

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

Winfield Solutions LLC P.O. Box 64589 St. Paul, MN 55164-0589 SEP 2 3 2008

Subject:

Updated Spray Drift Language for Pyrethroid

Agricultural Use Product as per EPA letter dated February 21, 2008

Dear Glenda Haage:

The Agency is in receipt of your Applications for Pesticide Notification dated July 22, 2008 for the following products:
Tundra EC EPA Reg. No. (1381-196)
Grizzly Z Insecticide EPA Reg. No. (1381-211)
Mystic Z Insecticide EPA Reg. No. (1381-210)
Tundra CA EPA Reg. No. (1381-214)

Registration Division (RD) has conducted a review of this request for it applicability under PRN 98-10 and finds that the action(s) requested fall within the scope of PRN 98-10. The labels submitted with the applications has been stamped "Notification" and will be placed in our records.

Note under Buffer Zones the correct webmail address is: www.in.nrcs.usda.gov/technical/agronomy/newconbuf.pdf. Also reinstate the buffer strip paragraph for the State of New York and note "streams" should read "permanent streams and "ponds" should read "natural ponds".

If you have any questions, please call me at (703) 305-6100.

Sincerely,

Fourth For

George T. LaRocca Product Manager 13 Insecticide Branch Registration Division (7505P)

Enclosure

Certification

5. Date

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

Registration Manager

4. Typed Name Glenda Haage

2. Signature

August 22, 2008 White - EPA File Copy (original) (Stamped) . .

Received

Much thank



Strail Ox1841

August 22, 2008

Document Processing Desk (AMEND)
Office of Pesticide Programs (7504P)
U.S. Environmental Protection Agency
Room S-4900, One Potomac Yard
2777 South Crystal Drive
Arlington, VA 22202-4501
Attn: George LaRocca

Subject:

Tundra CA (1381-214)

Response to Agency letter dated February 21, 2008

Dear Mr. LaRocca:

Winfield Solutions is responding to the subject letter by adding the spray drift language to the subject label.

Enclosed please find five (5) copies of revised labeling with the changes highlighted. Also, per your email, I have struck through any old spray drift language.

Should you have any questions during your review, please contact me at ghbconsulting@frontiernet.net or 712-548-5213.

Sincerely,

Glenda Haage

Registration Manager

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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_® CA Insecticide/Miticide

NOTIFICATION

SEP 2 3 2008

For Sale and Use Only in California

Active Ingredient	By Wt.
Bifenthrin: (2 methyl[1,1'-biphenyl]-3-yl)	
methyl 3-(2-chloro-3,3,3-trifluoro-1-propenyl)-	
2,2-dimethyl-cyclopropanecarboxylate*	25.1%
Inert Ingredients:**	<u>74.9%</u>
•	100.0%

^{**}Cis isomers 97% minimum, trans isomers 3% maximum.

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.

Manufactured for Agriliance, LLC P.O. Box 64089 St. Paul, MN 55164-0089 EPA Reg. No. 1381-214 EPA Est. No. ______N___ Net Conterits______

PROP'08-22-08

^{**}Contains xylene range aromatic solvents.

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

HOTLINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-424-7452 for emergency medical treatment information.

NOTE TO PHYSICIAN

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

For Emergency Assistance Call 1-877-424-7452.

PRECAUTIONARY STATEMENTS Hazards to Humans (and Domestic Animals)

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 or Nitrile Rubber or 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 or Nitrile Rubber or Neopreme Aubber 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 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 pesticide gets inside. Then wash thoroughly and put on clean clothing.

Environmental Hazards

This pesticide is extremely toxic to fish and aquatic invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff 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 if bees are visiting the treatment area.

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 or 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 for 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 the 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.

STORAGE AND DISPOSAL

Pesticide Storage

Do not freeze. Do not 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.

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.

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills. Call FMC: 1-800-331-3148.

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 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

Metal or Plastic Container: Triple rinse (or equivalent) 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.

