



PESTICIDE SAFETY

Labels, Applications, Drift, Spill Control, And All
Those Other Pesticide Related Nuances



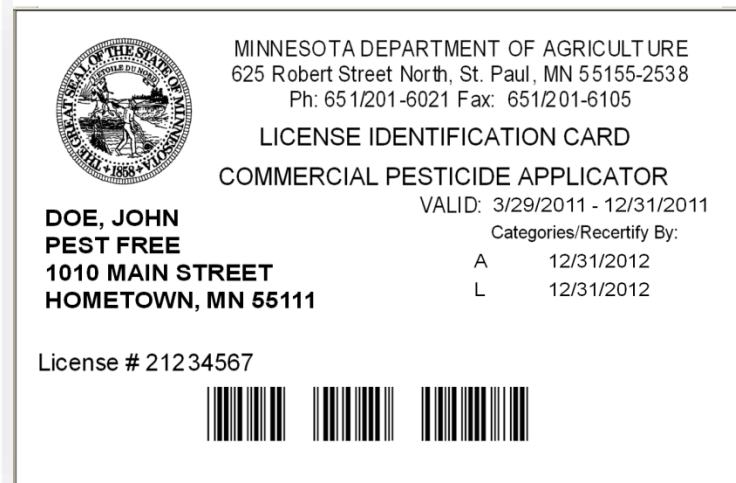
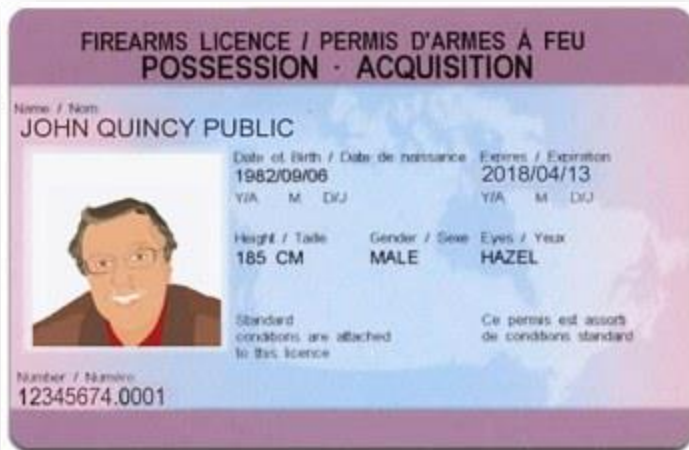
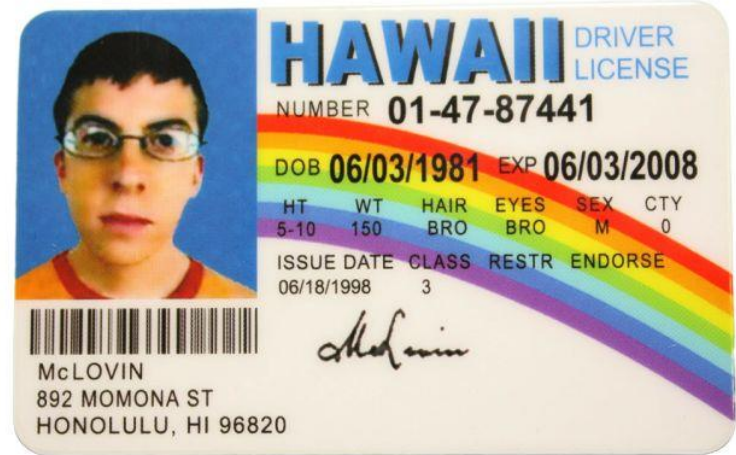
**THE LABEL
IS THE LAW!**



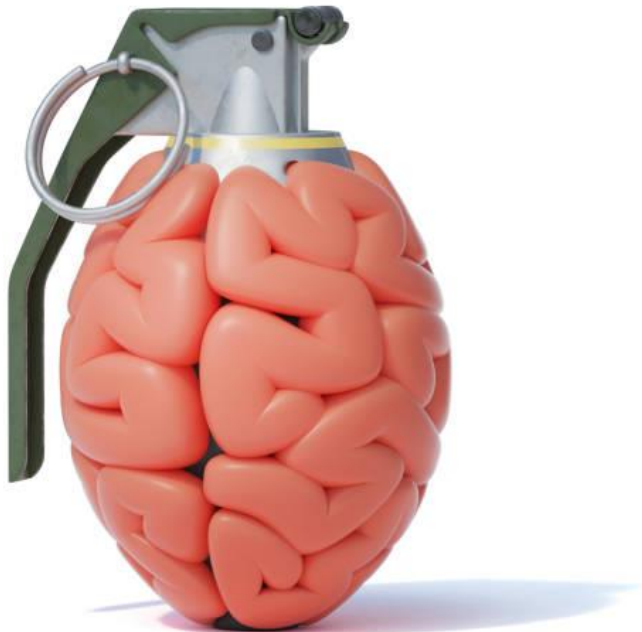
George Williams, ACE, PHE

Regional Manager – Public Health Entomologist

YOUR LICENSE, YOUR RESPONSIBILITY!



