



VY-KING42

Insecticide/Nematicide

RESTRICTED USE PESTICIDE

Due to acute toxicity and toxicity to birds and mammals.
 For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification.

OXAMYL GROUP **1A** INSECTICIDE

Water Soluble Liquid
 3.77 LBS. ACTIVE INGREDIENT PER GALLON

Active Ingredient

Oxamyl: [Methyl N',N'-dimethyl-N-((methylcarbamoyl)oxy)-1-thiooxamimidate] 42%

Other Ingredients 58%
TOTAL 100%

KEEP OUT OF REACH OF CHILDREN

DANGER/PELIGRO



POISON

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

FIRST AID

Contains an N-methyl carbamate that inhibits cholinesterase.

IF SWALLOWED	Call a poison control center or doctor immediately for treatment advice. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.
IF IN EYES	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice
IF INHALED	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.
IF ON SKIN OR CLOTHING	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

ATROPINE IS AN ANTIDOTE. SEEK MEDICAL ATTENTION AT ONCE IN ALL CASES OF SUSPECTED POISONING. If symptoms appear (see SYMPTOMS), get medical attention. Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.

SYMPTOMS

Oxamyl poisoning produces effects associated with anticholinesterase activity which may include weakness, blurred vision, headache, nausea, abdominal cramps, discomfort in the chest, constriction of pupils, sweating, slow pulse, muscle tremors. For medical emergencies involving this product, call toll free 1-800-222-1222.

NOTE TO PHYSICIAN

Treatment: Atropine sulfate should be used for treatment. Administer repeated doses, 1.2 to 2.0 mg intravenously every 10 to 30 minutes until full atropinization is achieved. Maintain atropinization until the patient recovers. Artificial respiration or oxygen may be necessary. Allow no further exposure to any cholinesterase inhibitor until recovery is assured. Do not use 2-PAM for exposure to Vy-King 42 alone. However, for exposure to combinations of Vy-King 42 and organophosphorous insecticides, 2-PAM may be used as required to supplement the atropine sulfate treatment. Do not use morphine. For medical emergencies involving this product, call toll-free 1-800-222-1222.

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Product of Indonesia

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER-POISON! Fatal if swallowed. Corrosive. Causes irreversible eye damage. May be fatal if inhaled. Do not breathe vapor. Harmful if absorbed through skin. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse. Avoid contact with skin, eyes or clothing.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Mixers, loaders, and applicators and other handlers must wear:

Coveralls over long-sleeved shirt and long pants.

Chemical-resistant gloves made of barrier laminate or butyl rubber \geq 14 mils.

Chemical-resistant footwear plus socks.

Protective eyewear.

Chemical-resistant headgear for overhead exposure.

Chemical-resistant apron when cleaning equipment, mixing, or loading.

Wear a minimum of an elastomeric half face NIOSH approved respirator with organic vapor (OV) cartridges and a combination R or P filter (TC-84A); or a NIOSH approved gas mask with an OV canister (TC-14G); or a NIOSH approved powered air purifying respirator with (OV) cartridge and combination HE filter (TC-23C).

Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

ENGINEERING CONTROL STATEMENTS

Human flaggers must be in enclosed cabs.

Pilots must use an enclosed cockpit in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)]. Pilots must not assist in the mixing and loading operations. Mixers and loaders supporting use on cotton in California and Arizona must use a closed system that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides {40 CFR 170.240(d)(4)}. The system must be designed by the manufacturer to remove a liquid pesticide from its container and transfer it through connecting hoses, pipes, and/or couplings that are sufficiently tight to prevent dermal or inhalation exposure of any person to the pesticide concentrate, use dilution, or rinse solution and must be provided and have immediately available for use in an emergency, such as a broken package, spill, or equipment breakdown: coveralls, chemical-resistant footwear, and the type of respirator required for handlers on this labeling. In addition, handlers: may wear long-sleeved shirt and long pants, socks and shoes, chemical resistant gloves made of barrier laminate or butyl rubber \geq 14 mils and a chemical resistant apron, instead of the PPE required for mixers and loaders on this label. Must wear protective eyewear if the system operates under pressure.

When handlers use closed systems, or enclosed cabs, in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

USERS SHOULD: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Remove personal protective equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to aquatic organisms (fish and invertebrates) and extremely toxic to birds and mammals. Cover or disk spill areas. Birds and mammals in treated areas may be killed. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when cleaning equipment or disposing of equipment waste waters.

This product can contaminate surface water through ground spray applications. Under some conditions, it may also have a high potential for runoff into surface water after application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlaying extremely shallow ground water, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas overlaying tile drainage systems that drain to surface water.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow to drift to blooming crops or weeds if bees are visiting the treatment area.

GROUNDWATER ADVISORY: Residues of Vy-King 42 can seep or leach through soil and can contaminate ground water which may be used for drinking. Users are advised not to apply Vy-King 42 where the water table is close to the surface and where soils are very permeable, i.e. well-drained soils such as loamy sands. Local agricultural Agencies can provide information on the soil type in your area and the location of the ground water.

PHYSICAL AND CHEMICAL HAZARDS

Combustible. Do not use or store near heat or open flame. Keep container closed. Use with adequate ventilation.

DIRECTIONS FOR USE

Restricted Use Pesticide

It is a violation of federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation. Pilots must not assist in the mixing and loading operations.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment(PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 48 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls,
- Chemical-resistant gloves made of barrier laminate or butyl rubber \geq 14 mils
- Socks and shoes.

Vy-King 42 Insecticide/Nematicide must be used only in accordance with directions on this label.

Solera ATO, LLC will not be responsible for losses or damages resulting from use of this product in any manner not specifically listed on this label. User assumes all risks associated with such use.

PRODUCT INFORMATION

Vy-King 42 is a water soluble liquid to be diluted with water. For cotton applications, Vy-King 42 may also be mixed with refined vegetable oil.

Use only in commercial and farm plantings; do not use for home or residential uses.

Do not use in Suffolk and Nassau Counties, Long Island, New York.

Do not formulate this product into other end-use products.

Seed piece treatments are prohibited.

All applications to the soil must be incorporated immediately after application to a depth of at least 2 inches by mechanical means or by water. For best results, place Vy-King 42 in the root zone of the plant. If irrigation is

used to water in the application, use sufficient water to move the applied Vy-King 42 at least 2 inches deep in the soil. However, do not apply irrigation water such that the water moves off the field.