Special Equipment

The registration of Tundra CA in California requires that the product be used in closed systems that meet the criteria for closed systems as established by the California Department of Food and Agriculture. The criteria and a list of the closed systems meeting the criteria are available through the California Department of Food and Agriculture.

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-Mixture

Tundra CA Insecticide/Miticide 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.

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.

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 operation, 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.

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[®] CA insecticide/miticide should be applied continuously for the duration of the water application. Tundra CA 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.

http://www.in.csusda/v/technical/agronom/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, 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, 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, streams, marshes, natural ponds, estuaries, and commercial fish ponds)

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 eh 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.

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.

Spray Drift Precautions

All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers.

OBSERVE THE FOLLOWING PRECAUTIONS WHEN SPRAYING IN THE VICINITY OF AQUATIC AREAS SUCH AS LAKES; RESERVOIRS; RIVERS; PERMANENT STREAMS; MARSHES OR NATURAL PONDS; ESTUARIES AND COMMERCIAL FISH FARM PONDS.

Do not apply by ground equipment within 25 feet, or by air within 150 feet of lakes; reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries, and commercial fish farm ponds. Increase the buffer zone to 450 feet when ultra low volume (ULV) application is made in cotton.

Use of ultra-low volume (ULV) application on corn and hops is prohibited.

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

Use the largest droplet size consistent with good pest control. Formation of very small droplets may be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible, and by avoiding excessive spray boom pressure.

Spray should be released at the lowest height consistent with pest control and flight safety. Applications more than 10 feet above the crop canopy should be avoided.

Make aerial or ground applications when the wind velocity favors on target product deposition (approximately 3 to 10 mph). Do not apply when wind velocity exceeds 15 mph. Avoid applications when wind gusts approach 15 mph.

Risk of exposure to sensitive aquatic areas can be reduced by avoiding applications when wind direction is toward the aquatic area.

Do not cultivate within 10 feet of the aquatic area so as to allow growth of a vegetative filter strip.

Low humidity and high temperatures increase the evaporation rate of spray droplets and therefore the likelihood of increased spray drift to aquatic areas. Avoid spraying during conditions of low humidity and/or high temperature.

Do not make aerial or ground applications during 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.

BRASSICAS

_		DIAGOIO		
		Dos	_	
Crop	Pest	Lb/Al/A	FI. Oz./A	Remarks
Head and Stem Brassica Vegetables, including: Broccoli, Chinese Broccoli (gai lon, white flowering broccoli) Brussels Sprouts Cauliflower Cavalo Broccolo Kohlrabi Cabbage Chinese Cabbage (napa) Chinese Mustard Cabbage (gai choy)	Cutworms Corn Earworm Saltmarsh Caterpillar Flea Beetles Imported Cabbageworm Whitefly Armyworms Loopers Crickets Diamondback Moth Lygus Spp.	0.033 - 0.10 0.08 - 0.10	2.1 - 6.4 5.12 - 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 apply more than 0.5 lb. active ingredient (1 quart) per acre per season. Do not make more than 5 applications after bloom. Do not make applications less than 7 days apart.
				1

CANEBERRIES

		Dos	age	
Crop	Pest	Lb/Al/A	Fl. Oz./A	Remarks
Caneberries including: Blackberries Bingleberries Dewberries Lowberries Marionberries Youngberries	Leafrollers Orange Tortrix Root Weevils	0.05 - 0.10	3.2 - 6.4	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 prebloom and a second application may be made post-bloom.
Loganberries Raspberries	Spider Mites	0.10	6.4	Do not apply within 3 days of harvest.

CANOLA, CRAMBE, RAPESEED

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Crop	Pest	Dosa	FI. Oz./A	Remarks
Canola Crambe Rapeseed	Cutworms Aphids Cutworms Diamondback Moth Loopers Other Lepidopterous Larvae Flea Beetle Flea Hopper Grasshopper Plant Bug Stink Bugs Seedpod Weevil Thrips Whitefly Armyworms	0.033 - 0.04	2.1 - 2.6	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 0.8 lb. active ingredient (5.12 ounces) per acre per season. Do not make applications less than 14 days apart. Do not apply within 35 days of harvest.

