



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

July 17, 2020

Kristen Shears  
Regulatory Specialist  
Corteva AgriScience™  
9330 Zionsville Road  
Indianapolis, IN 46268

Subject: Notification per PRN 98-10 – Adding Alternate Brand Name “Vydate C-LV” and  
Optional Referral Text and Updating Trademarks and Company Information  
Product Name: Vydate C-LV Insecticide/Nematicide  
EPA Registration Number: 352-532  
Application Date: July 24, 2019  
Decision Number: 554834

Dear Ms. Shears:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for the above referenced product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10.

The label submitted with the application has been stamped “Notification” and will be placed in our records.

Should you wish to add/retain a reference to the company’s website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product’s label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA’s Office of Enforcement and Compliance.

If you have any questions, you may contact please contact David Drawbaugh at 703-731-8818 or by email at [drawbaugh.david@epa.gov](mailto:drawbaugh.david@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Walsh".

Michael Walsh, Product Manager 11  
Invertebrate & Vertebrate Branch 2  
Registration Division  
Office of Pesticide Programs

**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.

<b>GROUP</b>	<b>1A</b>	<b>INSECTICIDE</b>
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# DuPont™ Vydate® C-LV

## INSECTICIDE/NEMATICIDE

[Alternate Brand Name: Vydate® C-LV]

### Water Soluble Liquid

3.77 LBS. ACTIVE INGREDIENTS PER GALLON

### NOTIFICATION

352-532

The applicant has certified that no changes, other than those reported to the Agency have been made to the labeling. The Agency acknowledges this notification by letter dated:

07/17/2020

<b>Active Ingredient</b>	<b>By Weight</b>
Oxamyl	
[methyl N'N- dimethyl-N-[(methylcarbamol)oxy]-1-thiooxamimidate ]	42%
<b>Other ingredients</b>	58%
TOTAL	100%

EPA Reg. No. 352-532

EPA Est. No.: \_\_\_\_\_

### Nonrefillable Container

Net: \_\_\_\_\_  
OR

### Refillable Container

Net: \_\_\_\_\_


[Note to Reviewer: The referral statement below is optional. Please also note that this Note to Reviewer appearing within brackets will not appear on the final printed label.]

See back and side panels for additional precautionary statements.

**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 this 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 the back of the 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.

**ANTROPINE 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 1-800-441-3637 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 1-800-441-3637.**

**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 fully assured.

Do not use 2-PAM for exposure to Vydate C-LV alone. However, for exposure to combinations of Vydate C-LV 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 1-800-441-3637.

**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. Do not get in eyes or on clothing. Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove contaminated clothing and wash clothing before reuse.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category B on an EPA chemical-resistance category selection chart.

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

- Coveralls over long-sleeved shirt and long pants.
- Chemical-resistant gloves such as barrier laminate or butyl rubber.
- Chemical-resistant footwear plus socks.
- Protective eyewear.
- Chemical-resistant headgear for overhead exposure.
- Chemical-resistant apron when cleaning equipment, mixing, or loading.
- A respirator with an organic vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G) or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any R, P or HE prefilter.

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 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 disc 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, area 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 over-laying 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.

**GROUND WATER ADVISORY** – Residues of DuPont™ Vydate C-LV can seep or leach through soil and can contaminate ground water which may be used for drinking. Users are advised not to apply Vydate C-LV 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.

{**Note to Reviewer:** The referral statement below is optional. Please also note that this Note to Reviewer appearing in braces will not appear on final printed label.}

Refer to accompanying labeling for additional precautions, complete Directions for Use, and Storage and Disposal.

## **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 workers entry into treated areas during the restricted-entry interval (REI) of 48 hours.

PPE required for all 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 any waterproof material.
- Socks and shoes.

DuPont™ Vydate C-LV insecticide/nematicide must be used only in accordance with directions on this label or in separate supplemental labeling. DuPont 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**

Vydate® C-LV is a water soluble liquid to be diluted with water. For cotton applications, Vydate C-LV may also be mixed with refined vegetable oil.

Use only in commercial and farm plantings; do not use in home plantings.

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 Vydate in the root zone of the plant. If irrigation is used to water-in the application, use sufficient water to move the applied Vydate 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**

DuPont 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

For resistance management, Vydate C-LV is a group 1A insecticide. Repeated exclusive use of Vydate C-LV or other group 1A insecticides may lead to the buildup of resistant strains of insects in some crops. Not all members of this group have been shown to be cross-resistant. Different resistance mechanisms that are not linked to target site of action, such as enhanced metabolism, are common for this group of chemicals. Alternation of compounds from different sub-groups within this group may be an acceptable part of an integrated pest management program.