INTEGRATED PEST MANAGEMENT

Solera ATO supports the use of Integrated Pest Management (IPM) programs to control pests. Use this product as part of an IPM program which can include biological, cultural, and genetic practices aimed at preventing economic pest damage. IPM principles and practices include field scouting or other detection methods, correct target pest identification, population monitoring, rotation of insecticides with different modes of action, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop or site systems in your area.

RESISTANCE MANAGEMENT

For resistance management, Oxamyl contains a Group 1A insecticide/nematicide . Any insect/nematicide population may contain individuals naturally resistant to Oxamyl and other Group 1A insecticides/nematicide. The resistant individuals may dominate the insect/mite population if this group of insecticides/nematicides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

- To delay insecticide/nematicide resistance, take the following steps:
- Avoid application of more than the maximum recommended applications per crop as described in the *CROP USE* section and consecutive sprays of Oxamyl or other insecticides in the same group in a season.
- Use tank mixtures with insecticides/acaricides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
 - Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
 - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
 - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
 - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
 - The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticide activity may offer an insect resistance management benefit only for the period where both insecticides are active.
- Adopt an integrated pest management program for insecticide/acaricides use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance contact company representatives at 928-503-1518 or at www.solerasd.com.

CROP ROTATION

Do not plant crops other than those listed on this label or a supplemental label within 4 months after the last application. Cover crops for soil building or erosion control may be planted at any time, but do not graze or harvest for food or feed.

APPLICATION

Apply at the labeled rates when insect populations reach locally determined economic thresholds. Consult the cooperative extension service, professional consultants or other qualified authorities to determine appropriate threshold levels for treatments in your area.

Apply follow-up treatments of Vy-King 42, if needed, to keep pest populations within threshold limits. The minimum application interval for each crop is noted in the crop specific directions for use.

Vy-King 42 is a water soluble liquid. Once in solution, no further agitation is required, except when applications are made to cotton in oil. Use sufficient water to obtain thorough, uniform coverage.

Vy-King 42 can be applied by ground, aerial or chemigation application equipment. See the crop specific directions for use for the application equipment that may be used for each crop. For ground applications, use the following directions, unless otherwise specified in this label: use a minimum of 5 gallons of water per acre. For aerial applications, use the following directions, unless otherwise specified in this label: use a minimum of 2 gallons of water per acre.

Use of Adjuvants: In some situations where coverage is difficult to achieve, such as closed canopy, dense foliage, plants with waxy leaf surfaces, or less than optimal application equipment, an adjuvant may improve performance.

TANK MIXING AND COMPATIBILITY

Since formulations may be changed and new ones introduced, it is a best practice that users premix a small quantity of a desired tank mix and observe for possible adverse changes (settling out, flocculation, etc.). Avoid mixtures of several materials and very concentrated spray mixtures. Vy-King 42 is compatible with most commonly used plant protectants with the exception of "Super Tin", Bordeaux mixtures, lime sulfur and spray oils. Do not use Vy-King 42 in highly alkaline mixtures. For best results, buffer spray solutions to a pH between 5 and 7. Use mildly alkaline mixtures immediately after mixing to prevent loss of activity.

Before mixing large quantities of Vy-King 42 in vegetable oil for use on cotton, do a jar test to determine compatibility.

1. Mix proper proportions of Vy-King 42 and vegetable oil in a jar, seal and shake the mixture. Allow to stand for 1 to 2 hours.
2. View jar to determine if crystals have formed.
3. If no crystals have formed, the vegetable oil is compatible with Vy-King 42.
4. If crystals have formed, add an equal volume of water to the volume of Vy-King 42 and reduce the volume of vegetable oil in the final mix by the volume of water added.

Tank Mixing Sequence: Add different formulation types in the sequence indicated below. Allow time for complete mixing and dispersion after addition of each product.

1. Products in water soluble bags
2. Water dispersible granules
3. Wettable powders
4. Water based suspension concentrates
5. Vy-King 42 and other water soluble concentrates
6. Oil-based suspension concentrates
7. Emulsifiable concentrates
8. Adjuvants, surfactants and oils
9. Soluble fertilizers
10. Drift retardants.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

SPRAY PREPARATION

Fill spray tank 1/4 to 1/2 full of water. Add Vy-King 42 to the tank. Mix thoroughly while adding remaining water. No further agitation is necessary with water. Continuous agitation is required for mixing and application in refined vegetable oil. Do not store spray mix overnight in the spray tank.

For best results, buffer the spray solution to a pH between 5 and 7. Use mildly alkaline mixtures immediately after mixing to prevent loss of activity.

SPRAY TANK CLEANOUT

Immediately following application of Vy-King 42, thoroughly clean all mixing and spray equipment. Flush the tank, pump, hoses, and boom with several changes of water after removing nozzle tips and screens. Clean nozzle tips and screens separately. Take all necessary safety precautions when cleaning equipment. Do not clean near wells, water sources or desirable vegetation. Dispose of waste rinse water in accordance with local regulations.

SPRAY DRIFT MANAGEMENT

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions. **AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.**

IMPORTANCE OF DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets (>150 - 200 microns). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. **APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL, BUT WILL NOT PREVENT DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVORABLE ENVIRONMENTAL CONDITIONS.** See the Wind, Temperature and Humidity, and Temperature Inversions sections of this label.

Controlling Droplet Size - General Techniques

- **Volume:** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure:** Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. **WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.**
- **Nozzle Type:** Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles.

Controlling Droplet Size - Aircraft

Nozzles must never be pointed downward more than 45 degrees.

- **Number of Nozzles:** Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.
- **Nozzle Orientation:** Orienting nozzles so that the spray is emitted backwards, parallel to the airstream will produce larger droplets than other orientations.
- **Nozzle Type:** Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.
- **Boom Length:** The boom length should not exceed 3/4 of the wing or rotor length. Longer booms increase drift potential.
- **Application Height:** Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.
- **Swath Adjustment-Aircraft:** When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, smaller drops, etc.).

BOOM HEIGHT

Setting the boom at the lowest labeled height (if specified) which provides uniform coverage reduces the exposure of droplets to evaporation and wind. For ground equipment, the boom should remain level with the crop and have minimal bounce.

WIND

Drift potential increases at wind speeds of less than 3 mph due to inversion potential, or more than 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. **AVOID GUSTY OR WINDLESS CONDITIONS.**

Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, set up equipment to produce larger droplets to reduce the effects of evaporation.

TEMPERATURE INVERSIONS

Application should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud under low wind conditions indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

SENSITIVE AREAS

This product should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with uniform deposition of the product.

AIR ASSISTED (AIR BLAST) FIELD CROP SPRAYERS

Air assisted field crop sprayers carry droplets to the target via a downward directed air stream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result. It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application, is configured properly, and that drift is not occurring.