COTTON

	Dosa	age	
Pest	Lb/Al/A	FI. Oz./A	Remarks
European Corn Borer Soybean (Banded) Thrips Tobacco Thrips	0.02 – 0.1	1.3 – 6.4	Tundra CA may be applied in water or refined vegetable oil (soybean/cottonseed). Application in Water:
Boll Weevil Bollworm Cabbage Looper Cotton Aphid Cotton Fleahopper Cotton Leafperforator Cutworms Fall Armyworm Lygus Spp. Plant Bugs Saltmarsh Caterpillar Southern Garden Leafhopper Stink Bugs Tobacco Budworm Whitefly Yellow Striped Armyworm	0.04 - 0.1	2.6 - 6.4	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. To Control Boll Weevil: Apply Tundra CA 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.

	Dos	age	
Pest	Lb/Al/A	FI. Oz./A	Remarks
Beet Armyworm	0.06 - 0.1	3.8 – 6.4	
Carmine Spider Mite	j))	
Pink Bollworm			
Twospotted Spider Mite			

Do not apply more than 0.3 pound active per acre per season.

Do not make more than 3 applications per season.

Do not apply within 14 days of harvest.

Do not graze livestock in treated areas or cut treated crops for feed.

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[®], Pounce[®] and Scout[®] X-TRA.

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

/ I I I I I I I I I I I I I I I I I I I	FIELD CORN GROWN FOR SEED (AT PLANT USE)						
Pest							
			Apply as a 5 open seed for the planter seed over the planter seed for the planter seed to the planter of determine the material proper amount the water or during mixing spray mixture. Applications recommends	Rem to 7 inch T-ba urrow. Position hoe, in front o er the row. Use the Tundra CA CA with water unner. Fill the s with water or l ant of Tundra (fertilizer. Prov g and applicat	arks and treatment the spray no f the press whe the table bel needs per acr or fertilizer in spray tank app iquid fertilizer CA, then add to ide sufficient ion to maintain alone or in es, in conjunc	zzle behind neel low to e. the proximately add the the rest of agitation n a uniform	
Wireworm			Applications recommende furrow pop-u compatibility appropriate ensure mixtu agitation sho application. Do not apply cover of crop	of Tundra CA ed tank mixtur	es, in conjunc ay be used. A e performed w a CA and fertil solution. Con ined during m there is great aining.	jar vith izer to stant iixing and	
			crops for fee	e livestock in t ed within 30 da / more than 0. as an at plant	lys of treatme	nt. e per acre	
Row Spacings (inches)			40	38	36	30	
Tundra CA (pounds ai per ac			0.060	0.064	0.069	0.080	
Tundra CA (formulated ounc	dra CA (formulated ounces per acre) 3.9 4.1 4.4			4.4	5.12		

