

Pesticides and the Environment

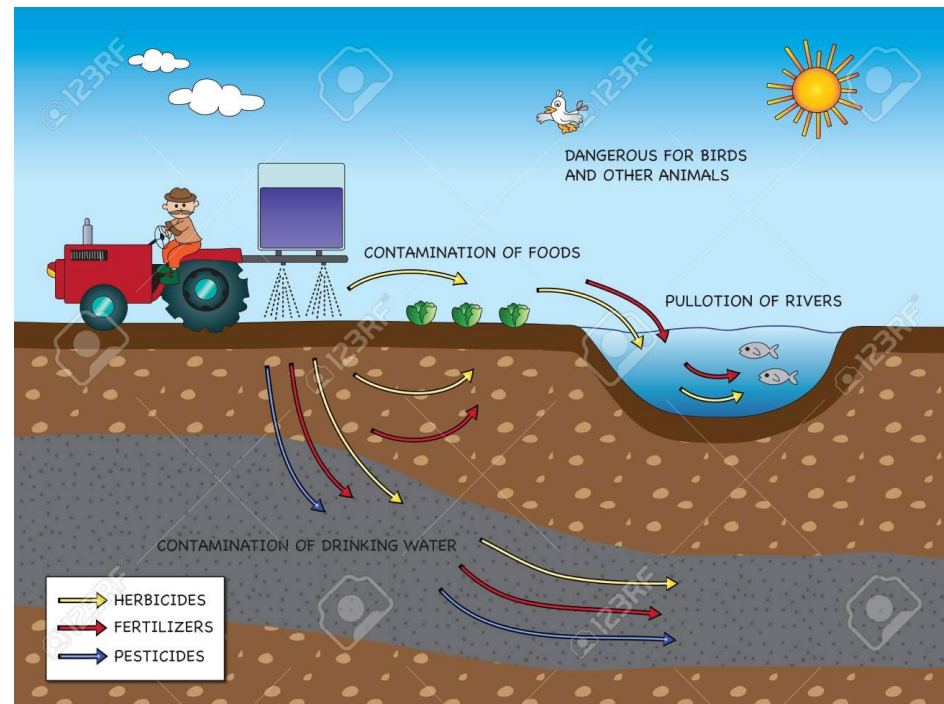
Presentation by Grant Peeling
CAP-RCP Rat Control Technical Advisor

Outline

What will be discussed within this webinar:

- Environmental contamination from pesticides and baits
- Ways Pesticides can move in the environment
- Pesticide Toxicity
- Rat Control Program refresher

- We have an impact on the environment in pretty much all that we do.
- The environment consists of air, water and ground soil.





Points to Remember

When we are using a pesticide things to think about are:

1. Are we going to contaminate the groundwater?
2. Is there going to be air pollution from what we are doing?
3. Is it going to pollute a feed source by putting loose bait in a grain bin or bale stack?





Contamination

- Contamination is putting loose bait in a grain bin without controlling access

Examples:

- throwing it in a grain bin without using a bait station
- putting pelleted bait in a bale stack that can be moved and stored in one place by the rodents

Contamination

- Bait movement should be restricted by a bait station or Block Bait being tied down with a wire or nailed to a board.
- Another way to cause contamination is by baiting close to a water source.





Ways Pesticides Move

The pesticide in bait can be:

- absorbed by the soil around the bait
- runoff water can pollute surface bodies of water and run into wells
- This is called leaching when pesticides move sideways, up, or down within the soil

Secondary Poisoning

- Always try to minimize secondary poisoning when a non-targeted animal or bird dies from eating a dead rodent that has been poisoned
- It means removal of dead rodents as much as possible is very important.



When Using A Pesticide

- Always read the label to make sure you know what the pesticide is registered for and what the rate of application is.
- You always need to use the pesticide or rodenticide that is registered for that use.
- If the use is not on the label, do not use the pesticide.
- Double check the pesticide use online or within the crop protection guide.

2011-11-03

RATAK+® RODENTICIDE MINI-PELLETS

COMMERCIAL

FOR MICE AND RATS

GUARANTEE:

Brodifacoum 0.005%

**READ THE LABEL AND PAMPHLET BEFORE USING
KEEP OUT OF REACH OF CHILDREN****WARNING****POISON**

Warning, contains the allergen wheat.