Note: Air assisted field sprayers can affect product performance by affecting spray coverage and canopy penetration. Consult the application equipment section of this label to determine if use of an air assisted sprayer is recommended.

CHEMIGATION (For potatoes via overhead sprinkler irrigation only and for cotton via drip chemigation only)

This product may be applied for nematode suppression in cotton through drip (trickle) or strip tubing irrigation systems. Apply this product in potatoes through overhead sprinkler irrigation equipment including center pivot, lateral move, end tow, side (wheel) roll, traveler, solid set, mini (micro) sprinkler, or hand move irrigation systems. When applying to potatoes by overhead sprinkler chemigation, center pivot and lateral move irrigation systems are preferred. Other overhead sprinkler systems, such as end tow, side (wheel) roll and solid set may be used if the application of the water is uniform. Do not apply this product through any other type of irrigation system.

Make application in sufficient water and of sufficient duration to apply the labeled rate evenly to the entire treated area.

Do not allow irrigation water to collect or run off during chemigation.

Do not apply when wind speed favors drift beyond the area intended for treatment

To avoid reduced performance, do not apply Vy-King 42 to cotton via drip irrigation at the same time that a drip/irrigation line clean out product is being used.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.

If you have questions about calibration, you should contact state extension service specialists, equipment manufacturers, or other experts.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Wear personal protective equipment as defined in the PPE section of the label for applicators and other handlers when making adjustments or repairs on the chemigation system when Vy-King 42 is in the irrigation water.

When the application is finished, allow the entire irrigation and injector system to be thoroughly flushed clean before stopping the system.

Use a pesticide supply tank for the application of Vy-King 42 in chemigation systems. For best results, buffer the Oxamyl injection solution to a pH of 5.0 or lower. Buffer highly alkaline water so that the pH of the spray solution is slightly acidic (pH less than 7).

Do not connect any irrigation system (including greenhouse systems) used for pesticide applications to a public water system unless the pesticide label-prescribed safety devices are in place.

“Public water system” means a system for the provision to the public of piped water for human consumption, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals at least 60 days out of the year.

Required System Safety Devices

1. The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone backflow preventer (RPZ) or its functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

Sprinkler Chemigation

1. End guns must be turned off during the application, if they irrigate nontarget areas.
2. It is recommended that nozzles in the immediate area of control panels, chemical supply tanks and system safety devices be plugged to prevent contamination of these areas.
3. Do not apply when wind speed favors drift beyond the area intended for treatment.
4. Do not apply when system connections or fittings leak or when nozzles do not provide uniform distribution.

Drip (Trickle) Chemigation

1. The system should provide uniform water flow and should have no leaks.
2. Irrigate cotton crop to wet the root zone first; then introduce Vy-King 42 for the first 2/3 of the irrigation cycle to distribute the material uniformly to the crop root zone being irrigated. Discontinue use of Vy-King 42 long enough to purge the system with fresh water and allow the Vy-King 42 to remain in the root zone of the crop.

3. Drip tape placement is critical. Vy-King 42 applied via drip chemigation must be in the root zone to be effective. For best results, place the drip tape either on the soil surface near the base of the plant, or buried no more than two inches deep. Emitter spacing should not exceed 12 inches apart.

See crops on label for treatment rates and additional use information.

Posting of Areas to be Treated

Posting of areas to be chemigated is required when: 1) any part of a treated area is within 300 feet of sensitive areas such as residential areas, labor camps, businesses, daycare centers, hospitals, inpatient clinics, nursing homes, or any public areas such as schools, parks, playgrounds, or other public facilities not including public roads; or 2) when the chemigated area is open to public such as golf courses or retail greenhouses.

Posting must conform to all the following requirements. Treated areas shall be posted with signs at all usual points of entry and along likely routes of approach from the listed sensitive areas. When there are no usual points of entry, signs must be posted in the corners of the treated areas and in any other location affording maximum visibility to sensitive areas. The printed side of the sign should face away from the treated area towards the sensitive area. The signs shall be printed in ENGLISH. Signs must be posted prior to application and must remain posted until foliage has dried and soil surface water has disappeared. Signs may remain in place indefinitely as long as they are composed of materials to prevent deterioration and maintain legibility for the duration of the posting period:

All words shall consist of letters at least 2½ inches tall, and all letters and the symbol shall be a color which sharply contrasts with their immediate background. At the top of the sign shall be the words "KEEP OUT," followed by an octagonal stop sign symbol at least 8 inches in diameter containing the word "STOP." Below the symbol shall be the words "PESTICIDE IN IRRIGATION WATER."

Posting required for chemigation does not replace other posting and reentry requirements for farm worker safety.

CROP USES

COTTON (Use directions for all states, except California and Arizona; for Arizona and California use directions, see separate sections.)

For state-specific information on seasonal use rates and number of applications see "Notes" at the end of this section.

Apply Vy-King 42 by ground in sufficient water or by air in sufficient water or refined vegetable oil (minimum 3 pints of oil per acre) to obtain thorough coverage and penetration of the cotton canopy.

When applications are made in water, buffer spray solution to a pH less than 7.

When oil-based applications are made, outfit aircraft with a delivery system designed to apply droplets with a VMD of 150 to 220 microns. Swath width should not exceed wingspan plus 10 percent. When using conventional hydraulic nozzle systems, orient the nozzles 90 degrees to the laminar airflow. Adjust equipment to distribute spray uniformly over the spray swath. Ensure wind conditions and other factors such as temperature and humidity allow for the spray mixture to be delivered to the target area. Maintain continuous agitation.

Boll Weevil, Cotton Fleahopper and Tarnished Plant Bug

Apply 4.25 to 17 fl. oz. Vy-King 42 per acre. Begin applications when damaging populations appear. For best results, apply on a 7-day spray interval, depending on insect pressure.

Cotton Leaf Perforator

Apply 8.5 to 17 fl. oz. Vy-King 42 per acre. Make initial applications when damaging populations begin to build, and continue on a 7-day schedule, depending on insect pressure.

Lygus hesperus (early season)

Apply 12.7 to 17 fl. oz. Vy-King 42 per acre. Begin applications before damaging populations begin to build. For best results, apply on a 7-day spray interval, depending on insect pressure. Targeted insects that migrate into treated area following application may not be controlled.

Lygus hesperus (mid to late season)

Apply 17 fl. oz. Vy-King 42 per acre. Begin applications before damaging populations begin to build. For best results, apply on a 7-day spray interval, depending on insect pressure. Targeted insects that migrate into treated area following application may not be controlled.