Common Sense
Is Not
On The Product Label

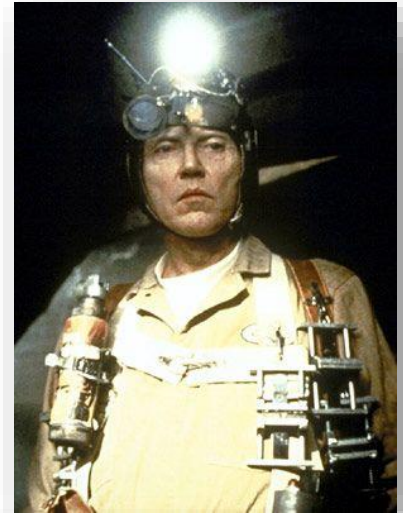
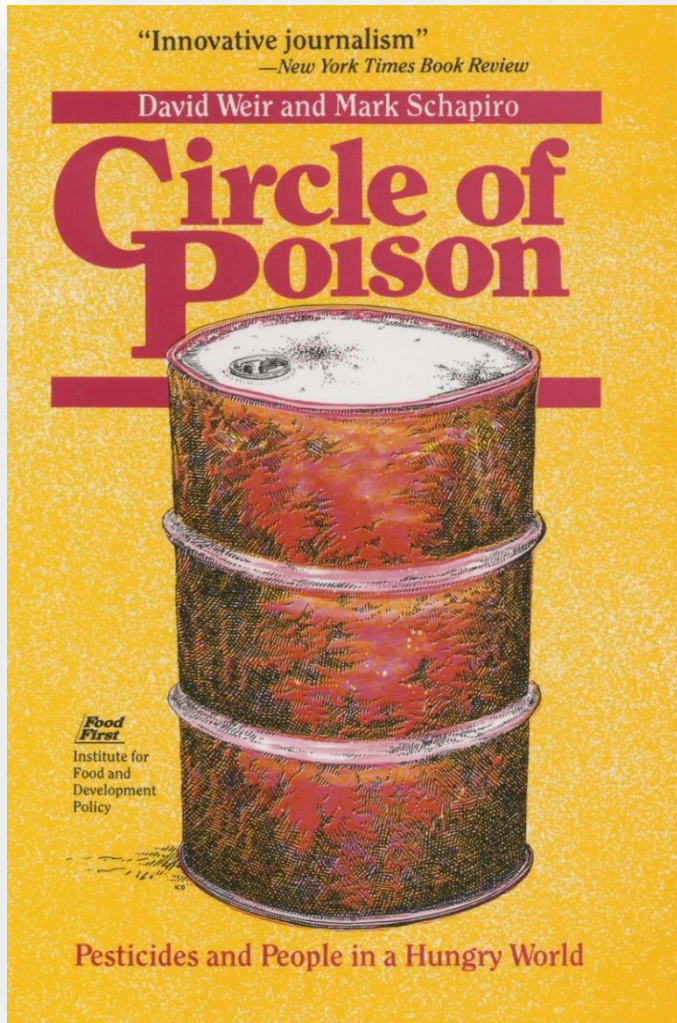


ATTRACTIVE NUISANCE

- In tort law.... Attractive nuisance is a dangerous condition in which a professional fails to safeguard materials and/or equipment that may particularly attract children and/or pets to the material/equipment and pose a risk to their safety.



PERCEPTION.....



How Hollywood & Mainstream Media Views Our Industry

POLLINATOR SAFETY - AWARENESS

- NPMA has pollinator health training for licensed applicators.



Pollinator Health

BEE AWARE. BE SAFE.



THE NEW EPA BEE ADVISORY BOX

On EPA's new and strengthened pesticide label to protect pollinators

PROTECTION OF POLLINATORS



APPLICATION RESTRICTIONS EXIST FOR THIS PRODUCT BECAUSE OF RISK TO BEES AND OTHER INSECT POLLINATORS. FOLLOW APPLICATION RESTRICTIONS FOUND IN THE DIRECTIONS FOR USE TO PROTECT POLLINATORS.



Look for the bee hazard icon in the Directions for Use for each application site for specific use restrictions and instructions to protect bees and other insect pollinators.

This product can kill bees and other insect pollinators.

Bees and other insect pollinators will forage on plants when they flower, shed pollen, or produce nectar.

Bees and other insect pollinators can be exposed to this pesticide from:

- Direct contact during foliar applications, or contact with residues on plant surfaces after foliar applications
- Ingestion of residues in nectar and pollen when the pesticide is applied as a seed treatment, soil, tree injection, as well as foliar applications.

When Using This Product Take Steps To:

- Minimize exposure of this product to bees and other insect pollinators when they are foraging on pollinator attractive plants around the application site.
- Minimize drift of this product on to beehives or to off-site pollinator attractive habitat. Drift of this product onto beehives can result in bee kills.

Information on protecting bees and other insect pollinators may be found at the Pesticide Environmental Stewardship website at:

<http://pesticidestewardship.org/pollinatorprotection/Pages/default.aspx>

Pesticide incidents (for example, bee kills) should immediately be reported to the state/tribal lead agency. For contact information for your state/tribe, go to: www.aapco.org. Pesticide incidents can also be reported to the National Pesticide Information Center at: www.npic.orst.edu or directly to EPA at: beekill@epa.gov

Alerts users to separate restrictions on the label. These prohibit certain pesticide use when bees are present.