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

FIELD CORN GROWN FOR SEED (FOLIAR USE)						
	Dosa					
Pest	Lb. Al/A.	FI. Oz./A	Remarks & Restrictions			
Aphids	0.033 - 0.10	2.1 – 6.4	Restrictions - Corn			
Army Cutworm			Do not apply more than 0.2 pound active per acre per			
Beet Armyworm	}]	season.			
Cereal Leaf Beetle						
Chinch Bug)		Do not apply within 30 days of harvest.			
Common Stalk Borer						
Corn Earworm		j.	Do not graze livestock in treated areas or cut treated			
Corn Rootworm Adults	,		crops for feed within 30 days of the last application.			
Cucumber Beetle Adult						
Cutworm Species			Use of ultra low volume (ULV) application on corn is			
European Corn Borer	J	}	prohibited.			
Fall Armyworm			Bank a harrier			
Flea Beetle	•		Do not make aerial or ground applications to corn if			
Grasshoppers			heavy rainfall is imminent.			
Greenbug			Lies of Tundus CA an assuming analyticited in all assets			
Japanese Beetle Adult			Use of Tundra CA on corn is prohibited in all coastal counties.			
Leafhopper	ľ		counties.			
Sap Beetle Southern Armyworm			Remarks – Corn			
Southern Corn Leaf Beetle			General: Apply in a minimum of 2-5 gallons of finished			
Southwestern Corn Borer			spray per acre by aircraft or in a minimum of 10 gallons			
Stinkbugs			per acre with ground equipment. To improve control by			
Tarnished Plant Bug			aircraft, use 5 gallons of finished spray per acre			
Thrip			particularly when initial populations are heavier than			
True Armyworm or			normal. When applying by air, 1-2 quarts of emulsified oil			
Armyworm Species	į		may be substituted for 1-2 quarts of water in the finished			
Webworms	İ		spray. Thorough coverage is essential to achieve control.			
Western Bean Cutworm						
Yellowstriped Armyworm			To control ear-attacking pests: Apply Tundra CA 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	0.08 - 0.10	5.12 - 6.4	For Control of Mites:			
Carmine Mite	1		Apply for Banks Grass Mite control when colonies first			
Twospotted Spider Mite			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,			
	1		apply when colonies first form prior to leaf damage or			
•			discoloration and before wide-spread mite dispersal			
•		. *	throughout the canopy.			
	1					
·			Higher rates will be necessary for heavier initial			
			populations and corn under heat or drought stress. Field			
			experience with dimethoate at 0.5 lb. active per acre in			
	·		tank mixture has demonstrated good control under these			
	<u> </u>	J	conditions.			

SWEET CORN/SWEET CORN GROWN FOR SEED (AT PLANT USE)

Pest	Dosa	Dosage			Remark		
Corn Rootworm Larvae Mexican Northern Southern Western Army Cutworm Cutworm Species Grubs Seed Corn Beetle Seed Corn Maggot True Armyworm or Armyworm Species Wireworm	.0046 pound active per 1,000 linear feet of row .0023 to .0046 pound active per 1,000 linear feet of row	0.30 fl. oz. per 1,000 linear feet of row 0.15 to 0.30 fl. oz. per 1,000 linear feet of row	seed shoe Use to per act spray Mix T mann with v Tunde to ma Applied tank r fertiliz perfor fertiliz agitat	r as a 5 to 7 in furrow. Position front of the he table belowere. Apply in a per acre. Fill the spivater or liquid ra 2EC, then a de sufficient a aintain a uniformixtures, in control of the per to ensure per to e	nch T-band tree on the spray repress wheel we to determine a minimum of the water or ferray tank appropriate and the rest out of the control	eatment over nozzle behir centered over the Tundra 3 gallons of the proper of the water of g mixing an ure. The or in recompatibility teals of Tundra 2 ay in solution	and the planter for the row. a 2EC needs if finished a following ne-half full amount of for fertilizer. It is application application application be set should be 2EC and fon. Constant
Do not apply to soil where Do not apply within 30 day		an 30% cover			aining.		
Do not graze livestock in tr		treated crops	for feed	l within 30 day	vs of treatmer	nt.	
Do not apply more than 0.						•••	
Row Spacings (inches)	P			40	38	36	30
Tundra 2EC (pounds ai pe	r acre)			0.060	0.064	0.069	0.080
Tundra 2EC (formulated or				3.9	4.1	4.4	5.12