Only to be used by certified pest control operators, farmers and persons authorized in government-approved pest control programs. For indoor use only.

REGISTRATION NO. 17354

PEST CONTROL PRODUCTS ACT

NET CONTENTS: 400 g - 10 kg (50 g Place Packs)

PRECAUTIONS FOR HANDLING BROKEN CARTONS

1. Prevent inhalation, skin and eye contact: wear rubber gloves, boots, safety goggles and NIOSH approved pesticide respirator.
2. Place damaged unit so further leakage is minimized. Cover spilled material and area around damaged unit with heavy absorbent and plastic sheeting to prevent dusting and blowing.
3. IN CASE OF EMERGENCY INVOLVING A MAJOR SPILL, FIRE OR POISONING, CALL 1-800-327-8633 (FASTMED)

Syngenta Crop Protection Canada, Inc.

140 Research Lane, Research Park

Guelph, Ontario N1G 4Z3

Telephone: 1-877-964-3682

shipping carton

RATAK+® is a trademark of a Syngenta Group Company.

LD50/LC50

- The LD50 of a pesticide is the dose of a substance that is the lethal for 50% of the animals in the test group within a certain time period.
- The LC50 is the concentration of a chemical in the air or water that can kill 50% of the test animals in a single exposure.



Pesticide Movement

- When applying a pesticide the movement of pesticide vapors in the air is known as spray drift.
- Spray drift can contaminate a nearby body of water and if it is an open body of water, drift can also contaminate the water down the stream.



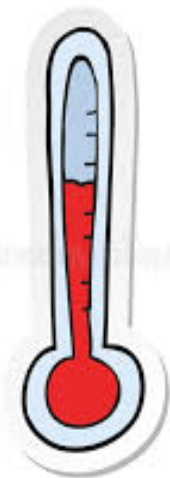
Half-life

- When applying a pesticide it is important to know what the half-life of the pesticide is.
- A long half life will have residual effects when applied.



Weather Factors

- The temperature can play into the equation as you get more evaporation on a hot day than a cool day.
- The wind can also be a factor.
- If you apply a rate greater than recommended on the label, you can wind up with soil contamination which can lead to poisoning of a non-targeted animal.



Integrated Pest Control

System consists of:

- Identify problem areas by inspection
- Identify the food source
- Choose the bait with the food source in mind
- Choose placement of bait
- Commence baiting

Things To Think About

- When rodent signs are found or rodents are seen, check the area for their food source, for moisture conditions and where to place the bait.
- The placement of the bait is very important, for it must be placed as close to the runs or paths as possible.
- I have seen landfills baited along the fence and nothing placed in the garbage where the activity was.

- Another complaint is that the bait is no good. But the bait was in front of a granary when the rats were under the pile of old posts and junk piled up behind the bin. Therefore place the bait where the rats are.
- The common active ingredients in rodenticides are classified as first or second generation with second generation only needing one feeding to kill rodents in 3-7 days.

Types of Bait

Bait comes in various forms and bait choices must always be made according to moisture conditions and the food source.

There are six basic types of bait:

1. Meal or Cereal Baits: are the most palatable but they readily take on moisture.
2. Pelleted Baits: are more weather resistant and tend to overcome some of the taste aversions associated with some active ingredients, but the rodent will carry the pellets to a storage place for later use when their regular food is gone.

3. Whole Grain Baits: have a fair resistance to moisture and work well as they closely match the regular food.

4. Parraffinized Baits: are ideal for high moisture areas. Some have a very high wax content and are not affected by water, so they remain palatable to rodents for a long time. However they have a slower knockdown time.

5. Powdered Baits: have no resistance to moisture.

6. Water Baits: can be very effective. Rodents take water from familiar sources before they will try dry food.

- Remember to keep the bait fresh since rodents are finicky; they will not take moldy, rancid, contaminated or especially, insect-ridden baits.
- Even through the same active ingredient is found in more than one brand, at each site rodents prefer some products over others based on what the food source is.

