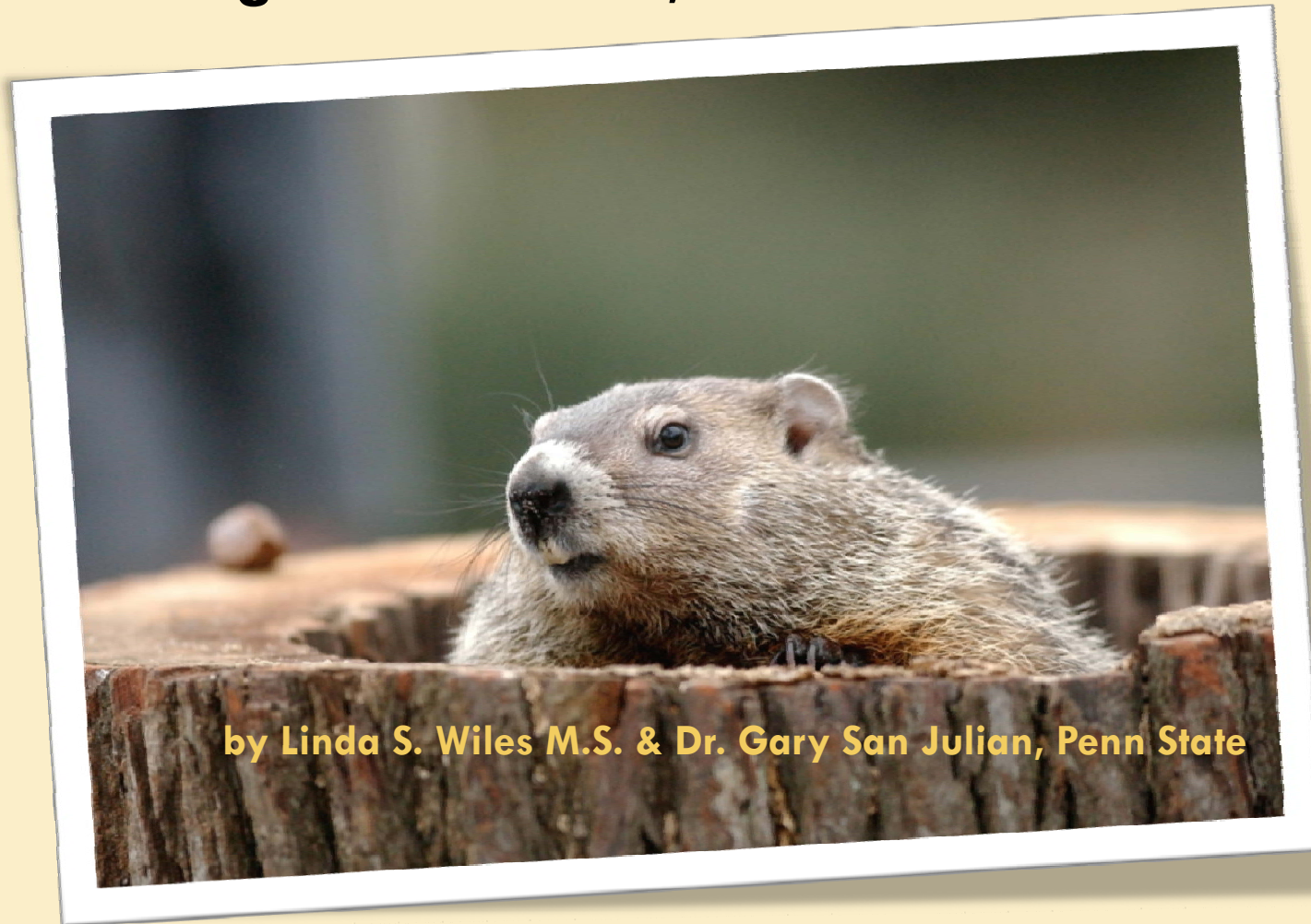


Gardening with Wildlife

Groundhogs – The Good, the Bad and the Funny



by Linda S. Wiles M.S. & Dr. Gary San Julian, Penn State

Who's There – *Marmota monax*

- *Marmota monax*
- Groundhog
- Woodchuck
- Whistle Pig
- Field Bear
- Siffleur
- Wenusk



Jake Dingel/PGC Photo

About Groundhogs - Biology

- Length – 16-20” long
- Weight – 5-10 #s
- Color – most brown shades
 - White fur – albino
 - Black fur - melano



<http://thundafunda.com/33/animals-pictures-nature/dinner-salad-woodchuck-pictures.php>

About Groundhogs - Biology



Photo: "Wiarion Willy", Wiarion, Ontario, CANADA
<http://wiarionwillys.com/pic/10.jpg>