Pink bollworm (early season)

Apply 12.7 to 17 fl. oz. Vy-King 42 per acre. Begin early season treatments (pinhead square program) just prior to first susceptible squares and before damaging populations begin to build. For best results, apply 2 to 4 applications on a 7-day interval, depending on insect pressure.

Pink boll worm (mid to late season)

Apply 12.7 to 17 fl. oz. Vy-King 42. Begin applications before damaging populations begin to build. For best results, apply on a 7-day spray interval, depending on insect pressure.

Nematode Suppression:

Lance nematode	<i>Hoplolaimus</i> spp.
Reniform nematode	<i>Rotylenchulus reniformis</i>
Root knot nematode	<i>Meloidogyne incognita</i>

Following the preplant application of a soil fumigant, an at-plant application of a contact nematicide, or a nematicide seed treatment, apply Vy-King 42 as a broadcast foliar or drip treatment at the rate of 17 fl. oz. per acre when cotton is in the 1st to 7th true leaf stage of growth. For longer term suppression of nematodes, a second foliar or drip application may be made 14 days later. Alternatively, Vy-King 42 can be applied following a soil fumigant, or a contact nematicide, or a nematicide seed treatment, as a sequential broadcast foliar treatment at the rate of 8.5 to 17 fl. oz. per acre. Make the initial application when cotton is in the 2nd to 5th true leaf stage of growth and repeat at 8.5 to 17 fl. oz. per acre 7 to 14 days later. For banded applications, use proportionately less material based on row spacing and band width applied. Or as an alternate to sequential broadcast foliar applications, sequential drip applications can be made at 17 fl. oz. per acre starting at the 2nd to 5th true leaf stage of growth and again 7 to 14 days later.

See the "Drip (Trickle) Chemigation" section of the label for additional information on making drip applications.

Applications of Vy-King 42 must follow the preplant application of a soil fumigant, or an at-plant band or in-furrow application of a contact nematicide, or the use of a nematicide seed treatment to effectively reduce reniform, root knot or lance nematode populations in cotton. This Vy-King 42 treatment is intended to supplement early season nematode suppression from soil fumigant or contact nematicide applications or the use of a nematicide seed treatment and is restricted to use on low to moderate nematode infestations.

Stink bugs: brown stink bug, green stink bug, southern green stink bug

Apply 10.7 to 17 fl. oz. Vy-King 42 per acre. Make initial applications when stink bugs exceed local population or damage thresholds. Make sequential applications on a 7-day interval as long as stink bug populations or damage exceed local thresholds.

Thrips (suppression only):

Tobacco thrips	<i>Frankliniella fusca</i>
Onion thrips	<i>Thrips tabaci</i>

Apply 8.5 to 17 fl. oz. Vy-King 42 per acre to provide supplemental control of tobacco and onion thrips. Make applications as a broadcast or band treatment in sufficient water to obtain thorough coverage (minimum of 8 gallons per acre ground and 5 gallons per acre air). All Vy-King 42 applications must follow a previous at-plant insecticide treatment that has contact or systemic activity on tobacco or onion thrips. Begin treatments when cotton reaches the 1st true leaf and thrips populations or damage exceeds local thresholds. Repeat the application at 7 days if re-infestation of adult or immature thrips occurs.

RESTRICTIONS:

Do not apply within 14 days of harvest. Do not graze or feed treated cotton to livestock. Applications to cotton by hand wand or soil broadcast are prohibited.

In all registered states [EXCEPT AR, AZ, CA, KS, LA, MS (west of I-55), OK and TX] and for MS (east of I-55):

Do not apply more than 102 fl. oz. (3 lb. a.i.) of Vy-King 42 per acre per growing season. Do not make more than 8 applications per season.

For AR, KS, LA, MS (west of I-55), OK and TX:

Do not apply more than 68 fl. oz. (2 lb. a.i.) of Vy-King 42 per acre per growing season.

Do not make more than 4 applications per season.

COTTON (Arizona)

Apply Vy-King 42 by air or ground application equipment in sufficient water to obtain thorough coverage (minimum 5 gallons by air or 10 gallons by ground). For best results, buffer the spray solution to <pH 7.

Cotton Leaf Perforator

Apply 17 to 34 fl. oz. Vy-King 42 per acre. Make initial application when damaging populations begin to build, and continue on a 6- to 8-day schedule, depending on insect pressure.

Lygus hesperus (early season)

Apply 13 to 26 fl. oz. Vy-King 42 per acre. Begin applications before damaging populations begin to build. For best results, apply on a 6 to 8-day spray interval, depending on insect pressure. If moderate to high insect pressure exists or when applying alone by air use a minimum rate of 26 fl. oz. Vy-King 42 per acre. Targeted insects that migrate into the treated area following application may not be controlled.

Lygus hesperus (mid to late season)

Apply 26 to 34 fl. oz. Vy-King 42 per acre. Begin applications before damaging populations begin to build. For best results, apply on a 6- to 8-day spray interval, depending on insect pressure. If moderate to high insect pressure exists or when applying alone by air use 34 fl. oz. Vy-King 42 per acre. Targeted insects that migrate into the treated area following application may not be controlled.

Pink bollworm (early season)

Apply 13 to 26 fl. oz. Vy-King 42 per acre, targeted at adults (moths). Begin early season treatments (pinhead square programs) just prior to first susceptible squares and before damaging populations begin to build. For best results, apply 2 to 3 applications on a 6 - 8 day interval, depending on insect pressure. If moderate to high insect pressure exists or when applying alone by air use a minimum rate of 17 fl. oz. Vy-King 42 per acre. For best results, use cottonseed oil or vegetable oil when treating for pink bollworm moths. For best results on nocturnal moths make night time applications.

Pink bollworms (mid to late season)

Apply 17 to 34 fl. oz. Vy-King 42 per acre targeted at adults (moths), Begin mid to late season treatments before damaging populations begin to build. For best results, apply on a 6 - 8-day interval, depending on insect pressure. For best results, use cottonseed oil or vegetable oil when treating for pink bollworm moths. For best results on nocturnal moths make night time applications.

Thrips: western flower (early season) (suppression only)

Apply 8.5 to 17 fl. oz. Vy-King 42 per acre to provide supplemental control of western flower thrips. Begin applications before damaging populations begin to build. Make applications as a broadcast or band treatment in sufficient water to obtain thorough coverage (minimum 10 gallons per acre ground and 5 gallons per acre by air). All Vy-King 42 applications must follow a previous at-plant insecticide treatment that has contact or systemic activity on western flower thrips. For best results, apply on a 6 to 8-day spray interval, depending on insect pressure.

