1381-196 4/10/2013 1/31

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

April 10, 2013

Diana Williams
Winfield Solutions, LLC
P.O. Box 64589
St. Paul, MN 55164-0589

Subject: Amendment: Revise Rate Range for Tuberous and Corm Vegetables
Tundra® EC Agricultural Insecticide
EPA Registration Number: 1381-196:
Date of Submission: March 28, 2013

Dear Ms. Williams:

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, is acceptable. A stamped copy of the label is enclosed for your records.

If you have any questions regarding this action, please contact BeWanda Alexander at Alexander.bewanda@epa.gov or (703) 305-7460.

Sincerely,

BeWanda Alexander for

Richard Gebken
Product Manager Team 10
Insecticide Branch
Registration Division (7505P)

Enclosure

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RESTRICTED USE PESTICIDE

Toxic to fish and aquatic organisms. For retail sale to and use only by certified applicators, or persons under their direct supervision and only for the uses covered by the certified applicator's certification.

Tundra® EC

Agricultural Insecticide

Active Ingredient:	**By Wt.**
Bifenthrin* (2 methyl[1,1'-biphenyl]-3-yl) methyl 3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate	25.1%
Inert Ingredients:**	74.9%
TOTAL	100.0%

*Cis isomers 97% minimum, trans isomers 3% maximum. **Contains xylene range aromatic solvents
This product contains 2 pounds active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN
WARNING AVISO

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.)

This label must be in the possession of the user at the time of application.

FIRST AID	
If swallowed	• Immediately call a poison control center or doctor. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give **any** liquid to the person. • Do not 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.

NOTE TO PHYSICIAN

This product is a pyrethroid. If large amounts have been ingested, the stomach and intestine should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided. Contains petroleum distillates. Vomiting may cause aspiration pneumonia.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. **For Medical Emergency Assistance Call 1-877-424-7452.**

EPA Reg. No. 1381-196

EPA Est. No. 5905-GA-1

Net Contents 2.5 Gals. (9.46 Liters)

1/0328/3

Manufactured for:
Winfield Solutions
P.O. Box 64589
St. Paul, MN 55164-0589

ACCEPTED
APR 10 2013
Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 1381-196

WINFIELD

AgriSOLUTIONS™

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PRECAUTIONARY STATEMENTS
Hazards to Humans and Domestic Animals

WARNING AVISO

WARNING. May be fatal if swallowed. Harmful if inhaled, or absorbed through skin. Causes moderate eye irritation. Avoid breathing vapor or spray mist. Avoid contact with skin, eyes, or clothing.

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 E on an EPA chemical resistance category selection chart.

Handlers who may be exposed to the dilute through application or other tasks must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, nitrile rubber, neoprene rubber or Viton
- Shoes plus socks

Handlers who may be exposed to the concentrate through mixing, loading, application or other tasks must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, nitrile rubber, neoprene rubber, or Viton
- Shoes plus socks
- Protective eyewear

Discard clothing and 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 are present for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Users should:
Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
Remove clothing immediately if drenched or if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Environmental Hazards

This pesticide is extremely toxic to fish and aquatic invertebrates. Use with care when applying in areas adjacent to any body of water. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not make applications when weather conditions favor drift from treated areas. Drift and run-off from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters.

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 it to drift to blooming crops or weeds while bees are actively visiting the treatment area.

The use of bifenthrin is prohibited in areas that may result in exposure of endangered species to bifenthrin. Prior to use in a particular county contact the local extension service for procedures and precautions to use to protect endangered species.

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Physical/Chemical Hazards

Do not use or store near heat or open flame.

DIRECTIONS FOR USE

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.

Resistance: Some insects are known to develop resistance to products used repeatedly for control. Because the development of resistance cannot be predicted, the use of this product should conform to resistance management strategies established for the use area. 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 alternative method of control in your area.

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 restricted-entry interval (REI) of 12 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, such as barrier laminate or nitrile rubber or neoprene rubber or Viton; and shoes plus socks.

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STORAGE AND DISPOSAL

Pesticide Storage

Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal. Do not freeze or store below 40°F. If crystals are observed, warm material to above 60°F by placing container in warm location. Shake or roll container periodically to redissolve solids.

Spills

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills. **To confine spill:** If liquid, dike surrounding area or absorb with sand, cat litter or commercial clay. If dry material, cover to prevent dispersal. Place damaged package and used absorbent material in a holding container. Identify contents.

Pesticide Disposal

Pesticide wastes are toxic. 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 of the nearest EPA Regional Office for guidance.

Container Disposal: Use label language appropriate for container size and type.
Nonrefillable containers. Do not reuse or refill this container. Clean container promptly after emptying.
Nonrefillable container equal to or less than 5 gallons. 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 ¼ 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 offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Do not cut or weld metal containers.
Nonrefillable container greater than 5 gallons. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ 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 of disposal. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Do not cut or weld metal containers.
Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Do not cut or weld metal containers.
U-Turn Container: Do not rinse container. Do not empty remaining formulated product. Do not break seals. Return intact to point of purchase.

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300

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Application Instructions
Rate of application is variable according to pest pressure, timing of sprays, and field scouting. Use lower rates under light to moderate infestations; higher rates under heavy insect pressure and for mite control. Arid climates generally require higher rates.

Cultivation within 10 feet of a water body is prohibited to allow for the growth of a vegetated filter strip.

In New York State this product may not be applied within 100 feet (using ground equipment) to 300 feet (using aerial equipment) of coastal marshes or streams that drain into coastal marshes.

Chemigation Use Directions
Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system.

For LEPA irrigation a minimum of 0.75 inch of water per acre is recommended. Where non-emulsified oils are used as the diluent, 1 to 2 pints per acre is recommended.

Results from utilizing chemigation have been variable and depend upon the set up and calibration of equipment. Crop injury, lack of effectiveness, or illegal residues in the crop can result from non-uniform distribution of treated water. Contact your State Agricultural Extension Service specialists, equipment manufacturers or other experts for consultation on the suitability of the equipment set up to obtain effective control of the target insect pests.