Photo: Baby melano groundhogs, Hoghaven Blog,
http://3.bp.blogspot.com/_i_r2IFVx75s/RapFGlxy3zl/AAAAAAAAACE/G8loqBsLY4s/s320/00blkgh.jpg

Popular Groundhogs

- Punxsutawney Phil
 - Groundhog Day – February 2
 - Thought of spring or 6 more weeks winter
 - Started in 1887
 - 125th prediction in 2011
 - To 2009, 98 shadows, 15 none, 10 not recorded
 - Own website
 - www.groundhog.org



<http://www.groundhog.org/fileadmin/templates/images/rotator/phil-no-shadow-2011.jpg>

Popular Groundhogs

- Gus
 - ▣ PA Lottery
“spokesanimal”
 - ▣ Can even create a
2011 calendar with
photos of you & Gus
 - ▣ <http://www.palottery.state.pa.us/>



<http://www.palottery.state.pa.us/>

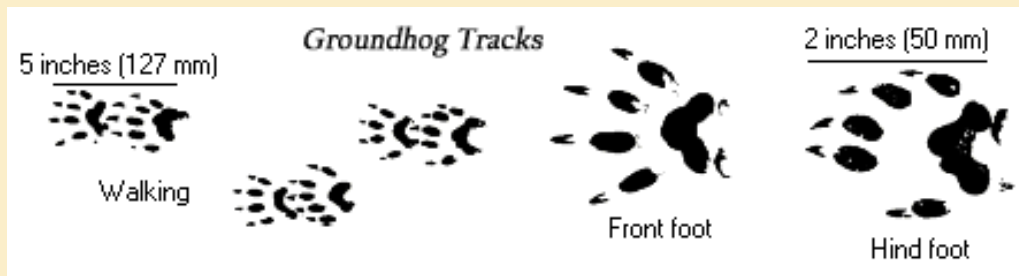
About Groundhogs

- Legal
 - ▣ Game, “No closed season”
 - ▣ No limit on the number that can be harvested per hunter
 - ▣ Trapping – use box traps
 - Euthanize OR
 - Release on own property



Groundhog Clues - Tracks

- Scatter flour by den and check tracks

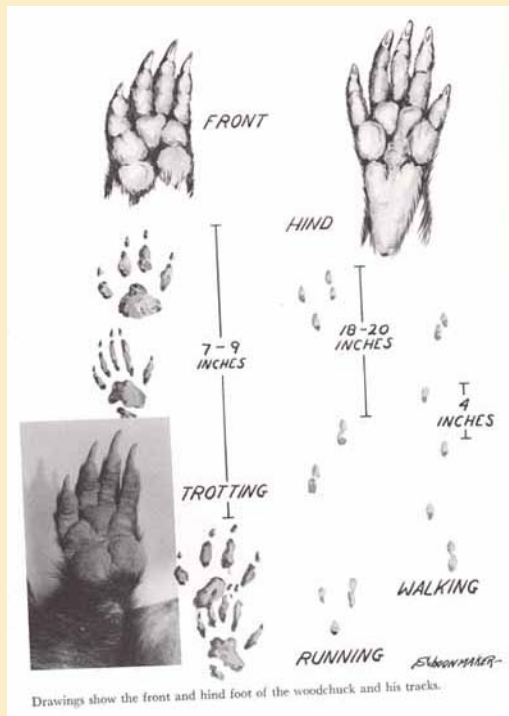


<http://www.outwitcritters.com/images/groundhog/tracks.gif>



<http://www.dnr.state.oh.us/LinkClick.aspx?fileticket=50N2uFhdkHI%3d&tabid=6958>

Groundhog Clues – Tracks & Patterns



- Very fleshy paws
- Long, strong nails for digging
- Most of hind foot does not usually appear in tracks