Whitefly

Apply 17 to 34 fl. oz. Vy-King 42 per acre. Always apply Vy-King 42 as tank-mix combinations with a registered whitefly adulticide. For best results, apply on a 7 to 14-day spray interval, depending on insect pressure and rates used.

RESTRICTIONS:

Do not apply more than 102 fl. oz. (3 lb. a.i.) Vy-King 42 per acre per growing season.

Do not make more than 8 applications per season.

Applications to cotton by hand wand or soil broadcast are prohibited.

Do not apply within 14 days of harvest.

Do not graze or feed treated cotton to livestock.

COTTON (California)

Apply Vy-King 42 by air or ground application equipment in sufficient water to obtain thorough coverage (minimum 5 gallons by air or 10 gallons by ground). For best results, buffer the spray solution to a pH less than 7.

***Lygus hesperus* (early season)**

Apply 26 to 34 fl. oz. Vy-King 42 per acre. Begin applications before damaging populations begin to build. For best results, apply on a 6- to 8-day spray interval, depending on insect pressure. If moderate to high insect pressure exists or when applying by air, use 34 fl. oz. Vy-King 42 per acre. Targeted insects that migrate into the treated area following application may not be controlled.

***Lygus hesperus* (mid to late season)**

Apply 30 to 34 fl. oz. Vy-King 42 per acre. Begin applications before damaging populations begin to build. For best results, apply on a 6- to 8-day spray interval, depending on insect pressure. If moderate to high insect pressure exists or when applying by air use 34 fl. oz. Vy-King 42 per acre. Targeted insects that migrate into the treated area following application may not be controlled.

***Thrips: western flower* (early season) (suppression only)**

Apply 8.5 to 17 fl. oz. Vy-King 42 per acre to provide supplemental control of western flower thrips. Begin applications before damaging populations begin to build. Make applications as a broadcast or band treatment in sufficient water to obtain thorough coverage (minimum 10 gallons per acre ground and 5 gallons per acre by air). All Vy-King 42 applications must follow a previous at-plant insecticide treatment that has contact or systemic activity on western flower thrips. For best results, apply on a 6- to 8-day spray interval, depending on insect pressure.

RESTRICTIONS:

Do not apply more than 102 fl. oz. (3 lb. a.i.) Vy-King 42 per acre per growing season.

Do not make more than 8 applications per season.

Applications to cotton by hand wand or soil broadcast are prohibited.

Do not apply within 14 days of harvest.

Do not graze or feed treated cotton to livestock.

PEANUTS (Use is not registered in California)

Root Knot* (except *Javanese*), *Sting*, *Ring*, and *Lesion Nematodes*, and *Thrips

At-Plant Soil Treatment

Apply 34 to 68 fl. oz. of Vy-King 42 per acre in a 7-inch band immediately behind the planter in a minimum of 10 gallons of water per acre. Use the highest rate for severe infestations. Incorporate the band application at least 2 inches into the soil either by placing it in-furrow or by using mechanical means.

Foliar Ground or Aerial Treatment

Foliar applications of Vy-King 42 are to be used only following soil fumigation, or following preplant or at-planting soil application of Vy-King 42 or other contact nematicide. Apply 17 fl. oz. Vy-King 42 per acre as a band or broadcast spray beginning at 14 to 28 days following peanut emergence. Make a second application of 17 fl. oz. Vy-King 42 per acre 14 days later. If needed, two additional applications of 17 fl. oz. Vy-King 42 per acre can be made on a 14-day application schedule. Apply in sufficient water to obtain thorough plant coverage (minimum 8 gallons per acre ground and 5 gallons per acre air). For band applications, use proportionately less material based on row spacing and band width applied.

RESTRICTIONS:

Do not apply more than 136 fl. oz. (4 lb. a.i.) Vy-King 42 per acre per season.

Do not make more than 5 applications per season.

POTATOES

In all states EXCEPT AL, AR, FL, GA, KS, LA, MS, NC, OK, SC and TX (except the Rio Grande Valley of TX) follow the use instructions for Vy-King 42 below. The Rio Grande Valley of TX may also follow these instructions.

For AL, AR, FL, GA, KS, LA, MS, NC, OK, SC and TX (except the Rio Grande Valley of Texas), see state specific use directions.

The Rio Grande Valley is defined to include the following counties: Brewster, Crane, Crockett, Culberson, El Paso, Hudspeth, Jeff Davis, Kinney, Loving, Maverick, Pecos, Presidio, Reeves, Starr, Sutton, Terrell, Upton, Val Verde, Ward, Webb, Winkler, and Zapata.

Foliar Pests: for the Control of Aphids, Colorado Potato Beetle, Flea Beetles, Potato Leafhopper, Tarnished Plant Bug and Two-Spotted Spider Mites (suppression)

Foliar Ground, Chemigation or Aerial Treatments

For aphids, flea beetle, potato leafhopper and tarnished plant bug, use 17 to 34 fl. oz. of Vy-King 42 per acre. For Colorado potato beetle, use 8.5 to 34 fl. oz. of Vy-King 42 per acre. For two-spotted spider mite suppression, use 34 fl. oz. of Vy-King 42 per acre.

Apply when insects first appear. Repeat at specified intervals if needed to maintain control. Use a low rate for light infestations and a high rate for severe infestations. Use at least 7 gallons of water per acre for aerial application. For best results, in areas with high temperature and low humidity conditions, use 10 gallons of water per acre for aerial application. For overhead chemigation applications, use a higher rate of Vy-King 42. The recommended maximum water volumes for the overhead chemigation applications are 0.1 to 0.2 acre inch of water. Buffer the chemigation injection solution to a pH of approximately 5.

Colorado Potato Beetle

When making applications to potatoes using overhead sprinkler chemigation for the control of Colorado Potato Beetle, use 34 fl. oz. per acre at a 5 to 7-day interval.

Aphids

Vy-King 42 works best by treating before aphid populations start to build early in the season. At-planting treatments of systemic aphicides followed mid-season by Vy-King 42, applied before the previous treatment starts to break down, have provided the best season-long control. To maintain control, apply Vy-King 42 on a 14-day schedule where aphid pressure is high. Where aphid pressure is low to moderate, apply on an application schedule not to exceed 21 days.

Two-Spotted Spider Mite

The suppression of two-spotted spider mite populations results from the combined effects of maintaining adequate populations of beneficial insects and the use of Vy-King 42. Mite suppression can be compromised by the use of other insecticides that are harmful to beneficials or by movement of mites coming in from adjacent fields. Apply Vy-King 42 before mite populations start to build. Re-treat on a 7- to 14-day schedule. If mite populations continue to build, switch to a miticide with a different mode of action.