A person knowledgeable of the chemigation system and responsible for its operations, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise. Failure to cease application during a mechanical stoppage may result in undesirable residues to adjacent areas.

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.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

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.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

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.

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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.

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

Tundra insecticide should be applied continuously for the duration of the water application. Tundra insecticide should be diluted in sufficient volume to ensure accurate application over the area to be treated. When using chemigation, a minimum of 0.5 inch per acre of irrigation water is recommended. Agitation generally is not required when a suitable diluent is used. A diluent test should be conducted to ensure that phase separation will not occur during dilution and application. Failure to achieve a uniform dilution throughout the time of application may result in undesirable residues or less than desirable control.

BUFFER ZONES

Vegetative Buffer Strip
Construct and maintain a minimum 10-foot-wide vegetative filter strip of grass or other permanent vegetation between the field edge and down gradient aquatic habitat (such as, but not limited to, lakes; reservoirs; rivers; permanent streams; marshes or natural ponds; estuaries; and commercial fish farm ponds).

Only apply products containing Bifenthrin onto fields where a maintained vegetative buffer strip of at least 10 feet exists between the field and down gradient aquatic habitat.

For guidance, refer to the following publication for information on constructing and maintaining effective buffers:
Conservation Buffers to Reduce Pesticide Losses. Natural Resources Conservation Services. USDA NRCS. 2000 Fort Worth, Texas. 21 pp.
www.in.nrcs.usda.gov/technical/agronomy/newconbuf.pdf

Buffer Zone for Ground Application (groundboom, overhead chemigation, or airblast)
Do not apply within 25 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish ponds).

Buffer Zone for ULV Aerial Application
Do not apply within 450 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish ponds).

Buffer Zone for Non-ULV Aerial Application
Do not apply within 150 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish ponds)

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Spray Drift Requirements

Wind Direction and Speed

Only apply this product if the wind direction favors on-target deposition.

Do not apply when the wind velocity exceeds 15 mph.

Temperature Inversion

Do not make aerial or ground applications into temperature inversions.

Inversions are characterized by stable air and increasing temperatures with height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.

Droplet Size

Use only Medium or coarser spray nozzles (for ground and non-ULV aerial application) according to ASAE (S572) definition for standard nozzles. In conditions of low humidity and high temperatures, applicators should use a coarser droplet size.

Additional Requirements for Ground Applications

Wind speed must be measured adjacent to the application site on the upwind side, immediately prior to application.

For ground boom applications, apply using a nozzle height of no more than 4 feet above the ground or crop canopy.

For airblast applications, turn off outward pointing nozzles at row ends and when spraying the outer two rows. To minimize spray loss over the top in orchard applications, spray must be directed into the canopy.

Additional Requirements for Aerial Applications

The spray boom should be mounted on the aircraft as to minimize drift caused by wingtip or rotor vortices. The minimum practical boom length should be used and must not exceed 75% of the wing span or 80% rotor diameter.

Flight speed and nozzle orientation must be considered in determining droplet size.

Spray must be released at the lowest height consistent with pest control and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety.

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When applications are made with a cross-wind, the swath will be displaced downwind. The applicator must compensate for this displacement at the downwind edge of the application area by adjusting the path of the aircraft upwind.

Rotational Crops
Crops for which bifenthrin tolerances exist, may be rotated at any time. All other crops may be rotated 30 days following the final application of bifenthrin.

Tank-Mixtures
Tundra insecticide may be applied in tank mixtures with other products approved for use on registered crops. Observe all restrictions and precautions which appear on the labels of these products. Test for compatibility of products before mixing.

ARTICHOKES

Apply as directed in the following table at a rate of 6.4 fl. oz. per acre (0.1 lb ai per acre).

PEST	REMARKS AND RESTRICTIONS
artichoke plume moth, cribrate weevil	Apply when pest population reaches damaging threshold and repeat as necessary to maintain control, but not more often than 15 day intervals. **Application by ground:** Apply a full cover spray in a minimum of 75 gallons of finished spray per acre. **Application by air:** Apply specified rate in a minimum of 10 gallons per acre. Do not exceed 0.5 lb ai per acre per season. A 5-day preharvest interval must be observed.

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BRASSICA CROPS

Apply as directed in the following table at rates indicated

CROP	RATE/ PEST	REMARKS AND RESTRICTIONS
head and stem brassica vegetables including: broccoli, Brussels sprouts, cabbage, cauliflower, cavalo broccolo, Chinese broccoli (gai lon, white flowering broccoli, Chinese cabbage (napa), Chinese mustard cabbage (gai choy) kohlrabi	**Pests:** aphids, armyworms, corn earworm, crickets, cucumber beetles, cutworms, diamondback, moth, flea beetles, ground beetles, imported cabbageworm, leafhoppers, loopers, saltmarsh caterpillar, stink bugs, thrips, tobacco budworm, whitefly, wireworm (adults) **Rate: 2.1 to 6.4 fl. oz. per acre (0.033 to 0.1 lb ai per acre).**	Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control. Do not apply more than 0.5 lb ai (1 quart) per acre per season. Do not make more than 5 applications after bloom. Do not make applications less than 7 days apart. Do not apply within 7 days of harvest.
	Pests: Banks grass mite, carmine mite, lygus bugs, Pacific spider mite, twospotted spider mite **Rate: 5.12 to 6.4 fl. oz. per acre (0.08 to 0.1 lb ai per acre).**	

CANEBERRIES

Apply as directed in the following table at rates indicated.