The new bee icon helps signal the pesticide's potential hazard to bees.

Makes clear that pesticide products can kill bees and pollinators.

Bees are often present and foraging when plants and trees flower. EPA's new label makes it clear that pesticides cannot be applied until all petals have fallen.

Warns users that direct contact and ingestion could harm pollinators. EPA is working with beekeepers, growers, pesticide companies, and others to advance pesticide management practices.

Highlights the importance of avoiding drift. Sometimes, wind can cause pesticides to drift to new areas and can cause bee kills.

The science says that there are many causes for a decline in pollinator health, including pesticide exposure. EPA's new label will help protect pollinators.



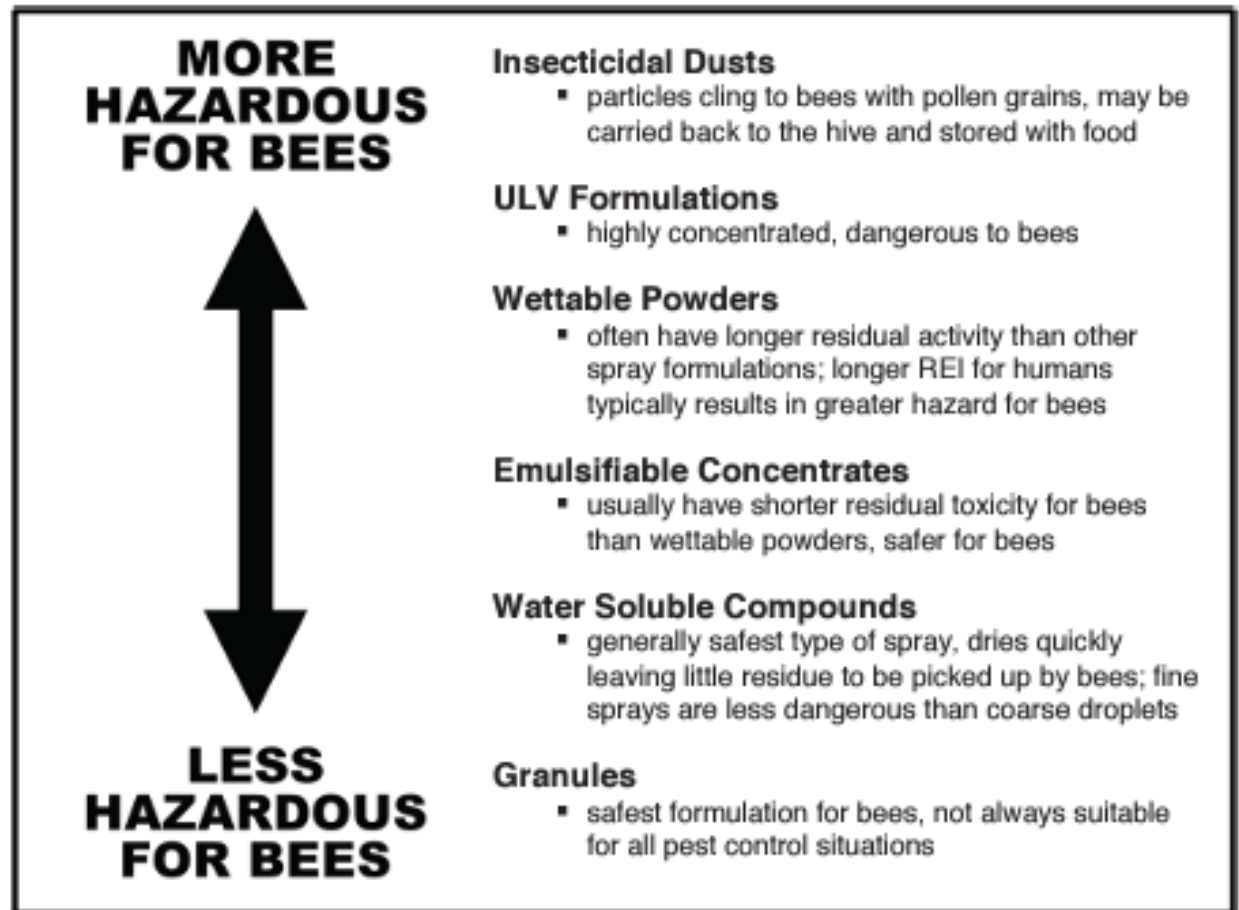
Read EPA's new and strengthened label requirements: <http://go.usa.gov/jHH4>

PESTICIDE RISKS TO BEES

HIGH RISKS

1. Neonics and non-repellent Ai's.
2. Treating flowers in bloom.
3. Drift → power + droplet size + height + wind.

FORMULATION FACTORS



*** Baits have the lowest possible risk.

*** 25b products will kill bees when wet! Workers Vs hive collapse.

LABEL APPLICATION DEFINITIONS

- **C&C (Crack & Crevice)**
- **Spot**
 - 2x2FT
 - Not to exceed 10sqft in total space
- **Surface**
- **Space – ULV**
- **Void**
- **Perimeter**
- **Band**
- **Hand Placed**



Other Treatment Areas And Concerns



NISUS
CORPORATION



Koi Ponds: Pyrethroids = instant fish kill!!



