspuit-, lugdruk- of newelblaser bespuiting.

Vul die mengtenk of spuitenk met die verlange hoeveelheid water. Skakel die roerder aan om matige sirkulasie te verskaf voordat VectoBac® WG stadig op die water oppervlak gestrooi word. VectoBac® WG suspendeer geredelik in water en sal gesuspendeer bly vir die normale periode van toediening. Kort periodes van hersirkulasie mag nodig wees indien die mengsel vir 'n aantal uur gestaan het. Moet nie meer VectoBac® WG meng as wat in 'n 48 uur periode opgebruik kan word nie.

Indien die toerusting geen of swak vermenging het (soos byvoorbeeld rugsakspuite en tenkspuite sonder roeders) strooi VectoBac® WG stadig op die oppervlak van die water en skud dan die spuit. VectoBac® WG suspendeer geredelik in water en sal gesuspendeer bly vir die normale periode van toediening.

VERMY AANHOUDENDE VERMENGING VAN DIE SPUITMENGSEL GEDURENDE BESPUITING.

Swammuggielarwes:

Toedieningstoerusting en menginstruksies

Dien VectoBac[®] WG deur 'n sprinkel-, vloed- of driebesproeiingsstelsel as 'n deurdrenking van die grond toe. VectoBac[®] WG moet vooraf met water gemeng word voor inspuiting. Dit kan apart gemeng word en dan in die inspuiter gevoeg word. Vul die mengtenk met die verlangte hoeveelheid water. Skakel die roerder aan om matige sirkulasie te verskaf voordat VectoBac[®] WG stadig op die water oppervlakte gestrooi word. VectoBac[®] WG suspendeer geredelik in water en sal gesuspendeer bly vir die normale periode van toediening. Kort periodes van hersirkulasie mag nodig wees indien die mengsel vir 'n aantal uur gestaan het. Moet nie meer VectoBac[®] WG meng as wat in 'n 48 uur periode opgebruik kan word nie.

Dien VectoBac[®] WG toe in voldoende water om die grondoppervlak bo en onder die banke waar die larwes voorkom te deurdrenk. Area onder die banke moet met die hoë dosis behandel word aangesien dit die primêre broeiplek is. Herhaal toediening soos benodig. In situasies waar alle lewensvorme (eiers, larwes, papies en volwassenes) voorkom moet drie (3) weeklikse toedienings teen die hoë dosis gedoen word. Gereelde opvolgbehandelings teen die dosis vir lae besmetting sal 'n langtermyn onderhoudsprogram vestig. **VectoBac[®] WG is 'n larfdoder en beheer nie volwasse swammuggies nie, toedienings moet geskied wanneer die larwes in die grond voorkom.**

Swammuggielarwe reageer in die algemeen binne 24 uur na 'n VectoBac[®] WG behandeling.

AANBEVELINGS

| PLAAG | TOEDIENINGS- HOEVEELHEID | OPMERKINGS |
|-----------------|-------------------------------|--|
| MUSKIETLARWE | 200 gram per hektaar | Skoon helder water |
| | 300 gram per hektaar | Matig besoedelde water. |
| | 1 kg per hektaar | Erg besoedelde water |
| SWAMMUGGIELARWE | 100 gram per 100 liter water. | Ligte besmetting (1-30 volwassenes per lokval) |
| | 400 gram per 100 liter water | Swaar besmetting (30+ volwassenes per lokval) |