Some insects are known to develop resistance to products used repeatedly for control. Because the development of resistance cannot be predicted, this product may be used as part of resistant management strategies established for the use area. These strategies may include incorporation of cultural and biological control practices, alternation of mode-of-action classes of insecticides on succeeding generations and targeting the most susceptible life stage. Consult your local or state agricultural authorities for details.

If resistance to this product develops in your area, this product, or other products with a similar mode of action, may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternate method of control for your area. For additional information on insect resistance monitoring, visit the Insecticide Resistance Action Committee (IRAC) on the web at <http://www.irc-online.org>.

## CROP ROTATION

Do not plant crops other than those with registered DuPont™ Vydate® C-LV or Vydate® L uses within 4 months after the last application. Cover crops for soil building or erosion control may be planted anytime, 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 Vydate C-LV, 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.

Vydate C-LV 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.

Vydate C-LV 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 per acre of water. For aerial applications, use the following directions unless otherwise specified in this label: use a minimum of 2 gallons per acre (gpa) of water.

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. Vydate C-LV is compatible with most commonly used plant protectants with the exception of "Super Tin," Bordeaux mixtures, lime sulfur, and spray oils. Do not use Vydate C-LV 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 Vydate C-LV in vegetable oil for use on cotton, do a jar test to determine compatibility.

- Mix proper proportions of Vydate C-LV and vegetable oil in a jar; seal and shake mixture. Allow to stand for 1 to 2 hours.
- View jar to determine if crystals have formed.
- If no crystals have formed, the vegetable oil is compatible with Vydate C-LV.
- If crystals have formed, add an equal volume of water to the volume of Vydate C-LV, 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. Vydate C-LV and other water soluble concentrates
6. Oil based suspension concentrates
7. Emulsifiable concentrates
8. Adjuvants, surfactants, and oils
9. Soluble fertilizers
10. Drift retardants

## SPRAY PREPARATION

Fill spray tank 1/4 to 1/2 full of water. Add DuPont™ Vydate C-LV directly 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 spray tank.

For best results, buffer 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 Vydate C-LV, 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 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 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, 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 DuPont™ Vydate C-LV in 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 Vydate C-LV 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 Vydate C-LV in chemigation systems. For best results, buffer the Vydate C-LV 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 < 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 the 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 non target 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 waterflow and should have no leaks.
2. Irrigate cotton crop to wet the root zone first, then introduce DuPont™ Vydate C-LV for the first 2/3 of the irrigation cycle to distribute the material uniformly to the crop root zone being irrigated. Discontinue use of Vydate C-LV long enough to purge the system with fresh water and allow the Vydate C-LV to remain in the root zone of the crop.
3. Drip tape placement is critical. Vydate C-LV 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, in-patient 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 2 1/2 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 DuPont™ Vydate C-LV 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 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 fluid oz. Vydate C-LV 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 fluid oz Vydate C-LV 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 fluid oz Vydate C-LV 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 fluid oz Vydate C-LV 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 fluid oz Vydate C-LV 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 bollworm (mid to late season)***

Apply 12.7 to 17 fluid oz Vydate C-LV. 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 spp</i>
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 Vydate C-LV as a broadcast foliar or drip treatment at the rate of 17 fluid 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, Vydate C-LV 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 fluid 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 fluid 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 fluid ounce per acre starting at the 2nd to 5th true leaf stage of growth and again 7 to 14 days later.

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

Applications of Vydate C-LV 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 Vydate C-LV 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 fluid oz DuPont™ Vydate C-LV 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 fluid oz Vydate C-LV 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 GPA ground and 5 GPA air). All Vydate C-LV 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 exceed local thresholds. Repeat the application at 7 days if re-infestation of adult or immature thrips occurs.

**NOTES:** Do not apply within 14 days of harvest. Do not graze or feed treated cotton to livestock.

Applications to cotton by handwand 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 fluid oz (3 lb ai) of Vydate C-LV 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 fluid oz (2 lb ai) of Vydate C-LV per acre per growing season.

Do not make more than 4 applications per season.