Decorative Retaining Walls = chipmunks = ticks



Treatment when flowers are in bloom will kill honeybees.

No matter what product you use!

- 25b products kill bees when wet, when dry the risk is reduced considerably.
- Best advice = Completely avoid treating blooming flowers!



NPMA offers FREE pollinator awareness training to all member firms



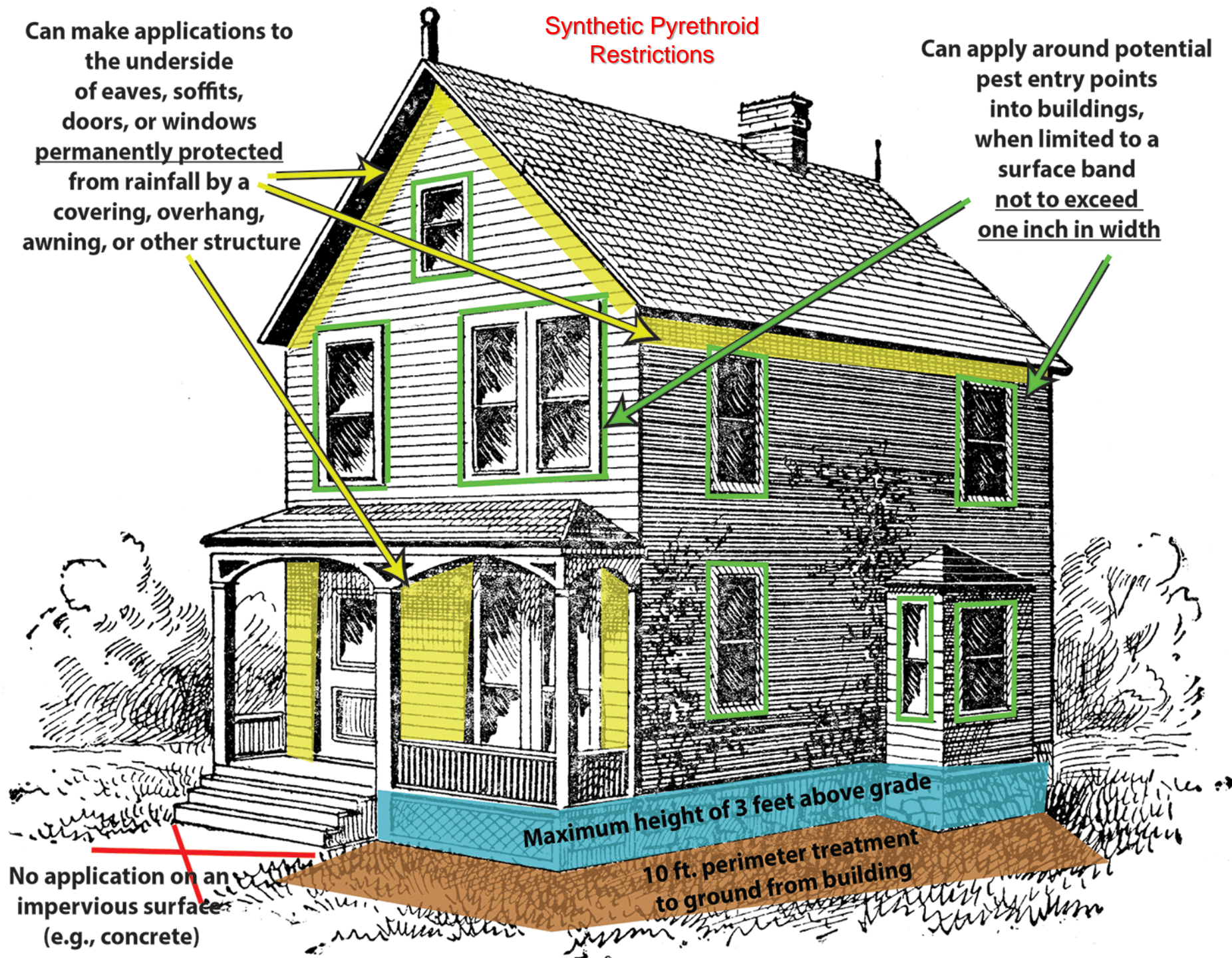
Pollinator Health

BEE AWARE. BE SAFE.