The ideal rodenticide should have the following properties:

1. The stuff has to work. Many products have a problem with taste, and no one product is the best at each site.
2. It should be selective to each rodents, for it gives a margin of safety.
3. The formulation needs to be less attractive to non-target animals. Grain-based baits are not very attractive to dogs and cats. On the other hand, pelleted baits are like pet food. The pellets are easily carried to unprotected places by the rodents.
4. The product should be low hazard to non-target animals.
5. Ideally there should be no resistance to the product. But in practice, rodents do keep ahead of this one.

6. Painless action is an ideal property that we are looking for rodenticides.

7. The ideal rodenticide needs to quickly breakdown because rodents are at the top of the food chain. The length of time it takes for a rodenticide to be broken down directly affects the length of time non-target animals need to be treated.

For example: Warfarin: 7-10 days

Chlorophacinone, Diphacinone, Bromadiolone: 30 days

Brodifacoum: minimum 30 days, but longer may be required


8. There should be no plant uptake.

9. There needs to be an antidote.

10. The products must be economical to use.

Door Hangers

- Door hangers are used for identification or to leave on the door if no one is home.
- The hanger should have your name on it and any instructions that you would have for them.

<p>Your PCO Called</p>  <p>eraticate</p>	<p>Instructions</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <p>Your PCO is</p> <p>Name <hr/></p> <p>Address <hr/></p> <p>Phone <hr/></p>
---	--

Warning Rat Poison Sign

- These should be on the outside of the building where the bait has been placed.
- The name of the bait, the PCP number and quantity need to be filled out along with the PCO officers name and telephone number.



WARNING

Rat Poison Do Not Handle

This bait station contains:

Rodenticide Active Ingredient	P.C.P. Number	Quantity	
		Dry Bait	Liquid Bait
<input type="checkbox"/> Chlorophacinone (Rozol)	_____	_____	_____
<input type="checkbox"/> Diphacinone (Ramik, Diphacin)	_____	_____	_____
<input type="checkbox"/> Bromadiolone (Bromone, Maki)	_____	_____	_____
<input type="checkbox"/> Brodifacoum (Ratak, Talon)	_____	_____	_____
<input type="checkbox"/> Other (Warfarin)	_____	_____	_____

PRECAUTIONS

All of these products may be harmful or fatal if swallowed. Keep away from humans, fowl, livestock, pets, and wildlife. Wash hands after handling bait. Keep out of lakes, streams, or ponds. Do not store near food or feed. Not to be used in areas where food may be exposed.

FIRST AID

The contents are anti-coagulant chemicals when, if accidentally eaten, may reduce the clotting ability of the blood and internal hemorrhage may result. If ingestion is suspected, insert a finger into the throat of the patient to cause vomiting. Call a physician immediately and give the name of the poison and its PCP number as noted above.

IMPORTANT — RAT POISONS ALONE WILL NOT RID YOUR PROPERTY OF RATS. CLEANLINESS, HARBOURAGE REMOVAL AND BUILDING MAINTENANCE MUST ALSO BE PRACTICED.

For further information, contact:

Pest Control Officer _____

RM: _____ Telephone No. _____

Inspection Dates _____



Rat Infestation Report

Information needed on report:

1. RM Name and number, plus date.
2. Land location (only need the home quarter).
3. Type of operation.
4. Type of contact.
5. If you cannot get the owner to sign the reeve or administrator can sign it.

Rat Infestation Report

RM of _____ No. _____ Date: _____

Name of Owner/Occupant: _____ Phone: _____

Address: _____

Land Location: Qtr _____ Sec _____ Twp _____ Rge _____ West of _____
Qtr _____ Sec _____ Twp _____ Rge _____ West of _____
Qtr _____ Sec _____ Twp _____ Rge _____ West of _____

This was inspection number

1 2 3 4 5 (in this year)
□ □ □ □ □

All lands owned/controlled by above named owner _____

Type of Operation: ☐ Agricultural
☐ Residential
☐ Industrial
☐ Waste Disposal Site
☐ Other