SWEET CORN/SWEET CORN GROWN FOR SEED					
	Dosa	ge	,		
Pest	Lb./Al/A.	FI. Oz./A	Remarks & Restrictions		
Aphids	0.033 - 0.10	2.1 – 6.4	Restrictions - Sweet Corn		
Army Cutworm			Do not apply more than 0.2 pound active ingredient (12.8		
Aster Leafhopper			ounces formulated) per acre per season.		
Beet Armyworm					
Cereal Leaf Beetle			Do not apply within 1 day of harvest.		
Chinch Bug					
Common Stalk Borer			Do not graze livestock in treated areas or cut treated		
Corn Earworm			crops for feed within 1 day of the last application.		
Corn Rootworm Adults					
Corn Silkfly			Use of ultra low volume (ULV) application on corn is		
Cucumber Beetle Adult			prohibited.		
Cutworm Species					
European Corn Borer	•		Do not make aerial or ground applications to corn if		
Fall Armyworm			heavy rainfall is imminent.		
Flea Beetle					
Grasshoppers			Use of Tundra CA on corn is prohibited in all coastal		
Greenbug	i		counties.		
Japanese Beetle Adult					
Leafhopper			Remarks - Sweet Corn		
Sap Beetle			General: Apply in a minimum of 2 gallons of finished		
Southern Armyworm		}	spray per acre by air or in a minimum of 10 gallons per		
Southern Corn Leaf Beetle	•	ļ.	acre with ground equipment. When applying by air, 1-2		
Southwestern Corn Borer			quarts of emulsified oil may be substituted for 1-2 quarts		
Stinkbugs	ļ		of water in the finished spray. Thorough coverage is		
Tarnished Plant Bug			essential to achieve control.		
Thrip					
True Armyworm or			To control ear-attacking pests: Apply Tundra CA		
Armyworm Species	İ	!	when silking begins and repeat as necessary to maintain		
Webworms			control.		
Western Bean Cutworm					

	Dosa	age	
Pest	Lb./Al/A.	Fl. Oz./A	Remarks & Restrictions
Yellowstriped Armyworm			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	0.08 - 0.10	5.12 - 6.4	For Control of Mites:
Carmine Mite		}	Apply for Banks Grass Mite control when colonies first
Pacific Spider Mite			form prior to leaf damage or discoloration and before
Twospotted Spider Mite			dispersal above the bottom third of the plant.
	i		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.

ARTICHOKE

ANTIONORL				
		age		
Pest	Lb./Al/A.	FI. Oz./A	. Remarks	
Cribrate Weevil Artichoke Plume Moth	0.10	6.4	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 dosage in a minimum of 10 gallons per acre.	
			A 5-day preharvest interval must be observed.	

CUCURBITS:

		Dos	age
Crop	Pest	Lb./AI/A	FI. Oz/A
Chayote (fruit)	Aphids	0.04 - 0.10	2.6 - 6.4
Chinese waxgourd (Chinese preserving	Cutworms		
Melon) .	Cabbage Looper		
Citron melon	Leafhoppers		
Cucumber	Cucumber Beetles		
Gherkin	Squash Bugs		
Gourd, edible (includes hyotan, cucuzza)	Armyworms		l
(Luffa spp.) (includes hechima,	Melonworm		
Chinese okra)	Pickleworm		
(Momordica spp.) (includes balsam	Plant bug		
apple, Balsam pear, bitter melon,	Stink Bugs		
Chinese cucumber)	Rindworm		
Muskmelon (hybrids and/or cultivars of	Squash Vine Borer		
Cucumis melo) (includes true	Corn Earworm		
cantaloupe, cantaloupe, casaba,	Tobacco Budworm	·	
Crenshaw melon, golden pershaw	Grasshopper		
melon, honeydew melon, honey balls,			
mango melon, Persian melon, pine-	Whitefly	0.08-0.10	5.12-6 <i>.</i> 4
apple melon, Santa Claus melon, and	Twospotted Spider Mite		
snake melon)	Carmine Mite		
Pumpkin (Cucurbita spp.)	Banks Grass Mite		
Squash, summer (includes crookneck	Lygus spp.		•
squash, scallop squash, straightneck	·		
squash, vegetable marrow zucchini)			
Squash, winter (includes butternut			
squash, calabaza, hubbard squash			
(C. mixta; C. pepo) includes acorn			
squash, spaghetti squash)			1
Watermelon (includes hybrids and/or			
varieties of Citrullis spp.)	·		
·			

Apply in a minimum of 5 gallons of finished spray per acre by air or in a minimum of 20 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 0.3 lb. active ingredient (19.2 ounces formulated) per acre per season.