Can make applications to the underside of eaves, soffits, doors, or windows permanently protected from rainfall by a covering, overhang, awning, or other structure

Synthetic Pyrethroid Restrictions

Can apply around potential pest entry points into buildings, when limited to a surface band not to exceed one inch in width



Approved treatment zones

 Pyrethroids



Approved treatment zones

 25-b Products





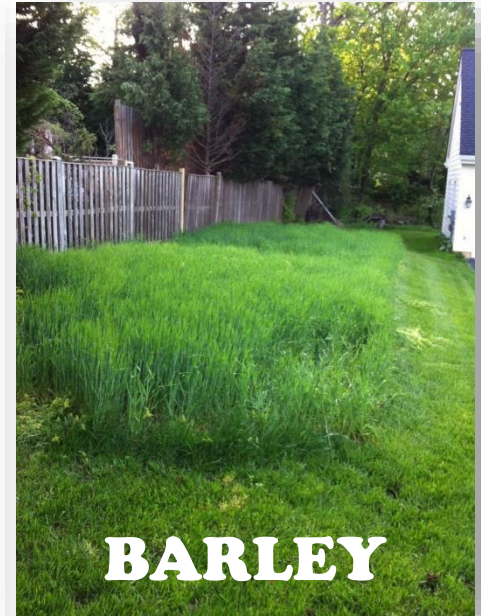
HEMP

MOSQUITO CONTROL

To control adult mosquitoes outdoors on residential, institutional, public, commercial and industrial buildings, and lawns, ornamentals, parks, recreational areas and athletic fields.

Apply Talstar® P Professional Insecticide for mosquito control at an application rate of 0.33 to 1.0 fluid oz. Talstar® P Professional Insecticide per gallon of water (0.07 to 0.22 lbs bifenthrin/acre), and apply at the rate of one gallon of dilution per 1,000 square feet as a general spray (refer to the Talstar® P Professional Insecticide Dilution Chart). Use the high rate for residual control of mosquitoes. Use this product for control of urban mosquitoes that may potentially transmit malaria and arboviruses (West Nile fever, dengue fever, Eastern equine encephalitis, and St. Louis encephalitis).

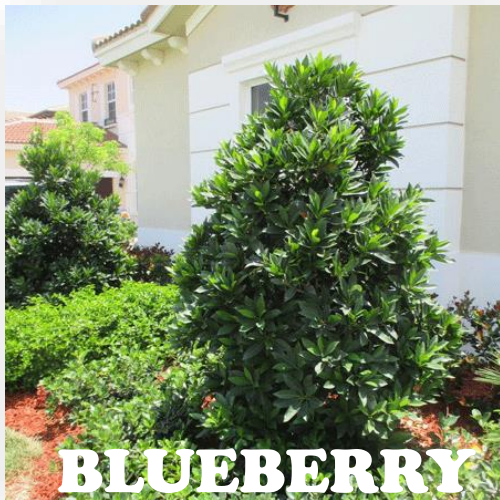
Apply as a residual spray to outside surfaces of buildings including but not limited to, exterior siding, foundations, porches, window frames, eaves, patios, garages, refuse dumps, lawns such as grass areas adjacent to or around private homes, duplexes, townhouses, condominiums, house trailers, apartment complexes, carports, fence lines, storage sheds, barns, and other commercial, residential and non commercial structures, soil, trunk of woody ornamentals, trees, shrubs, ground cover, bedding plants, foliage plants, flowers, non-bearing fruit and nut trees urban areas, parks, campsites, athletic fields, playgrounds, recreational and overgrown waste areas, roadsides and other areas where mosquitoes are found. May also be applied to non-bearing crops or perennial crops that will not produce harvestable raw agricultural com-



BARLEY

Not in bloom yet or just unknown.....

Very few applicators know these and/or are aware of them!



BLUEBERRY



APPLE



CHESTNUT

PROHIBITED PYRETHROID APPLICATIONS

- **Rain is underway or imminent.**
 - If the weather people can't predict rain, you think you can?!
- **Pooling-flooding in a yard.**
- **Visible drainage grate connected to drainpipe.**
- **Visible French drain, landscaped dry riverbed, swale or trench filled with gravel or rock.**
- **Perfect opportunity for Niban and Nibor (non-pyrethroid)**
 - Residual outperforms 25b granules by 1-2 months.
 - Significant cost savings Vs 25b granules, like 60%+



**Switch to the Granular Bait
that Can be Applied in
All Weather Conditions.**

Constructed Drainage Systems



25B PRODUCTS ISSUES

- Notoriously BRUTAL on equipment!
- As little as 2oz+ per 1gal H₂O will burn foliage & stain. It's oil based.
- Drift complaints are increasing when it is odor not spray.
 - Increased regulatory involvement
 - Several lawsuits have popped up as a result