CROP	RATE/ PEST	REMARKS AND RESTRICTIONS
bingleberries, blackberries, dewberries, loganberries, lowberries, marionberries, olallieberries, raspberries, youngberries	**Pests:** leafrollers, orange tortrix, root weevils **Rate: 3.2 to 6.4 fl. oz. per acre (0.05 to 0.1 lb ai per acre).**	Apply by air or ground equipment using sufficient water to obtain full coverage of foliage (minimum of 10 gallons per acre by air and 50 gallons per acre by ground). One application may be made pre-bloom and a second application may be made post bloom. Do not exceed 0.2 lb ai per acre per season. Do not apply within 3 days of harvest. For Crown Borer, apply 0.1 lb ai /a, post-harvest (fall) or pre-bloom (spring), as a drench application directed at the crown of plants in a minimum of 200 gallons water/acre. Greater efficacy is observed at higher water gallonages (up to 400 gallons/a) or in an application prior to a significant rainfall event. Do not make both pre-bloom foliar and pre-bloom drench applications.
	Pests: Raspberry crown borer spider mites **Rate: 6.4 fl. oz. per acre (0.1 lb ai per acre).**	

CANOLA, CRAMBE, RAPESEED

Apply as directed in the following table at a rate of 2.1 to 2.6 fl. oz. per acre (0.033 to 0.04 lb ai per acre).

PEST	REMARKS AND RESTRICTIONS
aphids armyworms cutworms diamondback moth flea beetle flea hopper grasshopper loopers other lepidopterous larvae plant bug seedpod weevil stink bugs thrips whitefly	Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control. Do not apply more than 0.08 lb. a.i. (5.12 ounces formulated product) per acre per season. Do not make applications less than 14 days apart. Do not apply within 35 days of harvest.

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CITRUS (1 day phi)

Pest	Rate	REMARKS AND RESTRICTIONS
Diaprepes Root Weevil (Diaprepes abbreviatus) Southern Blue Green Root Weevil (Pachnaeus litus) Blue Green Citrus Root Weevil (Pachnaeus opalus) Brown leaf Notcher (Epicarus mexicanus) Little Leaf Notcher (Artipus floridanus)	16-32 fluid ounces (.25-.5 lb active) per acre	Apply Tundra by ground equipment to bare soil beneath citrus trees. Tundra must be uniformly applied from the trunk to the drip line of tree; apply in a minimum of 40 gallons of dilute spray per acre. Greater spray volume should insure greater uniformity of coverage. A pre- and post-application irrigation may aid in the uniformity of coverage as well. Tundra protects citrus tree roots from Diaprepes and other citrus root weevil feeding by forming a barrier which provides contact activity on newly hatched larvae (neonates). As citrus root weevil eggs hatch in new foliage, neonates fall to the soil surface beneath the tree and come in contact with Tundra as they attempt to burrow into the root zone. Disturbance of the soil beneath trees should be minimized. Timing of Tundra applications is critical. Current information suggests that peak emergence of adult Diaprepes Weevil varies by citrus growing region and these emergence peaks can be dramatically affected by environmental factors, such as soil moisture. Typically, two peaks are observed for Diaprepes, first in spring then late summer or early fall. Southern Blue-Green and Blue-Green Citrus Weevils and Fuller Rose Beetle and Little Leaf Notches typically exhibit a single emergence peak in the spring. Brown and Little Leaf Notches typically exhibit three emergence peaks in spring, summer and fall. Since emergence varies seasonally and by location, timing of Tundra application can be accurately forecast by observing adults. Adults are most active early morning and late afternoon; numbers can be estimated by trapping throughout spring and summer (emergence periods). Egg laying will occur for 8 to 10 weeks following adult emergence from the soil; larval invasion of the soil will begin 2-3 weeks following adult emergence. It is critical to have the Tundra soil barrier in place prior to drop of the neonates. Tundra is one of several effective tools in an integrated pest management program for Citrus Root Weevils. Application of Tundra should be used in conjunction with good cultural practices, biological control of larvae and foliar control of adults. Consult local university extension personnel for current information to protect citrus trees from Citrus Root Weevil and other pests.
Fireant (solenopsis spp.) Asian Cockroach (blattella asahinae)	6.4-16 fluid ounces (0.1-.25 lb active) per acre.	Apply to individual citrus resets, when not in solid planted rows, using hand-gun or shielded sprayer. Peak emergence of Diaprepes root weevil generally occurs in the spring. Depending on weather conditions, a minor emergence of Diaprepes root weevil may also occur in the fall. If the citrus grove to be treated is in an area where weather conditions are conducive to primary emergence occurring in the spring, 32 fluid ounces formulated product should be used to obtain the longest residual management of Diaprepes root weevil. If the citrus grove to be treated is in an area where weather conditions will promote more than one peak of pest emergence, 16 fluid ounces formulated product can be applied early season and 16 fluid ounces formulated product can be applied later in the season. Do not apply through irrigation systems. Do not allow any application of Tundra to contact fruit or foliage. Do not apply more than a total of 32 fluid ounces of formulated product (0.5 lb. a.i.) per acre per year. Apply the specified dosage in a minimum of 40 gallons of finished spray per acre. Ground application only. Do not apply by air. Do not apply within 1 day of harvest.

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COTTON

Apply as directed in the following table at rates indicated.

PEST	RATE	REMARKS AND RESTRICTIONS
European corn borer soybean (banded) thrips tobacco thrips	1.3 to 6.4 fl. oz. (0.02 to 0.1 lb ai) per acre	Tundra may be applied in water or refined vegetable oil (soybean/cottonseed). **Application in Water:** Apply in a minimum of 5 gallons per acre with ground equipment or 1 gallon per acre by aircraft. When applying by air, 1 quart of emulsified oil may be substituted for one quart of water in the finished spray. **ULV Application:** Apply the recommended rate of Tundra in refined vegetable oil in a minimum of 1 quart of finished spray per acre with aircraft calibrated to give adequate coverage. **To Control Boll Weevil:** Apply Tundra at an interval of 3 to 4 days until pest numbers are reduced to acceptable levels. **To Control Mites and Aphids:** Apply when pests first appear. Repeat as necessary to maintain control. Higher rates will be required once a damaging threshold is established. Do not apply more than 0.5 lb. ai per acre per season. Do not make more than 10 synthetic pyrethroid applications (of one product or combination of products) to a cotton crop in one growing season. Synthetic pyrethroid products include Ambush®, Ammo®, Asana® XL, Baythroid®, Capture®, Danitol®, Karate®, Mustang®, and Scout X-TRA®. Do not graze livestock in treated areas or cut treated crops for feed. Do not apply within 14 days of harvest.
boll weevil bollworm cabbage looper cotton aphid cotton fleahopper cotton leaf perforator cutworms fall armyworm plant bugs saltmarsh caterpillar southern garden leafhopper stink bugs tobacco budworm whitefly yellow striped armyworm	2.6-6.4 fl. oz. (0.04 to 0.1 lb ai) per acre	
beet armyworm carmine spider mite lygus Spp. pink bollworm twospotted spider mite	3.8-6.4 fl. oz. (0.06 to 0.1 lb ai) per acre	

FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (AT PLANT USE)

Row spacing (inches)	40	38	36	30
Tundra (pounds ai per acre)	.06	.064	.069	.08
Tundra (formulated ounces per acre)	3.9	4.1	4.4	5.12

PEST	RATE	REMARKS AND RESTRICTIONS
corn rootworm larvae (northern, southern, western)	0.30 fluid ounces (0.0046 lb ai) per 1,000 linear feet of row	Apply as a 5 to 7 inch T-band treatment over an open seed furrow. Position the spray nozzle behind the planter shoe in front of the press wheel centered over the row. Use the table above to determine the Tundra needs per acre. Apply in a minimum of 3 gallons of finished spray per acre. (3 gallons per acre is approximately 0.2 gallons per 1000 linear feet of row at 36 inch spacing). Mix Tundra with water or fertilizer in the following manner. Fill the spray tank approximately one-half full with water or liquid fertilizer, add the proper amount of Tundra, then add the rest of the water or fertilizer. Provide sufficient agitation during mixing and application to maintain a uniform spray mixture. Applications of Tundra alone or in recommended tank mixtures, in conjunction with in furrow pop-up fertilizers may be used. A jar compatibility test should be performed with appropriate ratio of Tundra and fertilizer to ensure mixture will stay in solution. Constant agitation should be maintained during mixing and application. Do not apply to soil where there is greater than 30% cover of crop residue remaining. Do not graze livestock in treated area or cut treated crops for feed within 30 days of treatment. Do not apply more than 0.1 lb. ai (6.4 fl. oz) per acre per season as an at plant application. Do not apply within 30 days of harvest.
army cutworm, other cutworm species, grubs, seed corn beetle, seed corn maggot, true armyworm, other armyworm species, wireworm	0.15 to 0.30 fluid ounces (0.0023 to 0.0046 lb. a.i.) per 1,000 linear feet of row	

FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED Preplant Incorporated (PPI) & Preemergence (PPE)

PEST	RATE	REMARKS AND RESTRICTIONS
armyworm spp. black cutworm seedcorn maggot stalkborer white grubs wireworm	3 – 4 fl. oz. per acre **PPI** (0.047 to 0.062 lb ai / acre)	The 3-4oz/A rate must be applied as PPI and can be tankmixed and applied with PPI herbicides. Incorporation of Tundra should not be any deeper than the intended planting depth and no deeper than 3 inches. Incorporation depth should be close to the intended seed planting depth.

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armyworm spp. black cutworm stalkborer	2.56 fl. oz. per acre (0.04 lb ai / acre) **PRE**	The 2.56 oz/A rate may be applied PRE and can be tankmixed and applied with PRE herbicides.

FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED
(Foliar use)

PEST	RATE	REMARKS AND RESTRICTIONS
aphids, army cutworm, beet armyworm, cereal leaf beetle, chinch bug, common stalk borer, corn earworm, corn rootworm adults, cucumber beetle adults, cutworm species, European corn borer, fall armyworm, flea beetle, grasshoppers, greenbug, Japanese beetle adult, sap beetle, southern armyworm, southern corn leaf beetle, southwestern corn borer, stinkbugs, tarnished plant bug, true armyworm or armyworm species, webworms, western bean cutworm, yellowstriped armyworm	2.1 to 6.4 fl. oz. per acre (0.033 to 0.1 lb. ai / acre)	Apply in a minimum of 2-5 gallons of finished spray per acre by aircraft or in a minimum of 10 gallons per acre with ground equipment. To improve control by aircraft, use 5 gallons of finished spray per acre particularly when initial populations are heavier than normal. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control. **To control ear-attacking pests:** Apply Tundra just before silking and repeat as necessary to maintain control. **Southwestern corn borer, European corn borer:** Make application for corn borer control with initial application at or shortly before egg hatch. **For control of other insect pests:** Apply when pests first appear and repeat as necessary.
Banks grass mite carmine mite twospotted spider mite	5.12 to 6.4 fl. oz per acre (0.08 to 0.1 lb ai / acre)	Apply for **Banks grass mite** control when colonies first form prior to leaf damage or discoloration and before dispersal above the bottom third of the plant. **For twospotted spider mite and carmine mite control**: Apply when colonies first form prior to leaf damage or discoloration and before wide-spread mite dispersal throughout the canopy. Higher rates will be necessary for heavier initial populations and corn under heat or drought stress. Field experience with dimethoate at 0.5 lb. a.i. per acre in tank mixture has demonstrated good control under these conditions.

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		For mite control in Texas, New Mexico, Oklahoma, and Arizona, apply in a minimum of 5 gallons of finished spray per acre by aircraft or in a minimum of 10 gallons per acre with ground equipment.
Do not apply more than 0.3 lb. ai per acre per season including PRE & PPI, at plant plus foliar applications. Do not graze livestock in treated areas or cut treated crops for feed within 30 days of the last application. Use of ultra low volume (ULV) application on corn is prohibited. Do not make aerial or ground applications to corn if heavy rainfall is imminent. Use of Tundra on corn is prohibited in all coastal counties. Do not apply within 30 days of harvest.		

SWEET CORN (GRAIN AND SILAGE)
SWEET CORN GROWN FOR SEED
(At plant use)

Apply as directed in the following table at rates indicated. To calculate the amount of Tundra to use per acre based on row spacing refer to the conversion chart below.