### **COTTON (Arizona)**

Apply Vydate C-LV 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 fluid oz Vydate C-LV 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 fluid oz Vydate C-LV 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 fluid oz Vydate C-LV 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 fluid oz Vydate C-LV 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 fluid oz Vydate C-LV per acre. Targeted insects that migrate into the treated area following application may not be controlled.

#### ***Pink bollworm (early season)***

Apply 13 to 26 fluid oz Vydate C-LV 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- to 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 fluid oz Vydate C-LV 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 fluid oz Vydate C-LV 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- to 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 fluid oz Vydate C-LV 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 GPA ground and 5 GPA by air). All Vydate C-LV 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 fluid oz DuPont™ Vydate C-LV per acre. Always apply Vydate C-LV 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.

**NOTES:** Do not apply more than 102 fluid oz (3 lb ai) Vydate C-LV per acre per growing season.  
Do not make more than 8 applications per season.  
Applications to cotton by handwand 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 Vydate C-LV 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.

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

Apply 26 to 34 fluid oz Vydate C-LV 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 fluid oz Vydate C-LV 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 fluid oz Vydate C-LV 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 fluid oz Vydate C-LV 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 fluid oz Vydate C-LV 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 GPA ground and 5 GPA by air). All Vydate C-LV 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.

**NOTES:** Do not apply more than 102 fluid oz (3 lb ai) Vydate C-LV per acre per growing season.  
Do not make more than 8 applications per season.  
Applications to cotton by handwand or soil broadcast are prohibited.  
Do not apply within 14 days of harvest.  
Do not graze or feed treated cotton to livestock.

## **PEANUTS**

Use not registered in California

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

**At-Plant Soil Treatment** – Apply 34 to 68 fluid ounces of Vydate C-LV 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 Vydate C-LV are to be used only following soil fumigation or following preplant or at planting soil application of Vydate C-LV or other contact nematicides. Apply 17 fluid oz Vydate C-LV per acre as a band or broadcast spray beginning at 14- to 28-days following peanut emergence. Make a second application of 17 fluid oz Vydate C-LV per acre 14 days later. If needed, two additional applications of 17 fluid oz. Vydate C-LV per acre can be made on a 14 days application schedule. Apply in sufficient water to obtain thorough plant coverage (minimum 8 GPA ground and 5 GPA air). For band applications, use proportionately less material based on row spacing and band width applied.

**Note:** Do not apply more than 136 fluid oz. (4 lbs. a.i.) Vydate C-LV 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 DuPont™ Vydate C-LV 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 fluid oz of Vydate C-LV per acre. For Colorado potato beetle, use 8.5 to 34 fluid ounces of Vydate C-LV per acre. For two-spotted spider mite suppression, use 34 fluid ounces of Vydate C-LV 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. For overhead chemigation applications, use a higher rate of Vydate C-LV. 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 fluid oz per acre at a 5 to 7-day intervals.

**Aphids:** Vydate C-LV works best by treating before aphid populations start to build early in the season. At-planting treatments of systemic aphicides followed mid-season by Vydate C-LV, applied before the previous treatment starts to breakdown, have provided the best season-long control. To maintain control, apply Vydate C-LV 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 Vydate C-LV. 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 Vydate C-LV before mite populations start to build. Retreat 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 Javenese), Sting, Lesion, and Stubby-Root Nematodes***

**Nematodes:** For the suppression of Root-Knot (except Javenese) Sting, Lesion, and Stubby-Root Nematodes by ground or overhead chemigation applications.

When used as directed, Vydate C-LV suppresses nematode populations resulting in reduced crop damage. Nematode suppression is defined as a reduction in nematode-related crop injury compared to untreated. Vydate C-LV 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 Vydate C-LV. 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 Vydate C-LV treatment program.

Use foliar applications by ground equipment only where it is not possible to apply by chemigation. When ground applications are used, incorporate Vydate C-LV 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 inches of irrigation water. With center pivot or other moving irrigation systems, Vydate C-LV 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 inches. For solid set and wheel-line systems, inject the appropriate amount of DuPont™ Vydate C-LV at the beginning of the irrigation cycle and adjust metering rate so that all of the Vydate C-LV is applied during the first half of the irrigation cycle.

Buffer the Vydate C-LV 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 Vydate C-LV 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 fluid ounces of Vydate C-LV per acre in at least 20 gal water per acre. Apply Vydate C-LV 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 Vydate C-LV application at least 2 inches deep.