**PIPERA
25lb**

WARNING

**“If you smell it....
it’s already in your body!”**

VERY COMMON TECHNICIAN MISTAKE



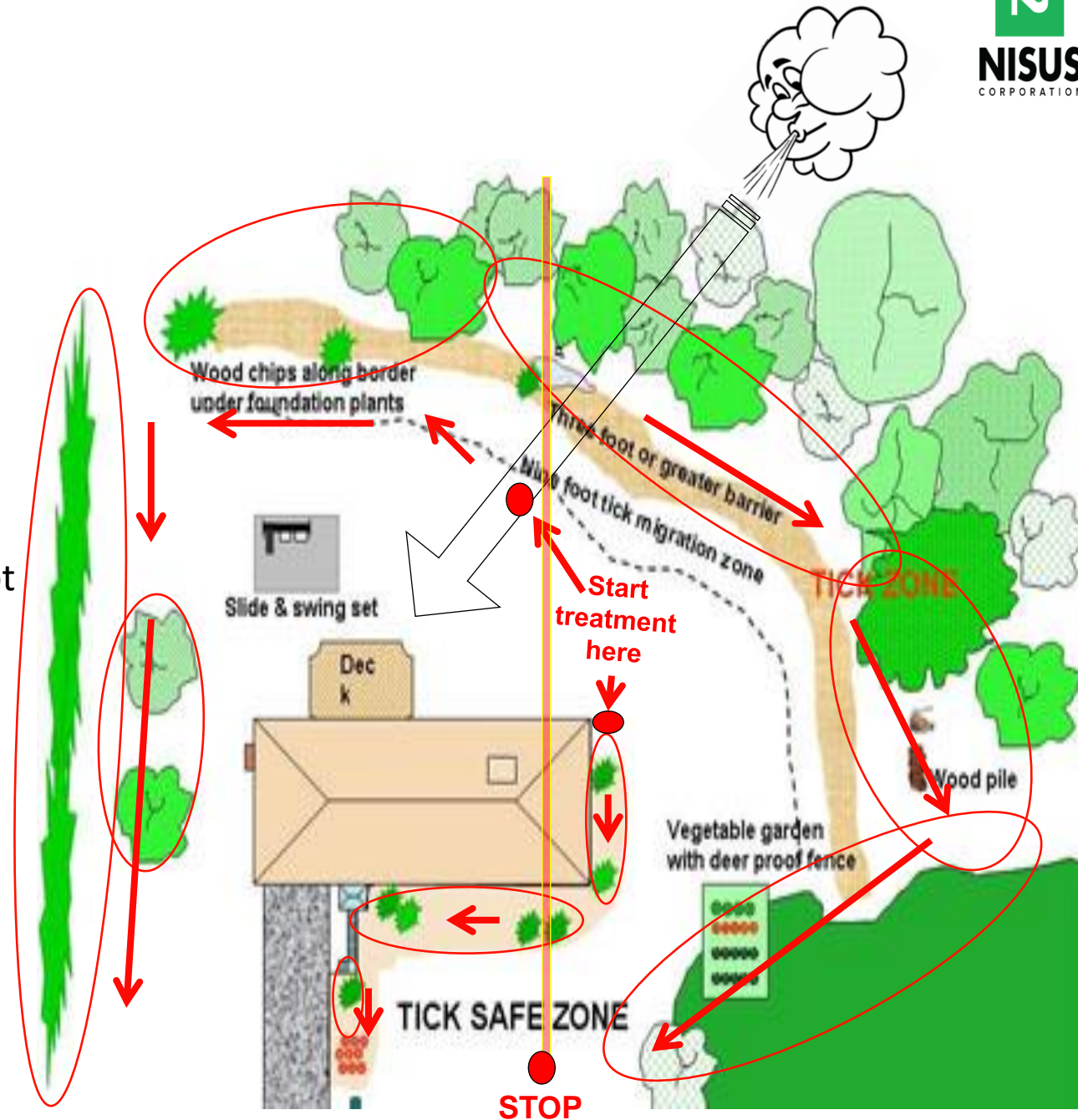
1. Techs fill mister with H₂O 1st.
2. Then they add in insecticide.
3. Put insecticide away then cover on mister & shake unit.
4. By then the insecticide has sunk all the way to tip thus 1st 2min of service is all concentrate AKA **misapplication!**

1. Fill mister with water.
2. Use a separate properly labelled mixing container for water-insecticide agitation.
3. Triple rinse.

CORRECT

YOUR TARGETED TREATMENT AREA

- Ticks “quest” on foliage looking for a host to brush into them.
- Mosquitoes rest before + after they feed. Ideal resting area is the underside of foliage.
- Mosquitoes & ticks do not prefer sunny, dry, well manicured areas of the property.
- **Treat with wind NEVER against it!** Start where wind enters property, do ½ the yard, stop go back to starting point & do the other ½ of property.



PPE AND WPS DON'TS



DRIIFT



FACT

- 80% of drift is caused by the applicator or the nozzle/pressure. **ALL** applicator factors!
- The remaining 20% is environment or unknown.



APPLICATION DRIFT FACTOIDS

- Misters on high produce droplets under 20-50 microns.
- A 100 micron droplet takes 11 seconds to fall from a height of 9.84FT with zero wind.
- With a 5MPH wind that same droplet will travel 24 YDS away.
- Drift is drift even with a 25-b product.
- How many applicators treat over 10-15FT & when wind exceeds 5MPH?
 - Mosquitoes rarely fly above 25FT high.
 - Ideal flight height is 1FT-15FT due to energy conservation (pre + post feeding strength)



DRIFT: WEATHER MONITORING

- Smartphone:
 - Temperature
 - Wind speed(s)
 - Wind direction
 - Relative humidity
- Visualize:
 - Flag direction
 - Should be higher flag Vs affixed to house
 - Chimney or other smoke
 - Leaves on trees
 - Clouds
- Record conditions on service record
 - Many states require this
 - May become a requirement everywhere



FIXING PARTICLE & VAPOR DRIFT

- Particle Drift = spray droplets during application
- Vapor Drift = Vapor pressure based on pesticide type
- Adjust your nozzle: Bigger droplets = less drift.
- Adjust your pressure: Low pressure = less atomization of droplets and pressure AKA fog/mist.
- Apply pesticides during low-no winds.
 - If winds go from 3MPH to 8MPH your drift increases by 70%
 - Mister on medium throttle: 12FT height application w/5MPH wind = 200-400FT drift
- Avoid applications when there is fog as this causes temperature inversion & pesticide hangs out longer + drifts.
- Hot weather increases drift
 - Vapor rising from ground and off objects takes your molecules with it.
 - Hot days + PM applications are most risky.
- The higher you treat the bigger the drift.