Row Spacing (inches)	40	38	36	30
Tundra (pounds ai per acre)	.06	.064	.069	.08
Tundra (formulated ounces per acre)	3.9	4.1	4.4	5.12

PEST	RATE	REMARKS AND RESTRICTIONS
corn rootworm larvae (northern, southern, western)	0.3 fl. oz per 1000 linear feet of row (0.0046 lb ai per 1000 linear feet of row)	Apply as a 5 to 7 inch T-band treatment over an open seed furrow. Position the spray nozzle behind the planter shoe, in front of the press wheel centered over the row. Use the table above to determine the Tundra needs per acre. Apply in a minimum of 3 gallons of finished spray per acre. Mix Tundra with water or fertilizer in the following manner. Fill the spray tank approximately one-half full with water or liquid fertilizer, add the proper amount of Tundra, then add the rest of the water or fertilizer. Provide sufficient agitation during mixing and application to maintain a uniform spray mixture. Applications of Tundra alone or in recommended tank mixtures, in conjunction with in furrow pop-up fertilizers may be used. A jar compatibility test should be performed with appropriate ratio of Tundra and fertilizer to ensure mixture will stay in solution. Constant agitation should be maintained during mixing and application.
army cutworm, cutworm species, grubs, seed corn beetle, seed corn maggot, true armyworm or armyworm species, wireworm	0.15 to 0.3 fl. oz per 1000 linear feet of row (0.0023 to 0.0046 lb ai per 1000 linear feet of row)	
Do not apply to soil where there is greater than 30% cover of crop residue remaining. Do not apply within 30 days of harvest. Do not graze livestock in treated area or cut treated crops for feed within 30 days of treatment. Do not apply more than 0.1 lb. active per acre per season as an at plant application.		

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SWEET CORN (GRAIN AND SILAGE)
SWEET CORN GROWN FOR SEED
(Foliar use)

PEST	RATE	REMARKS AND RESTRICTIONS
aphids army cutworm beet armyworm cereal leaf beetle chinch bug common stalk borer corn earworm corn rootworm adults cucumber beetle adult cutworm species European corn borer fall armyworm flea beetle grasshoppers greenbug Japanese beetle adult sap beetle southern armyworm southern corn leaf beetle southwestern corn borer stinkbugs tarnished plant bug true armyworm or armyworm species webworms western bean cutworm yellowstriped armyworm	2.1 to 6.4 fl. oz per acre (0.033 to 0.1 lb ai per acre)	Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control. **To control ear-attacking pests:** Apply Tundra when silking begins and repeat as necessary to maintain control. **Southwestern corn borer, European corn borer:** Make 2 applications for corn borer control with the initial application at or shortly before egg hatch. **For control of other insect pests:** Apply when pests first appear and repeat as necessary.
Banks grass mite carmine mite twospotted spider mite	5.12 to 6.4 fl. oz per acre (0.08 to 0.1 lb ai per acre)	Apply for **Banks grass mites** control when colonies first form from prior to leaf damage or discoloration and before dispersal above the bottom third of the plant. **For twospotted spider mite and carmine mite control**: Apply when colonies first form prior to leaf damage or discoloration and before widespread mite dispersal throughout the canopy. Higher rates will be necessary for heavier initial populations and corn under heat or drought stress.
Do not apply more than 0.2 lb. a.i. (12.8 ounces formulated) per acre per season. Do not graze livestock in treated areas of cut treated crops for feed within 1 day of the last application. Use of ultra low volume (ULV) application on corn is prohibited. Do not make aerial or ground applications to corn if heavy rainfall is imminent. Use of Tundra on corn is prohibited in all coastal counties. Do not apply within 1 day of harvest.		

FRUITING VEGETABLES

CROP	PEST	DOSAGE		REMARKS
		LBS AI/A	FL OZ/A	
Eggplant Pepper (Bell & Non-Bell) Groundcherry Pepino	Armyworms Including Beet Armyworm, Fall Armyworm, Southern Yellowstriped Armyworm Cabbage Looper Colorado Potato Beetle Corn Earworm Cucumber Beetle Cutworms European Corn Borer Flea Beetle Leafminers Loopers Pepper Weevil Plant Bug Stink Bug Thrips Tomato Hornworm Tomato Pinworm Vegetable Leafminer Whitefly	0.033-0.10	2.1-6.4	Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control. Do not make applications less than 7 days apart. Do not apply more than 0.2 lb. active ingredient (12.8 ounces formulated) per acre per season. Do not apply within 7 days of harvest.
	Banks Grass Mite Broad Mite Carmine Mite Lygus Species Pacific Spider Mite Two Spotted Spider Mite	0.08-0.10	5.12-6.4	
Tomato Tomatillo	Aphids Armyworms Including Beet Armyworm, Fall Armyworm, Southern Yellowstriped Armyworm Bean Leaf Beetle Cabbageworm Carmine Mite Cloverworm Corn Earworm Corn Rootworm Cucumber Beetles Cutworms Diamondback Moth European Corn Borer Flea Beetles Flea Hopper Grasshopper Japanese Beetle (Adult) Leafhoppers Loopers Lygus Species Melonworm Pea Weevil Pea Leaf Weevil Pickleworm Plant Bug Rindworm Salt Marsh Caterpillar Sap Beetle Seedpod Weevil	0.033-0.08	2.1-5.2	Apply in water as necessary for insect control using a minimum of 15 gallons of finished spray per acre with ground equipment. Thorough coverage is essential to achieve control. Do not make applications less than 10 days apart. A maximum of 4 applications may be applied per season. Do not apply within 1 day of harvest.