**Root-Knot Nematode Treatment Options**

The use of Vydate C-LV 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 Vydate C-LV 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 Vydate C-LV 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.

<b>BEST TREATMENT PROGRAM</b>	<b>ALTERNATE TREATMENT PROGAM</b>
34 to 68 fluid oz/acre in-furrow at planting	Skip in-furrow
34 fluid oz/acre at crop emergence	34 fluid oz/acre at crop emergence
34 fluid oz/acre at 1440 degree days F (800 DD C)	34 fluid oz/acre at 1440 degree days F (800 DD C)
34 fluid oz/acre 14 days later	34 fluid oz/acre 14 days later
Continue applying 34 fluid oz/acre every 14 days until 7 days before digging.	Continue applying 34 fluid oz/acre 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 fluid oz/acre in-furrow at planting
34 to 68 fluid oz/acre at crop emergence
34 to 68 fluid oz/acre at 1440 degree days F (800 DD C)



34 to 68 fluid oz/acre 7 days later
34 to 68 fluid oz/acre 7 days later
34 to 68 fluid oz/acre 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 fluid oz/acre in-furrow at planting	34 fluid oz/acre at 1440 degree days F (800 DD C)
34 to 68 fluid oz/acre in-furrow at planting	34 fluid oz/acre at 1440 degree days F (800 DD C)	34 fluid oz/acre 14 days later
34 fluid oz/acre at 1440 degree days F (800 DD C)	34 fluid oz/acre 14 days later	Continue applying 34 fluid oz/acre every 14 days until 7 days before digging.
34 fluid oz/acre 14 days later	Continue applying 34 fluid oz/acre every 14 days until 7 days before digging.	
Continue applying 34 fluid oz/acre 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 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, disc 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 DuPont™ Vydate C-LV to cover the entire growing season. **The use of Vydate C-LV 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 Vydate C-LV against lesion nematodes. For stubby-root and sting nematodes, Vydate C-LV can be used where soil samples indicate 0-50 per 250 cc of soil. Use a shanked-in fumigant followed by a Vydate C-LV 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
In-furrow at 34 fluid oz/acre at planting	Skip in-furrow
34 fluid oz/acre at crop emergence prior to tuber initiation (hooking)	34 fluid oz/acre at crop emergence prior to tuber initiation (hooking)

34 fluid oz/acre 14 days later	34 fluid oz/acre 14 days later
34 fluid oz/acre 14 days later	34 fluid oz/acre 14 days later
34 fluid oz/acre 14 days later	34 fluid oz/acre 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.

***For all uses of Vydate C-LV 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 fluid oz) (9 lb ai) Vydate C-LV per acre per season.

Do not make more than 8 applications of Vydate C-LV per crop.

Last application (days to harvest) = 7 days

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

Do not apply more than 1.6 gal (204 fluid ounces) (6 lb ai/A) of DuPont™ Vydate C-LV per season.

Do not make more than 8 applications of Vydate C-LV per crop.

Last application (days to harvest) = 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 Vydate C-LV.***

***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 fluid oz of Vydate C-LV per acre. For Colorado potato beetle, use 8.5 to 34 fluid ounces of Vydate C-LV per acre. For Two-spotted spider mite suppression, use 34 fluid ounces of Vydate C-LV 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. For overhead chemigation applications, use a higher rate of Vydate C-LV. 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 fluid oz per acre.

**Aphids:** Vydate C-LV works best by treating before aphid populations start to build early in the season. At-planting treatments of systemic aphicides followed mid-season by Vydate C-LV, applied before the previous treatment starts to breakdown, have provided the best season-long control. To maintain control, apply Vydate C-LV 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 Vydate C-LV. 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 Vydate C-LV before mite populations start to build. Retreat 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 Javenese), Sting, Lesion, and Stubby-Root Nematodes***

**Nematodes:** For the suppression of Root-Knot (except Javenese) Sting, Lesion, and Stubby-Root Nematodes by ground or overhead chemigation applications.

When used as directed, Vydate C-LV suppresses nematode populations resulting in reduced crop damage. Nematode suppression is defined as a reduction in nematode related crop injury compared to untreated. Vydate C-LV 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 Vydate C-LV. 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 Vydate C-LV treatment program.