SPILL CONTROL KIT

- Rule #1 = ALL safety items have mandatory placements in vehicles!
- Spill control kit size is based upon service vehicle type.
 - 100gal termite rig or 1-4gal sprayer-backpack volume?
- Kits vary;
 - EZ Sorb
 - Spill sock/dike
 - Spill Tray
 - Drain Seal Mat
 - PPE
- Procedure protocol in numbered step by step instructions.. REACT



IF A SPILL HAPPENS... REACT

R

RESPOND *Safely to injuries & hazards*

E

EVALUATE *The nature of the spill (What/Where/How)*

A

ALERT *Supervisor, 911, spill hotline, pesticide bureau*

C

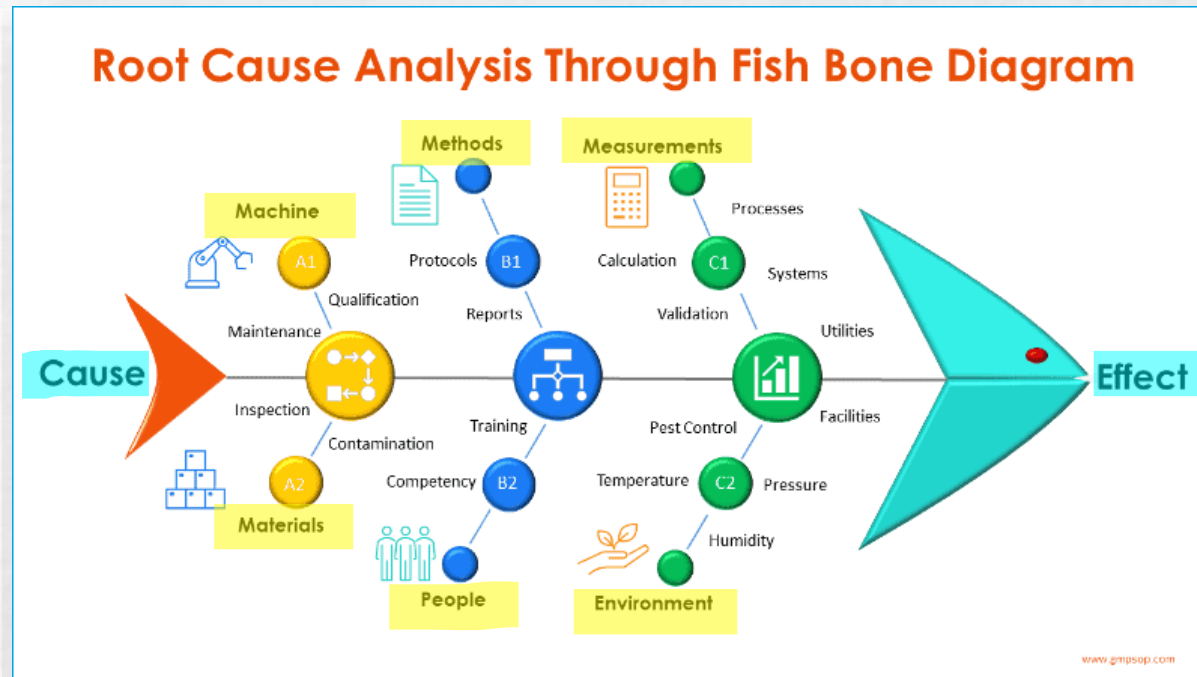
CONTAIN *The spill if safe to do so (spill kit materials)*

T

TAKE *Notes & document if safe to do so (photo's too)*

RCA Incidents (*Root Cause Analysis*)

DMAIC Incidents (*Define Measure Analyze Implement Control*)



- Incident Tracking
- Incident Risk Assessment
- Employee Training
- Employee Qualifications
- Action Item Tracking
- Worksite & Equipment Inspections
- Safety Management-Training

Labels are not perfect.....

VIPER RTU

READY-TO-USE INSECTICIDE

- With Country Fresh Fragrance
- Provides 60-Day Control of Fleas, Cockroaches and **Stored Product Pests**
- For Control of Fleas, Brown Dog Ticks and Lice on Premises and on Dogs
- For Control of Pests on Livestock

ACTIVE INGREDIENT:
Permethrin (CAS #52645-53-1).....0.25%

OTHER INGREDIENTS:.....99.75%

TOTAL:.....100.00%

Cis/trans ratio: min. 35% (+/-) *cis* and max. 65% (+/-) *trans*.

EPA Reg. No. 4-393-53883 EPA Est. No. 53883-TX-002

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

See Inside Booklet for Additional Precautions.