CROP	PEST	DOSAGE		REMARKS
		LBS AI/A	FL OZ/A	
	Squash Bugs Stink Bug Species Tobacco Budworm Tarnished Plant Bug Thrips Whitefly			
	Two Spotted Spider Mite	0.08-0.10	5.12-6.4	

GRAPES

PEST	RATE	REMARKS AND RESTRICTIONS
cutworms eastern grape leafhopper, Grape berry moth Japanese beetles adults variegated leafhopper, western grape leafhopper,	3.2 to 6.4 fl. oz per acre (0.05 to 0.1 lb ai / acre)	Apply in a minimum of 10 gallons of finished spray by air or in a minimum of 25 gallons of finished spray with ground equipment. When applying by air, 1 to 2 quarts of emulsified oil may be substituted for 1 to 2 quarts of water in the finished spray.
black vine weevil, glassywinged sharpshooter, twospotted spider mite	6.4 fl. oz/ acre (0.1 lb ai per acre)	Thorough coverage is essential to achieve control. When pest pressure is moderate to severe, use higher rate. Do not apply more than 0.10 lb. ai per acre per season. Do not apply within 30 days of harvest.

HOPS

PEST	RATE	REMARKS AND RESTRICTIONS
Aphids, armyworms cutworms Leafrollers, loopers	3.8-6.4 fl. oz per acre (0.06-0.1 lb ai / acre)	Do not exceed .1 lb ai per application. Do not exceed .3 lb ai per acre per season. A spray interval of 21 days between applications must be maintained.
root weevils	3.2-6.4 fl. oz per acre (0.05 to 0.1 lb ai / acre)	A 14 day pre-harvest interval must be observed.

twospotted spider mite	6.4 fl. oz per acre (0.1 lb ai /acre)	**Application by ground**: For best results, full coverage is essential. In early season use 100-150 gallons of spray per acre. In late season use 200-250 gallons of spray per acre. For root weevil control, make a directed spray to the base of the plant. Spray up the vine 3 feet and the soil surface 1.5 to 2 feet on either side of the plant. **Application by air for late season control of twospotted spider mites:** Apply no less than 6.4 oz (0.1 lb ai) per application in a minimum of 10 gallons per acre. Use of ultra low volume (ULV) application on hops is prohibited.

LETTUCE, HEAD

PEST	RATE	REMARKS AND RESTRICTIONS
aphids, armyworms, corn earworm, cucumber beetles, cutworms, diamondback moth, flea beetles, imported cabbageworm, leafhoppers, loopers, salt marsh caterpillar, stink bug, tobacco budworm, whitefly	2.1 to 6.4 fl. oz per acre (0.033-0.10 lb ai per acre)	Apply in water as necessary for insect control using a minimum of 15 gallons of finished spray per acre with ground equipment and 5 gallons per acre by air. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control. Do not make applications less than 7 days apart. A maximum of 0.5 lb. ai may be applied per acre per season. Do not apply within 7 days of harvest.
carmine mite *lygus spp.* twospotted spider mite	5.12 to 6.4 fl. oz per acre (0.08 to 0.10 lb ai per acre)	

MAYHAW

CROP	PEST	DOSAGE		REMARKS
		LBS AI/A	FL OZ/A	
Mayhaw	Plum Curculio	0.08-0.1	5.12-6.4	Apply foliar treatments in at least 28 gallons per acre. Apply no more than once every 7 days. Do not apply more than 0.2 lb ai per acre per season. Do not apply within 30 days of harvest.

PEANUT

CROP	PEST	DOSAGE		REMARKS
		LBS AI/A	FL OZ/A	
Peanut	Beet Armyworm Corn Earworm Cutworm Species Fall Armyworm Grasshoppers Green Cloverworm Leafhoppers Lesser Cornstalk Borer Loopers Rednecked Peanut Worm Southern Armyworm Southern Corn Rootworm Stink Bugs Threecornered Alfalfa Hopper Velvetbean Caterpillar Yellowstriped Armyworm	0.033-0.1	2.1-6.4	Apply foliar treatments in at least 10 gallons per acre at the rate of 6.4 fl. oz. (0.1 lb active) per acre at a minimum of 14-day intervals. Do not apply more than 0.5 lb ai per acre per season. Do not apply within 14 days of harvest.
	Aphids Spider Mites Thrips Whitefly	0.08-0.1	5.12-6.4	

PEARS

PEST	RATE	REMARKS AND RESTRICTIONS
aphids codling moth cutworms green fruitworm leafhoppers leafminers leafrollers *lygus spp.* plant bugs plum curculio San Jose scale (crawlers) stink bugs tarnished plant bugs	2.6 to 12.8 fl. oz per acre (0.04 to 0.2 lb ai per acre)	**Application by ground:** Apply as a dilute (minimum of 200 gallons of finished spray per acre) or concentrate (minimum of 50 gallons of finished spray per acre) spray in sufficient water to provide thorough coverage. **Application by air:** Apply the specified rate in a minimum of 10 gallons per acre by air. Do not apply more than 0.5 lb. ai per acre per season with no more than 0.45 lb. active per acre applied after petal fall. Apply as necessary to maintain control using a minimum of 30 day spray interval. Apply up to 14 days prior to harvest. Do not graze livestock in treated orchards or cut treated cover crops for feed.
twospotted spider mite yellow mite	3.8 to 12.8 fl oz per acre (0.06 to 0.2 lb ai per acre)	
European red mite	5.12 to 12.8 fl. oz per acre (0.08 to 0.2 lb ai per acre)	

ROOT CROPS

CROP	PEST	DOSAGE		REMARKS
		LBS AI/A	FL OZ/A	
Burdock, edible Carrot Celeriac Chervil, turnip rooted Chicory Ginseng Horseradish Parsley, turnip rooted Parsnip Radish Radish, oriental Rutabaga Salsify Salsify, black Salsify, Spanish Skirret Turnip	Aphids Beet Armyworm Celery Leaf Tier Corn Earworm Cross-Striped Cabbageworm Cutworms Diamondback Moth European Corn Borer Fall Armyworm Fire Ants Flea Beetles Green Cloverworm Hornworms Imported Cabbageworm Loopers Southern Armyworm Spider Mites Tobacco Budworm Velvetbean Caterpillar Whitefly Yellowstriped Armyworm	0.08-0.10	5.12-6.4	Apply foliar treatments in at least 25 gallons per acre. Apply no more than once every 7 days. Do not apply more than 0.5 lb ai per acre per season. Do not apply within 21 days of harvest.
Garden Beet	Aphids Fire Ants Flea Beetles Lepidopterous Larvae Spider Mites Whitefly	0.08-0.10	5.12-6.4	Apply foliar treatments in at least 25 gallons per acre. Apply no more than once every 7 days. Do not apply more than 0.4 lb ai per acre per season. Do not apply within 1 day of harvest.