Do not make more than two applications after bloom.
Do not make applications less than 7 days apart.
Do not apply within 3 days of harvest.

LETTUCE HEAD

LETTUCE, READ_				
	Dosage			
Pest	Lb./Al/A.	FI. Oz./A	Remarks	
Aphids Armyworms Cabbage Maggot Corn Earworm Cucumber Beetles Cutworms Diamondback Moth Flea Beetles Grasshopper Imported Cabbageworm Leafhoppers Loopers Salt Marsh Caterpillar Stink Bug Spp. Thrips Tobacco Budworm Whitefly	0.033 to 0.10	2.1 to 6.4	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. active ingredient may be applied per acre per season. Do not apply within 7 days of harvest.	
Lygus Spp.	0.08 to 0.10	5.12 to 6.4		

	Dosage		Dosage		
Pest	Lb./Al/A.	FI. Oz./A	Remarks		
Carmine Mite					
Two Spotted Spider Mite					

PEPPERS, BELL AND NON-BELL

		,	7.11.2 11.011 2222
	Dosage		
Pest	Lb./Al/A.	Fl. Oz./A	Remarks
Aphids	0.033 to 0.1	2.1 to 6.4	Apply using sufficient water to obtain uniform coverage.
Armyworms			Apply as needed. Apply with ground equipment using a
Corn Earworm			minimum of 10 gallons of finished spray per acre or a
Cucumber Beetles		ĺ	minimum of 2 gallons per acre by aircraft.
Cutworms			
European Corn Borer			Do not make applications less than 7 days apart.
Flea Beetles		i	
Leafhoppers			Do not apply more than 0.20 pound active ingredient per
Leafminers		1	acre per season.
Loopers			
Pepper Weevil	1		Do not apply within 7 days of harvest.
Stink Bug spp.			
Tobacco Budworm		1	
Thrips			·
Whitefly	0.00 +0.10	5.12 to 6.4	{
Lygus Spp. Broad Mite	0.08 to 0.10	5.12 10 6.4	
Carmine Mite			·
			·
Twospotted Spider Mite			

	SUCCULENT PEAS AND BEANS				
		Dos	age		
Crop	Pest	Lb./Al/A	FI. Oz/A	Remarks	
Pea (Pisum spp.): Dwarf pea Edible-pod pea English pea Garden pea Green pea Snow pea Sugar snap pea Pigeon pea Bean (Phaseolus spp.) Broadbean (succulent) Lima bean (green) Runner bean Snap bean Wax bean Bean (Vigna spp.)	Flea Beetle Grasshoppers Aster Leafhopper Leafhoppers 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	Dos Lb./AI/A 0.025 - 0.10 0.033 - 0.10		Remarks 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. active ingredient (12.8 ounces formulated) per acre per season. Do not apply within 3 days of harvest.	
Asparagus bean Blackeyed pea Chinese longbean Cowpea Moth bean Southern pea Yardlong bean Jackbean Soybean (immature seed) Sword bean	Alfalfa Caterpillar Cloverworm European Corn Borer Cutworms Western Bean Cutworm Corn Earworm Loopers Corn Rootworm Adult Thrips Webworms Pea Weevil Pea Leaf Weavil Whitefly				

		Dos	age	
Crop	Pest	Lb./Al/A	Fl. Oz/A	Remarks
	Banks Grass Mite	0.08 - 0.10	5.12 - 6.4	
	Twospotted Spider			•
	Mite			
	Carmine Mite	1	1	
	Lygus spp.	1		