A **CONTROL SOLUTIONS INC.** PRODUCT

NET CONTENTS: 1 GALLON

READ ENTIRE LABEL BEFORE EACH USE.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Wash thoroughly after handling and before smoking or eating. Avoid contamination of feed and foodstuffs. Remove pets and birds and cover fish aquaria before surface applications. Do not use on humans. Do not allow children or pets to contact treated areas until surfaces are dry.

Sensitivities may occur after using ANY pesticide product for pets. If signs of sensitivity occur, bathe your pet with mild soap and rinse with large amounts of water. If signs continue, consult a veterinarian immediately.

APPLICATION DIRECTIONS:

For house mice use the rate of 1 oz powder per 2.5 sq. ft. of runway area. For Norway and roof rats use at the rate of 2 oz powder per 2.5 sq. ft. of runway area. Apply the powder into the rodent burrow or holes or within walls with a hand bulb or similar duster. Do not use power dusting devices. Sprinkle the powder in patches in such a manner as to expose the rodents to it. Patch size may be (but not limited to) 6 inches x 12 inches and should be adapted to each situation. **For burrows that are located along the periphery of buildings and that are likely to serve as routes of entry into these structures,** place about 5 grams of tracking powder in each burrow with foot-pump duster (about 15 pumps). Close burrows with soil, loose leaves or paper. Repeat treatment if burrows are reopened.

Maintain powder in treated areas for at least 20 days. **Collect and dispose of all dead animals and used powder properly.**

Repeat treatment when infestation recurs. Where a continuous source of infestation is present, establish permanent tracking powder stations and replenish the powder as needed.

MEN LABEL

ARY STATEMENTS

S AND DOMESTIC ANIMALS

ARNING

thoroughly with soap and water after
noking. This product can be absorbed
and gloves when applying or handling
umans, domestic animals or pets.

ested, administer Vitamin K₁ intra-
ed in bishydroxycoumarin overdoses.
monitoring of prothrombin times.

ENTAL HAZARDS

Keep out of lakes, streams or ponds.

AND DISPOSAL.

E WATER, FOOD OR FEED BY OR DISPOSAL

container in a cool, dry place
ts.

resulting from the use of this product
at an approved waste disposal facility.

rinse (or equivalent). Then offer for
puncture and dispose of in a sanitary
allowed by state and local authorities,

RESTRICTED-USE PESTICIDE DUE TO HIGH ACUTE TOXICITY

For retail sale to and use by Certified Applicators or persons
under their direct supervision and only those uses covered
by the Certified Applicator's Certificate.



FOR INDOOR USE ONLY

Active Ingredient:

2-[(p-Chlorophenyl) phenylacetyl]-1,3-Indandione . . . 0.2%

Inert Ingredients 99.8%

Total: 100.0%

*Chlorophacinone-Liphadione

DIRECTION

It is a violation of Federal law
inconsistent with its labeling.

USE RESTRICTIONS: Use against
rnice inside of homes, industrial and
manmade structures. Rozol Tracking
rat burrows that are located along
are likely to serve as routes of en-
powder must be placed in location
domestic animals or wildlife. Do not
is a possibility of contaminating fo-
contact with food. Do not place near

SELECTION OF TREATMENT AREA

and mice will most likely pick up t-
ingest it during grooming. General
gnawed openings and burrows, in-
spaces between floors and walls, or
signs have been observed. Remove
and place on skids. Use boxes or c-
travel through constricted areas. Gi-
ability of roof rats. For this species
wooden tunnels securely attache-
surfaces where rats will pass. Emp-
spillage of powder through the end

APPLICATION

For house mice use the rate of 1

PRE-POST DEMOLITION SITE?



USE RESTRICTIONS: This product may only be used to control the following rodent pests in and around man-made structures: House mouse (*Mus musculus*), Norway rat (*Rattus norvegicus*), Roof rat (*Rattus rattus*), Cotton mouse (*Peromyscus gossypinus*), Cotton rat* (*Sigmodon hispidus*), Deer mouse (*Peromyscus maniculatus*), Eastern harvest mouse* (*Reithrodontomys humuli*), Golden mouse* (*Ochrotomys nuttalli*), Polynesian rat* (*Rattus exulans*), Meadow vole* (*Microtus pennsylvanicus*), White-footed mouse (*Peromyscus leucopus*), White-throated woodrat* (*Neotoma albigula*), Southern plains woodrat* (*Neotoma micropus*), and Mexican woodrat* (*Neotoma mexicana*). This product must be used in and within 100 feet of man-made structures constructed in a manner so as to be vulnerable to commensal rodent invasions and/or to harboring or attracting rodent infestations. Examples of such structures include homes and other permanent or temporary residences, food processing facilities, industrial and commercial buildings, trash receptacles, agricultural and public buildings, transport vehicles (ships, trains, aircraft), docks and port or terminal buildings and related structures around and associated with these sites. Fence and perimeter baiting, beyond 100 feet from a structure as defined above, is prohibited. This product must not be applied directly to food or feed crops.

THANK YOU!



NISUS[®]
CORPORATION



Scan My Business Card