SOYBEAN

CROP	PEST	DOSAGE		REMARKS
		LBS AI/A	FL OZ/A	
Soybean	Alfalfa Caterpillar Aphids Aster Leafhopper Bean Leaf Beetle Beet Armyworm Cloverworm Corn Earworm Corn Rootworm Adult Cucumber Beetles Cutworms European Corn Borer Fall Armyworm Flea Beetle Grasshoppers Imported cabbageworm Japanese beetle Adult Leafhoppers Leafminer Loopers Mexican Bean Beetle Adult Pea Leaf Weevil Pea Weevil Plant Bug Saltmarsh caterpillar	0.033-0.10	2.1-6.4	Apply foliar treatments in at least 10 gallons per acre at a rate up to 6.4 fl. oz. (0.1 lb active) per acre with ground equipment or in at least 2 gallons per acre at a rate up to 6.4 fl. oz. (0.1 lb. active) per acre by aircraft at a minimum of 30-day intervals. Do not apply more than 0.3 lb ai per acre per season. Do not apply within 18 days of harvest.

	Sap Beetle Southern Armyworm Stink Bugs Tarnished Plant Bug Thrips Tobacco budworm Webworms Western Bean Cutworm Whitefly Yellowstriped Armyworm			
	Lygus Species Whitefly Two Spotted Spider Mite	0.08-0.10	5.12-6.4	

SPINACH

PESTS	RATE	REMARKS AND RESTRICTIONS
armyworms Colorado potato beetle corn earworm cucumber beetles cutworms European corn borer flea beetles leafminers loopers pepper weevil tomato pinworm tomato hornworm thrips whitefly	2.1 to 6.4 fl. oz (0.033 to 0.10 lb. ai per acre	For control of whiteflies apply foliar treatments of Tundra by ground or air at rates of up to 0.4 pt. (0.1 lb. ai) per acre at minimum 7-day intervals up to a maximum of 4 applications. For control of fire ants apply Tundra EC to the soil (at planting) or as a foliar treatment by ground or air at rates of up to 0.4 pt. (0.1 lb. active) per acre at minimum 7-day intervals up to a maximum of 4 applications. Apply the specified dosage in 5-50 gallons of finished spray per acre by air or 10-50 gallons of finished spray per acre by ground. Do not make applications less than 7 days apart. Do not apply more than 0.4 lb. ai per acre per season. Do not apply within 40 days of harvest.
broad mite Banks grass mite carmine mite fire ants *Lygus spp.* twospotted spider mite Pacific spider mite	5.12 to 6.4 fl. oz (0.08 to 0.10 lb. ai per acre	

SUCCULENT PEAS AND BEANS

CROP	PEST	RATE
peas (*Pisum spp.*): dwarf pea edible-pod English pea garden pea green pea snow pea sugar snap pigeon pea beans (Phaseolus spp.) including: broadbean (succulent) lima bean (green) runner bean snap bean wax bean bean (Vigna spp.) including: asparagus bean blackeyed pea Chinese longbean cowpeas moth bean southern pea yardlong bean jackbean soybean (immature seed) sword bean	flea beetle grasshoppers aster leafhopper leafhoppers	1.6 to 6.4 fl. oz per acre (0.025 to 0.10 lb ai per acre)
	alfalfa caterpillar aphids bean leaf beetle beet armyworm cloverworm corn earworm corn rootworm (adult) cucumber beetles cutworms European corn borer fall armyworm Japanese beetle (adult) loopers pea leaf weevil pea weevil plant bug sap beetle southern armyworm stink bugs tarnished plant bug thrips webworms western bean cutworm yellowstriped armyworm whitefly	2.1 to 6.4 fl. oz per acre (0.033 to 0.10 lb ai per acre)
	Banks grass mite carmine mite *lygus spp.* twospotted spider mite	5.12 to 6.4 fl. oz per acre (0.08 to 0.10 lb ai per acre)

REMARKS AND RESTRICTIONS

Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control.

Do not apply more than 0.2 lb. a.i. (12.8 ounces formulated product) per acre per season.

Do not apply within 3 days of harvest.

OKRA

PEST	RATE LB/AI/A	RATE FL OZ/A	REMARKS AND RESRICTIONS
Armyworm Corn earworm Cucumber beetles Cutworms European corn borer Flea beetles Leafminers Loopers Thrips Whitefly Aphids Japanese beetle (adult) Stink bugs	.033 to .10	2.1 to 6.4	Apply using sufficient water to obtain uniform coverage. Apply as needed. Apply with ground equipment using a minimum of 10 gallons of finished spray per acre of a minimum of 2 gallons per acre by aircraft. Do not make applications less than 7 days apart. Do not apply more than .20 pound active ingredient per acre per season. Do not apply within 7 days of harvest.
Lygus spp. Broad Mite Carmine mite Two spotted spider mite	.08 to .10	5.12 to 6.4	

CILANTRO, CORIANDER

PEST	RATE LB/AI/A	RATE FL OZ/A	REMARKS AND RESTRICIONS
Spotted cucumber beetle Beet armyworm Cabbage looper Aphids Whitefly Flea beetle Thrips Leafminer Cutworm Grasshoppers Saltmarsh caterpillar	.033 to .10	2.1 to 6.4	Apply using sufficient water to obtain uniform coverage. Apply as needed. Apply with ground equipment using a minimum 10 gallons of finished spray per acre or a minimum of 2 gallons per acre by aircraft. Do not make applications less than 7 days apart. Do not apply more than .50 pound active ingredient per acre per season. Do not apply within 3 days of harvest.
Two spotted spider mite	.08 to .10	5.12 to 6.4	