Type of Contact: ☐ Personal
☐ Telephone
☐ No Contact

Comments: _____

Progress Since Last Visit: _____

Rodenticides Issued ☐ Or Recommended ☐ Or Placed By Occupant ☐ Fee For Service

Formulation	Product Name	(packet size)	x	(no. of packets)	=	Quantity	Cost	Service Fee	Paid
•Meal/Pellets (packets)	_____	_____	x	_____	=	_____	_____	_____	<input type="checkbox"/> Y <input type="checkbox"/> N
(packets)	_____	_____	x	_____	=	_____	_____	_____	<input type="checkbox"/> Y <input type="checkbox"/> N
•Meal/Pellets (bulk)	_____	_____	x	_____	=	_____	_____	_____	<input type="checkbox"/> Y <input type="checkbox"/> N
•Water Soluble	_____	_____	x	_____	=	_____	_____	_____	<input type="checkbox"/> Y <input type="checkbox"/> N
•Parafinized blocks	_____	_____	x	_____	=	_____	_____	_____	<input type="checkbox"/> Y <input type="checkbox"/> N
•Other	_____	_____	x	_____	=	_____	_____	_____	<input type="checkbox"/> Y <input type="checkbox"/> N

I certify that I have received instructions from a Pest Control Officer, appointed under *The Pest Control Act*, in the proper and safe handling of the above rodenticides, fully realizing the dangers and implications which may result from careless handling of same; and I authorize the Pest Control Officer to place rodenticides as required on the property described above;

Total _____

Signature of Occupant _____
(or Reeve/Administrator)

PCO Signature _____

Make sure to check All Lands Owned/ Controlled by above owner. Then when you find rodents on a far away sight you can bait the site. If you do not have the report signed by the owner you need to back away until you have it signed.

PCO Inspection Report

- This gives the information that is required for the grant.
- The main information we need for the grant is the number of vacant or occupied sites and the infestation index.

0-Rat Free

1-Infested= To mark down when you see rats or fresh signs (you are 100% sure you have seen signs of rats)

2.Preventative Baiting=to be used on all sites where there are no fresh sign (you do not need to be sure if rats are present, but you put out bait anyway)

PCO Inspection Report

Date (Day)	Name (Occupant, company or site)	Vacant or Occupied	Location (Twp-Range)	Comments – If necessary (Cooperation, progress, recommendations)	Infestation Index 0 – Rat free 1 – Infested 2 – Preventative Baiting	Rodenticides Issued by PCO		
						Warfarin Dry Bait (kg)	Product (kg)	Product (kg)
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
Total								

Signature of PCO _____

Signature of RM Official _____

Rat Control Claim Form

Things you need to fill out:

1. RM Name and Number
2. Your name and License Number
3. Occupied Sites
4. Vacant Sites
5. Total Sites
6. Total Active Infestations

-Only sites with fresh signs or sightings.

-Not all sites baited.

PART 1 - APPLICANT

RM/FNB _____ No. _____

PART 2 – PEST CONTROL OFFICER/APPLICATOR INFORMATION – LICENSES MUST BE VALID FOR SERVICE PERIOD IN 2020

RM Appointed Pest Control Officer NAME: _____

Pesticide Applicator NAME: _____ LIC # _____

PART 3 – FIELD INSPECTIONS

OCCUPIED Sites Inspected: _____

VACANT Sites Inspected: _____

Total Active INFESTATIONS: _____

TOTAL Sites Inspected 2020: _____

Total of ALL INSPECTIONS 2020: _____

PART 4 – FINANCIAL VERIFICATION – ATTACH VALID INVOICES FOR ALL AMOUNTS CLAIMED BELOW

COST of BAIT Free to Ratepayers in 2020		<input type="checkbox"/> Invoices Attached
PCO/Applicator Expenses (training, wages, contract fees, travel, rat control supplies, etc.)		<input type="checkbox"/> Invoices Attached
OTHER – Details _____		<input type="checkbox"/> Invoices Attached
TOTAL		

PART 5 – CERTIFICATION

I certify, by signing this form, that the base level of service outlined in the CAP-RCP Program Guidelines has been met for the 2020-2021 program year in the municipality indicated at the top of this form.

Signed this _____ day of _____, 20____, by _____
(Administrator Name)

FOR SARM USE ONLY

REBATE PAID: _____

DATE: _____

(Administrator Signature)

AUTHORIZED BY SARM: _____

Tier 1 Bait Station