EGGPLANT

	Dosage		_
Pest	Lb./Al/A.	Fl. Oz./A	Remarks
Colorado Potato Beetle Corn Earworm European Corn Borer Flea Beetle Cucumber Beetle Cabbage Looper Tomato Pinworm Tomato Hornworm Vegetable Leafminer	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.
Whitefly Armyworms Plant Bug Stink Bug Thrips			Do not apply more than 0.2 lb. active ingredient (12.8 ounces formulated) per acre per season. Do not apply within 9 days of harvest.
Banks Grass Mite Twospotted Spider Mite Carmine Mite Pacific Spider Mite Lygus spp.	0.08 - 0.10	5.12 - 6.4	

HOPS

HOPS				
	Dos	age		
Pest	Lb./Al/A.	FI. Oz./A	Remarks	
Aphids	0.06 - 0.1	3.8 - 6.4	Do not exceed 0.1 lb ai per acre per application.	
Armyworms				
Cutworms			Do not exceed 0.3 lb ai per acre per season.	
Leafrollers	ļ			
Loopers			A spray interval of 21 days between applications must be	
Root Weevils	0.05 - 0.1	3.2 - 6.4	maintained.	
			Add to see the section of section is	
			A 14-day pre-harvest interval must be observed.	
			Application by ground: For best results, full coverage	
Twospotted Spider Mite	0.1	6.4	is essential. Early season recommend 100-150 gallons of	
		·	spray per acre. Late season recommend 200-250 gallons	
·			of spray per acre.	
			or opidy por doro.	
	1	1	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.	
·				
		1	Use of ultra low volume (ULV) application on hops is	
		1	prohibited.	

TOMATOES (1 day phi)

Insects Controlled	Rate of Application	Mothed of Application
Aphids	2.1 – 5.2 fl. oz.	Method of Application Apply in water as necessary for insect control using
Armyworms, including:	(0.033 – 0.08 lb.	a minimum of 15 gallons of finished spray per acre
Beet Armyworm, Fall Armyworm,	active) per acre	with ground equipment.
Southern Yellowstriped Armyworm	active) per acre	with ground equipment.
Bean Leaf Beetle		Thorough coverse is constitute achieve control
Cabbageworm		Thorough coverage is essential to achieve control.
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 Spp.		
Melonworm		
Pea Weevil		
Pea Leaf Weevil		
Pickleworm		•
Plant Bug		
Rindworm		
Salt Marsh Caterpillar		
Sap Beetle		•
Seedpod Weevil		
Squash Bugs		•
Stink Bug Spp.		
Tobacco Budworm		
Tarnished Plant Bug		
Thrips		
Twospotted Spider Mite		
Whitefly	•	,
Do not make applications less than 10	dave anart	
Do not make applications less than 10	uuyo apart.	

SPINACH (40 day phi)

SPINACH (40 day pill)					
Insects Controlled	Rate of Application	Method of Application			
Colorado Potato Beetle Tomato Pinworm Tomato Hornworm Armyworms Corn Earworm Cucumber Beetles Cutworms European Corn Borer Flea Beetles Leafminers Loopers Pepper Weevil Thrips Whitefly	2.1 to 6.4 oz. (0.033 to 0.10 pound active) per acre	For control of Whiteflies apply foliar treatments of Tundra® insecticide 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. Do not apply within 40 days of harvest. For control of Fire Ants apply Tundra® insecticide 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. Do not apply within 40 days of harvest. Apply the specified dosage in 5-50 gallons of			
Broad Mite Banks Grass Mite Twospotted Spider Mite Carmine Mite Pacific Spider Mite	5.12 to 6.4 oz. (0.08 to 0.10 pound active) per acre	finished spray per acre by air or 10-50 gallons finished spray per acre by ground.			

Insects Controlled	Rate of Application	Method of Application
Lygus Spp.		
Fire Ants		
Do not make applications less than 7	days apart.	
Do not apply more than 0.4 pounds:	active ingredient per acre per se	eason

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