DRIED BEANS AND PEAS

CROP	PEST	DOSAGE		Remarks AND RESRICTIONS
Dried cultivars of: Bean (Lupins) Bean *(phaseolus)* Field bean Kidney bean Lima bean(dry) Navy bean Pinto bean Tepary bean Bean (*vigna*) Adzuki bean Blackeyed pea Catjang Cowpea Crowder pea Moth bean Mung bean Rice bean Southern pea Urd bean Broad bean (dry) Chickpea Guar Lablab bean Lentil Pea (Piscum) Field pea Pigeon pea	Flea beetle Grasshopper Aster leafhopper leafhoppers	.025 to .1	1.6 to 6.4	Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray. Through coverage is essential to achieve control. Do not apply more than .2 lb. active ingredient (12.8 ounces formulated) to peas, or 0.3 active ingredient (19.2 ounces formulated) to beans per acre per season. Do not apply within 14 days of harvest. Do not make applications less than 7 days apart.
	Aphids Beet armyworm Fall armyworm Southern armyworm Yellowstriped Armyworm Bean leaf beetle Cucumber beetles Japanese beetle Adult sap beetle Plant bug Stink bugs Tarnished plant bug Alfalfa caterpillar Cloverworm European corn borer Cutworms Western bean cutworm Corn earworm loopers Corn rootworm Adult thrips Webworms Pea weevil Pea leaf weevil Whitefly Imported cabbage-worm Saltmarsh caterpillar Tobacco budworm Leafminer	.033 to .1	2.1 to 6.4	
	Banks grass Mite Twospotted spider mite Spider mite Carmine mite *Lygus spp.*	.08 to .1	5.12 to 6.4	

LEAFY BRASSICAS

CROP	PEST	DOSAGE LB/AI/A	DOSAGE FL OZ/A	REMARKS AND RESTRICTIONS
Broccoli raab Bok choy Collards Kale Mizuna Mustard greens Mustard spinach Rape greens	Cutworms Corn earworm Tobacco budworm Saltmarsh caterpillar Leafhoppers Flea beetles Imported cabbage-worm Cucumber beetles Aphids Whitefly Armyworms Loopers Stink bugs Crickets Ground beetles Thrips Wireworm (adults) Diamondback moth Japanese beetle (adult)	.033 to .1	2.1 to 6.4	Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray. Through coverage is essential to achieve control. Do not apply more than .4 lb. active ingredient per acre per season. Do not make applications less than 7 days apart. Do not apply within 7 days of harvest.
	Banks grass mite Twospotted spider mite Carmine mite Pacific spider mite *Lygus spp.*	.08 to .1	5.12 to 6.4	

TOBACCO

CROP	PEST	DOSAGE LB/AI/A	DOSAGE FL OZ/A	REMARKS AND RESTICTIONS
tobacco	Cutworms spp. Tobacco flea beetle (larvae) White grubs Wireworms Mole crickets Armyworm spp. Stalkborers	.0625 to .1	4 to 6.4	Pre-transplant soil applications: Apply 0.0625- 0.1 lb ai/A in a minimum of 10 gal/A to control soil pests. Use of suitable equipment to incorporate into top 4 inches of soil is required to control below ground pests. At-transplant water treatment application: Apply 0.0625- 0.1lb ai/A in a water treatment application volume of 10-200 gal/A. Foliar applications: Apply 0.04- 0.10 lb ai/A per foliar application up to, and including, layby in a minimum of 10 gal/A. Do not make more than 2 foliar applications per season. Do not apply more than .2 lb ai/A per season. Do not apply later than layby. May be tank mixed with Command, Spartan and other herbicides approved for tobacco use.
	Aphid spp. Armyworm Flea beetle (adults) Chinch bugs Stink bugs Japanese beetles Grasshoppers Cutworm spp. Tarnished plant bugs Green bugs Thrips Whiteflies	.04 to .1	2.56 to 6.4	
	Spider mites Lygus spp.	.1	6.4	

TUBEROUS AND CORM VEGETABLES

CROP	PEST	DOSAGE LB/AI/A	DOSAGE FL OZ/A	REMARKS AND RESTRICTIONS
Potato Sweet potato Arracacha Arrowroot Chinese artichoke Jerusalem artichoke Edible canna Cassava (bitter and sweet) Chayote (root) Chufa Dasheen (taro) Ginger Leren Tanier Turmeric Yam bean True yam	Corn wireworm Tobacco wireworm	.3 (at-plant)	19.2 (at-plant)	Tundra may be applied as an in-furrow planting time treatment for the control of wireworms, rootworms and white grubs. Apply Tundra at the rate of .3 pounds active per acre as an in-furrow spray or T-band spray at planning time. Tundra may be applied as a lay-by treatment for the control of wireworms, rootworms and white grubs. Apply Tundra to the drill area and cover with soil utilizing cultivation equipment set to throw soil to the drill area. Apply Tundra as a banded spray over the row at a rate of .05-.15 lb. active per acre (3.2 to 9.6 ounces formulated) in 10 gallons per acre of spray. Tundra may be applied as a foliar spray for the control of the adult life stages of flea beetles, click beetles (wireworms), cucumber beetles(rootworms), white fringed beetles and May/June beetles (white grubs). Apply Tundra at the rate of .1 lbs active per acre (6.4 ounces formulated) in 10 gallons of spray by ground and 3 gallons of spray by air. Do not make more than 2 foliar applications per season no sooner than 21 days apart. Do not apply more than .5 lb active ingredient per acre per season, including soil application. Do not apply within 21 days of harvest.
	Southern potato wireworm Japanese beetle grubs June beetles	.05 - .15 (lay-by)	3.2 – 9.6 (lay-by)	
	Sweet potato flea beetle Cucumber beetle Sweet potato weevil Banded cucumber beetle Black flea beetle White-fringed beetle Sugarcane beetle Rootworms	.033 to .1 (foliar)	2.1 to 6.4 (foliar)	

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