Soil Pests: Suppression of Root Knot (except Javanese), Sting, Lesion and Stubby Root Nematodes

Nematodes: For the suppression of root knot (except Javanese) sting, lesion and stubby root nematodes by ground or overhead chemigation applications.

When used as directed, Vy-King 42 suppresses nematode populations resulting in reduced crop damage. Nematode suppression is defined as a reduction in nematode-related crop injury compared to untreated. Vy-King 42 performance is related to nematode population pressure. Treat fields that have high nematode counts or have a recent history of significant nematode-related crop injury with the most effective soil fumigant program available in conjunction with the use of Vy-King 42. See root knot, stubby root and sting nematode guidance on treatment of specific nematode populations in the sections below.

Base nematode control programs on soil samples taken with sufficient time to apply a soil fumigant if determined to be necessary. Consider fall sampling for nematodes since fumigation performance is often optimal in the fall.

For maximum crop protection, use a pre-plant fumigant, shanked-in, then follow with the recommended Vy-King 42 treatment program.

Use foliar applications by ground equipment only where it is not possible to apply by chemigation. When ground applications are used, incorporate Vy-King 42 with enough irrigation water to completely cover all of the tubers in the hill immediately after application. Because ground applications are not as effective as chemigation, nematode damage may occur.

For overhead chemigation applications, use enough irrigation water to completely cover the entire tuber/root zone, especially tubers at the bottom of the hill. On sandy soil types, use approximately 0.5 inch of irrigation water. With center pivot or other moving irrigation systems, Vy-King 42 may be applied with lower amounts of water (0.1 to 0.2 acre inch) providing this application is immediately followed by a standard irrigation so that the total amount of water applied is approximately 0.5 inch. For solid-set and wheel-line systems, inject the appropriate amount of Vy-King 42 at the beginning of the irrigation cycle and adjust metering rate so that all of the Vy-King 42 is applied during the first half of the irrigation cycle.

Buffer the Vy-King 42 injection solution to a pH of 5 or lower. Phosphoric acid or N-pHuric fertilizer solutions may also be used to buffer high pH irrigation water used with Vy-King 42 applications.

At-Plant In-Furrow Soil Treatment:

For maximum suppression of nematodes, an at-plant soil application is recommended as the first application. When making an at-plant soil application for suppression of nematodes, use 34 to 68 fl. oz. of Vy-King 42 per acre in at least 20 gallons of water per acre. Apply Vy-King 42 as a concentrated band spray in the seed row with the spray nozzle positioned behind the planter tube. Adjust nozzle height to produce a spray pattern that is 6 - 8 inches wide covering the bottom and sides of the furrow. Incorporate Vy-King 42 application at least 2 inches deep.

Root-Knot Nematode Treatment Options

The use of Vy-King 42 in potatoes for suppression of nematodes is based on the life cycle of the Columbia root-knot nematode as defined by university nematologists. A degree-day-model has been developed to track nematode development. In order to properly time certain Vy-King 42 applications, you must have access to degree-day data for your area.

Treatment Options Based on Nematode Populations in the Columbia Basin of Oregon and Washington

For maximum crop protection, use a pre-plant fumigant, shanked in, and follow the recommended Vy-King 42 treatment program.

Note: For best results, make all applications other than in-furrow via chemigation. Where pre-plant soil samples show 0 to 50 root-knot nematodes per 250 cc of soil, choose one of these two treatment programs:

Best Treatment Program	Alternate Treatment Program
34 to 68 fl. oz./A in-furrow at planting	Skip in-furrow
34 fl. oz./A at crop emergence	34 fl. oz./A at crop emergence
34 fl. oz./A at 1440 degree-days F ^o (880 degree-days C ^o)	34 fl. oz./A at 1440 degree-days F ^o (880 degree-days C ^o)
34 fl. oz./A 14 days later	34 fl. oz./A 14 days later
Continue applying 34 fl. oz./A every 14 days until 7 days before digging	Continue applying 34 fl. oz./A every 14 days until 7 days before digging

Where pre-plant soil samples are greater than 50 but not more than 150 root-knot nematodes per 250 cc of soil:

Start with a fumigant that is applied pre-plant using a soil injection (shank) system.
34 to 68 fl. oz./A in-furrow at planting
34 fl. oz./A at crop emergence
34 fl. oz./A at 1440 degree-days F ^o (880 degree-days C ^o)
34 fl. oz./A 7 days later
34 fl. oz./A 7 days later
34 fl. oz./A 14 days later
Continue applying every 14 days until 7 days before digging

Treatment Options Based on Root-Knot Nematode Populations in All Other Areas

Where pre-plant soil samples are 0 to 150 per 250 cc of soil, choose one of these treatment programs based on pre-plant soil nematode counts. Use the Maximum Protection program for high nematode counts (close to

but not exceeding 150 nematodes per 250 cc of soil) and the Alternate Program for low counts (close to zero nematodes per 250 cc of soil):

For Maximum Protection	Next Best Program	Alternate Program
Shanked-in fumigant pre-plant	34 to 68 fl. oz./A in-furrow at planting	34 fl. oz./A at 1440 degree days F° (800 degree days C°)
34 to 68 fl. oz./A in-furrow at planting	34 fl. oz./A at 1440 degree days F° (800 degree days C°)	34 fl. oz./A 14 days later
34 fl. oz./A at 1440 degree days F° (800 degree days C°)	34 fl. oz./A 14 days later	Continue applying 34 fl. oz./A every 14 days until 7 days before digging
34 fl. oz./A 14 days later	Continue applying 34 fl. oz./A every 14 days until 7 days before digging	
Continue applying 34 fl. oz./A every 14 days until 7 days before digging		

Potatoes Following Alfalfa

For potatoes planted following alfalfa, for best results use the "For Maximum Protection" program outlined in the table above. Alfalfa roots can harbor a large number of root-knot nematode eggs that will not show up during soil sampling. This can underestimate the true nematode population levels. Under these conditions, nematode related crop damage could occur even with the best treatment program. For best results, disk alfalfa roots thoroughly and allow as much time as possible for the alfalfa roots to break down before starting the "For Maximum Protection" program.

IMPORTANT: For long-season potatoes, it is important to estimate the number of applications needed to protect the crop up until the pre-harvest interval of 7 days before digging. Assure that you will have enough Vy-King 42 to cover the entire growing season. **The use of Vy-King 42 is not recommended where root-knot nematode counts are higher than 150 per 250 cc of soil or where the total estimated amount of product needed to protect the crop right up to harvest exceeds the seasonal use rate in potatoes.**

Lesion, Sting and Stubby Root Nematode Treatment Programs

There are no population limitations for using Vy-King 42 against lesion nematodes. For stubby root and sting nematodes, Vy-King 42 can be used where soil samples indicate 0 to 50 per 250 cc of soil. Use a shanked-in fumigant followed by an Vy-King 42 treatment program if stubby root and sting populations are higher than 50 per 250 cc of soil.