Use foliar applications by ground equipment only where it is not possible to apply by chemigation. When ground applications are used, incorporate Vydate C-LV 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 inches of irrigation water. With center pivot or other moving irrigation systems, DuPont™ Vydate C-LV 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 inches. For solid set and wheel-line systems, inject the appropriate amount of Vydate C-LV at the beginning of the irrigation cycle and adjust metering rate so that all of the Vydate C-LV is applied during the first half of the irrigation cycle.

Buffer the Vydate C-LV 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 Vydate C-LV 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 fluid ounces of Vydate C-LV per acre in at least 20 gal water per acre. Apply Vydate C-LV 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 Vydate C-LV application at least 2 inches deep.

#### ***Root-Knot Nematode Treatment Options***

The use of Vydate C-LV 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 Vydate C-LV 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 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).

<b>For Maximum Protection</b>	<b>Next Best Program</b>	<b>Alternate Program</b>
Shanked-in fumigant pre-plant	34 to 68 fluid oz/acre in-furrow at planting	34 fluid oz/acre at 1440 degree days F (800 DD C)
34 to 68 fluid oz/acre in-furrow at planting	34 fluid oz/acre at 1440 degree days F (800 DD C)	34 fluid oz/acre 14 days later
34 fluid oz/acre at 1440 degree days F (800 DD C)	34 fluid oz/acre 14 days later	Make two more applications at 34 fluid oz/acre 14 days apart.
34 fluid oz/acre 14 days later	Make two more applications at 34 fluid oz/acre 14 days apart.	
Make two more applications at 34 fluid oz/acre 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, disc 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 Vydate C-LV nematode program may not provide adequate protection for long season potatoes. Consider an alternate nematode control program. **The use of Vydate C-LV 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 Vydate C-LV against lesion nematodes. For stubby-root and sting nematodes, Vydate C-LV can be used where soil samples indicate 0-50 per 250 cc of soil. Use a shanked-in fumigant followed by a Vydate C-LV treatment program if stubby-root and sting populations are higher than 50 per 250 cc of soil.

Choose one of these two treatment options:

<b>Best Treatment Program</b>	<b>Alternate Treatment Program</b>
In-furrow at 34 fluid oz/acre at planting	Skip in-furrow
34 fluid oz/acre at crop emergence prior to tuber initiation (hooking)	34 fluid oz/acre at crop emergence prior to tuber initiation (hooking)
34 fluid oz/acre 14 days later	34 fluid oz/acre 14 days later
34 fluid oz/acre 14 days later	34 fluid oz/acre 14 days later
34 fluid oz/acre 14 days later	34 fluid oz/acre 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.

**For all uses of DuPont™ Vydate C-LV 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 fluid ounces) (6 lb ai/A) of Vydate C-LV per season.

Do not make more than 4 foliar applications of Vydate C-LV per crop.

Minimum application interval is 14 days.

Last application (days to harvest) = 7 days

## TOBACCO

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

**Soil Treatment** – Vydate C-LV may be applied to the soil as a band treatment or it may be broadcast, disced, and bedded. For best results, transplant the tobacco within 24 hours after soil treatment.

**Row Treatment** – Apply 68 fluid oz. Vydate C-LV in an 18 to 24 inch band in a minimum of 20 gals. 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 fluid oz. per acre in a minimum of 40 gals. 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.

**Note:** Do not apply more than 68 fluid oz. Vydate C-LV 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.

**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" or "Refillable 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 (Capacity Greater 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. 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, 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, e.g., Intermediate Bulk Containers [IBC] (Size or Shape Too Large to be Tipped, Rolled, or Turned Upside Down):** Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying the contents from this container into application equipment or mix tank and before final disposal using the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour, or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing 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 authorities. 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.

**All Refillable Containers:** Refillable container. *Refilling Container:* Refill this container with DuPont™ Vydate C-LV containing oxamyl only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn out threads and closure devices. If damage is found, do not use container; contact DuPont at the number below for instructions. Check for leaks after refilling and before transporting. If leaks are found, do not reuse or transport container; contact DuPont at the number below for instructions. *Disposing of Container:* Do not reuse this container for any other purpose other than refilling (see preceding). Cleaning the container before final disposal is the responsibility of the person disposing of the container. To clean the container before final disposal, use the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom, and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration, and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour, or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing 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 authorities. 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.

Do not transport if container is damaged or leaking. If the container is damaged, leaking or obsolete, or in the event of a major spill, fire, or other emergency, contact DuPont at 1-800-441-3637, day or night.

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