Choose one of these two treatment options:

Best Treatment Program	Alternate Treatment Program
34 fl. oz./A in-furrow at planting	Skip in-furrow
34 fl. oz./A at crop emergence prior to tuber initiation (hooking)	34 fl. oz./A at crop emergence prior to tuber initiation (hooking)
34 fl. oz./A 14 days later	34 fl. oz./A 14 days later
34 fl. oz./A 14 days later	34 fl. oz./A 14 days later
34 fl. oz./A 14 days later	34 fl. oz./A 14 days later

Note: For best results, make all applications other than in-furrow via chemigation.

Important: Applications made after tuber initiation may not control corky ringspot disease that is vectored by the stubby-root nematode. If a field has a history of corky ringspot or if there is reason to believe that corky ringspot could be a problem, use the labeled rate of a shanked-in fumigant and follow with the treatment program that starts with an in-furrow application.

RESTRICTIONS

For all uses of Vy-King 42 on potatoes:

In the Rio Grande Valley of Texas as specified above and all states **except** AL, AR, CT, DE, FL, GA, KS, LA, MA, MD, ME, MS, NC, NH, NJ, NY, OK, PA, RI, SC, TX, VA and VT:

Do not apply more than 2.4 gal (306 fl. oz.) (9 lb. a.i.) of Vy-King 42 per acre per season.

Do not make more than 8 applications of Vy-King 42 per crop.
Last application (days to harvest) is 7 days.

In CT, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VA & VT:

Do not apply more than 1.6 gallons (204 fl. oz.) (6 lb. a.i./A) of Vy-King 42 per season.
Do not make more than 8 applications of Vy-King 42 per crop.
Last application (days to harvest) is 7 days.

See next section for seasonal use rates in AL, AR, FL, GA, KS, LA, MS, NC, OK, SC and TX (outside the Rio Grande Valley).

POTATOES in the states of AL, AR, FL, GA, KS, LA, MS, NC, OK, SC and TX (except the Rio Grande Valley of TX), follow these use directions for Vy-King 42.

Foliar Pests: for the Control of Aphids, Colorado Potato Beetle, Flea Beetles, Potato Leafhopper, Tarnished Plant Bug and Two-Spotted Spider Mites (suppression)

The Rio Grande Valley is defined to include the following counties: Brewster, Crane, Crockett, Culberson, El Paso, Hudspeth, Jeff Davis, Kinney, Loving, Maverick, Pecos, Presidio, Reeves, Starr, Sutton, Terrell, Upton, Val Verde, Ward, Webb, Winkler, and Zapata.

Foliar Ground, Chemigation or Aerial Treatments:

For aphids, flea beetle, potato leafhopper and tarnished plant bug, use 17 to 34 fl. oz. of Vy-King 42 per acre. For Colorado potato beetle, use 8.5 to 34 fl. oz. of Vy-King 42 per acre. For two-spotted spider mite suppression, use 34 fl. oz. of Vy-King 42 per acre.

Apply when insects first appear. Repeat as needed to maintain control. Minimum application interval is 14 days. Apply another effective product if an application is necessary before the 14-day application interval is reached. Use a low rate for light infestations and a high rate for severe infestations. Use at least 7 gallons of water per acre for aerial application. For best results, in areas with high temperature and low humidity conditions use 10 gallons of water per acre for aerial application. For overhead chemigation applications, use a higher rate of Vy-King 42. The recommended maximum water volumes for the overhead chemigation applications are 0.1 to 0.2 acre inches of water. Buffer the chemigation injection solution to a pH of approximately 5.

Colorado Potato Beetle:

When making applications to potatoes using overhead sprinkler chemigation for the control of Colorado potato beetle, use 34 fl. oz. per acre.

Aphids:

Vy-King 42 works best by treating before aphid populations start to build early in the season. At-planting treatments of systemic aphicides followed mid-season by Vy-King 42, applied before the previous treatment starts to break down, have provided the best season-long control. To maintain control, apply Vy-King 42 on a 14-day schedule where aphid pressure is high. Where aphid pressure is low to moderate, apply on an application schedule not to exceed 21 days.

Two-Spotted Spider Mite:

The suppression of two-spotted spider mite populations results from the combined effects of maintaining adequate populations of beneficial insects and the use of Vy-King 42. Mite suppression can be compromised by the use of other insecticides that are harmful to beneficials or by movement of mites coming in from adjacent fields.

Apply Vy-King 42 before mite populations start to build. Re-treat on a 14-day schedule. If mite populations continue to build, switch to a miticide with a different mode of action.

Soil Pests: Suppression of Root-Knot (except Javanese), Sting, Lesion and Stubby-Root Nematodes

Nematodes:

For the suppression of root-knot (except Javanese) sting, lesion and stubby-root nematodes by ground or overhead chemigation application:

When used as directed, Vy-King 42 suppresses nematode populations resulting in reduced crop damage. Nematode suppression is defined as a reduction in nematode-related crop injury compared to untreated. Vy-

King 42 performance is related to nematode population pressure. Treat fields that have high nematode counts or have a recent history of significant nematode-related crop injury with the most effective soil fumigant program available in conjunction with the use of Vy-King 42. See root-knot, stubby-root and sting nematode guidance on treatment of specific nematode populations in the sections below.

Base nematode control programs on soil samples taken with sufficient time to apply a soil fumigant if it is determined to be necessary. Consider fall sampling for nematodes since fumigation performance is often optimal in the fall.

For maximum crop protection, use a pre-plant fumigant, shanked-in, and then follow with the recommended Vy-King 42 treatment program.

Use foliar applications by ground equipment only where it is not possible to apply by chemigation. When ground applications are used, incorporate Vy-King 42 with enough irrigation water to completely cover all of the tubers in the hill immediately after application. Because ground applications are not as effective as chemigation, nematode damage may occur.

For overhead chemigation applications, use enough irrigation water to completely cover the entire tuber/root zone, especially tubers at the bottom of the hill. On sandy soil types, use approximately 0.5 inch of irrigation water. With center pivot or other moving irrigation systems, Vy-King 42 may be applied with lower amounts of water (0.1 to 0.2 acre inch) provided this application is immediately followed by a standard irrigation so that the total amount of water applied is approximately 0.5 inch. For solid set and wheel-line systems, inject the appropriate amount of Vy-King 42 at the beginning of the irrigation cycle and adjust metering rate so that all of the Vy-King 42 is applied during the first half of the irrigation cycle.

Buffer the Vy-King 42 injection solution to a pH of 5 or lower. Phosphoric acid or N-pHuric fertilizer solutions may also be used to buffer high pH irrigation water used with Vy-King 42 applications.

At-Plant In-Furrow Soil Treatment:

For maximum suppression of nematodes, an at-plant soil application is recommended as the first application. When making an at-plant soil application for suppression of nematodes, use 34 to 68 fl. oz. of Vy-King 42 per acre in at least 20 gallons of water per acre. Apply Vy-King 42 as a concentrated band spray in the seed row with the spray nozzle positioned behind the planter tube. Adjust nozzle height to produce a spray pattern that is 6 to 8 inches wide, covering the bottom and sides of the furrow. Incorporate Vy-King 42 application at least 2 inches deep.

Root-Knot Nematode Treatment Options

The use of Vy-King 42 in potatoes for suppression of nematodes is based on the life cycle of the Columbia root-knot nematode as defined by university nematologists. A degree-day model has been developed to track nematode development. In order to properly time certain Vy-King 42 applications, you must have access to degree-day data for your area.

Treatment Options Based on Root-Knot Nematode Populations

Where pre-plant soil samples are 0 to 150 per 250 cc of soil, choose one of these treatment programs based on pre-plant soil nematode counts. Use the “For Maximum Protection” program for high nematode counts (close to but not exceeding 150 nematodes per 250 cc of soil) and the “Alternate Program” for low counts (close to zero nematodes per 250 cc of soil):

For Maximum Protection	Next Best Program	Alternate Program
Shanked-in fumigant pre-plant	34 to 68 fl. oz./A in-furrow at planting	34 fl. oz./A at 1440 degree days F° (800 degree days C°)
34 to 68 fl. oz./A in-furrow at planting	34 fl. oz./A at 1440 degree days F° (800 degree days C°)	34 fl. oz./A 14 days later
34 fl. oz./A at 1440 degree days F° (800 degree days C°)	34 fl. oz./A 14 days later	Make 2 more applications at 34 fl. oz./A 14 days apart
34 fl. oz./A 14 days later	Make 2 more applications at 34 fl. oz./A 14 days apart	
Make 2 more applications at 34 fl. oz./A 14 days apart		

Potatoes Following Alfalfa

For potatoes planted following alfalfa, for best results use the "For Maximum Protection" program outlined in the table above. Alfalfa roots can harbor large number of root-knot nematode eggs that will not show up during soil sampling. This can underestimate the true nematode population levels. Under these conditions, nematode-related crop damage could occur even with the best treatment program. For best results, disk alfalfa roots thoroughly and allow as much time as possible for the alfalfa roots to break down before starting the "For Maximum Protection" program.

IMPORTANT: This Vy-King 42 nematode program may not provide adequate protection for long-season potatoes. Consider an alternate nematode control program. The use of Vy-King 42 is not recommended where root-knot nematode counts are higher than 150 per 250 cc of soil.

Lesion, Sting and Stubby-Root Nematode Treatment Programs

There are no population limitations for using Vy-King 42 against lesion nematodes. For stubby-root and sting nematodes, Vy-King 42 can be used where soil samples indicate 0 to 50 per 250 cc of soil. Use a shanked-in fumigant followed by an Vy-King 42 treatment program if stubby-root and sting nematode populations are higher than 50 per 250 cc of soil.

Choose one of these two treatment options:

Best Treatment Program	Alternate Treatment Program
34 fl. oz./A in-furrow at planting	Skip in-furrow
34 fl. oz./A at crop emergence prior to tuber initiation (hooking)	34 fl. oz./A at crop emergence prior to tuber initiation (hooking)
34 fl. oz./A 14 days later	34 fl. oz./A 14 days later
34 fl. oz./A 14 days later	34 fl. oz./A 14 days later
34 fl. oz./A 14 days later	34 fl. oz./A 14 days later

Note: For best results, make all applications other than in-furrow via chemigation.

Important: Applications made after tuber initiation may not control corky ringspot disease that is vectored by the stubby-root nematode. If a field has a history of corky ringspot or if there is reason to believe that corky ringspot could be a problem, use the labeled rate of a shanked-in fumigant and follow with the treatment program that starts with an in-furrow application.

RESTRICTIONS

For all uses of Vy-King 42 on potatoes in the states of AL, AR, FL, GA, KS, LA, MS, NC, OK, SC and TX (except the Rio Grande Valley of TX):

Do not apply more than 1.6 gal (204 fl. oz.) (6 lb. a.i./A) of Vy-King 42 per season.

Do not make more than 4 foliar applications of Vy-King 42 per crop.

Minimum application interval is 14 days.

Last application (days to harvest) is 7 days

TOBACCO

Root Knot (except Javanese) and Lesion Nematodes and Flea Beetles

Soil Treatment

Vy-King 42 may be applied to the soil as a band treatment or it may be broadcast, disked, and bedded. For best results, transplant the tobacco within 24 hours after soil treatment.

Row Treatment

Apply 68 fl. oz. of Vy-King 42 in an 18- to 24-inch band in a minimum of 20 gallons of water per acre of tobacco (12,000 row feet). Thoroughly incorporate with a rotary tiller to a depth of 4 to 6 inches.

Broadcast and Bed Treatment

Apply a broadcast spray of 68 fl. oz. per acre in a minimum of 40 gallons of water. Thoroughly incorporate to a depth of 4 to 6 inches and bed the field in such a manner that only treated soil is used to form the beds.

Restriction: Do not apply more than 68 fl. oz. of Vy-King 42 per acre per season.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: Do not subject to temperatures below 32 degrees F. Store product in original container only, at temperatures of 45 degrees F or higher. Not for use or storage in or around the home. For Emergencies involving a spill, leak, fire, exposure, or accident, contact CHEMTREC at 800-424-9300.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER HANDLING: Refer to the Net Contents section of this product's labeling for the applicable "Nonrefillable Container" designation.

Nonrefillable Rigid Plastic and Metal Containers (Capacity Equal to or Less Than 5 Gallons):

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then, for plastic containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn unless allowed by state and local ordinances. For metal containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Nonrefillable Rigid Plastic and Metal Containers, (Containers too large to shake (i.e., with capacities more than 5 gallons or 50 pounds)] e.g. Intermediate Bulk Containers [IBC]

Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying. Triple Rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration.

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