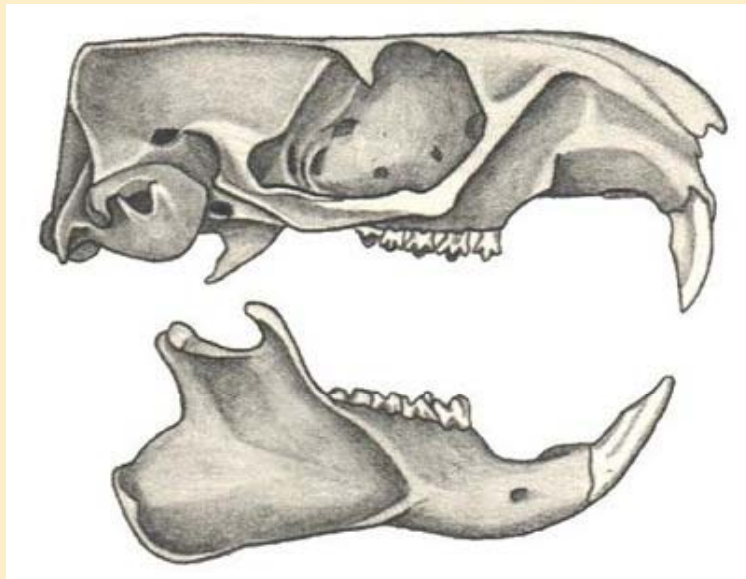
Groundhog Clues - Droppings

- Groundhogs have underground toilet chambers
- Droppings above ground very rare



<http://t0.gstatic.com/images?q=tbn:ANd9GcTlyKsAhzKfS6camKLPgVTbV8zG7FVLu7q4S0YLT14dlseItrIJOg>

The Need to Eat Often



- They are rodents
- Need to wear down teeth as these constantly grow
- Chewing helps to keep teeth usable

Photo: Smithsonian, Alicia V. Linzey
[http://www.mnh.si.edu/mna/full_image.cfm?
image_id=298](http://www.mnh.si.edu/mna/full_image.cfm?image_id=298)

Where Groundhogs Live

- They reside in much of the US and Canada
- Western cousins are yellow-bellied marmots

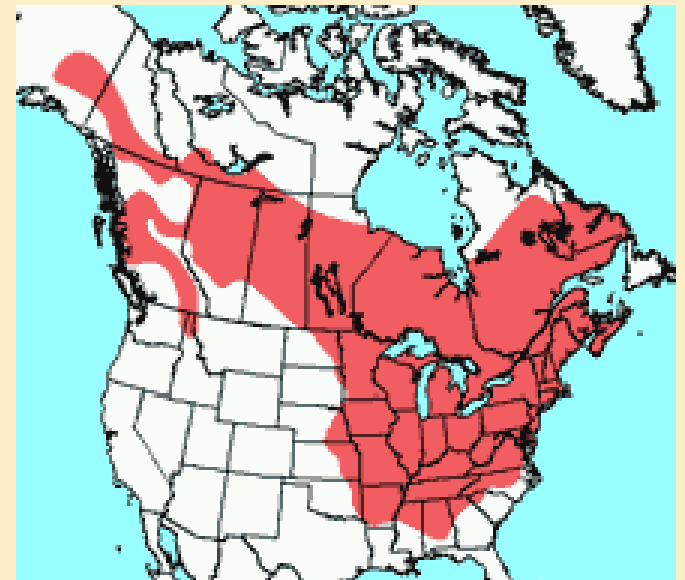


Photo: Smithsonian,
http://www.mnh.si.edu/mna/image_info.cfm?species_id=146

Where Groundhogs Live

- Farmland near crops
1st choice



Where Groundhogs Live



- Where dens are not likely to flood
- Meadows are a favorite place

http://web.extension.illinois.edu/wildlife/directory_show.cfm?species=woodchuck

Where Groundhogs Live

- Woodlands



Where Groundhogs Live

- Urban areas with food and cover



Where Groundhogs Live

- Highways near culverts



Where Groundhogs Live

- Out-of-floodplain
undisturbed
streambanks



Groundhogs - Home on the Range

- ❑ In breeding season –
1/4 to 1/2 mile range
- ❑ 1 acre = 0.0015625 square miles
- ❑ 640 acres/square mile
- ❑ Many home landscapes affected by each groundhog



Groundhogs - Close to Home

- Daily “travel” range
- 20-30 yards minimum
- Several 100 yards
- Canada’s
 - Balzac Billy from Alberta
 - Wiaraton Willie from Ontario
- Ohio’s
 - Buckeye Chuck from Marion
 - Huckleberry Holland from Holland

Groundhogs through the Year

□ February to early March – wakes up

□ Late October to early November – goes to sleep



ZZZ -Bears Do It, So Do Groundhogs

- True winter hibernators in burrows
- Dig new dens in late summer
- Use for several years
- Other animals use them



Why Groundhogs are a Problem

□ Plant Loss

- Wide variety of plants affected

□ Sheer Numbers

- Breed early
- 1 litter of 2-6 per year
- 8-9 year lifespan

□ Hazardous Burrows

- To horses
- To equipment
- To lawn mowers
- To building foundations

Groundhogs Dine

□ Early morning -
Breakfast



□ Late afternoon -
Supper



Groundhogs and Eating

- Adult eats 1 – 1.5 pounds of food daily
- Sometimes their diets aren't all-natural
- Primarily herbivores – about 99%*
- Snails, insects, eggs, young birds rarely



*<http://www.marmotburrow.ucla.edu/lore.html>

<http://www.holiday-corners.com/groundhog-day/wallpaper/groundhogcracker.jpg>

Groundhog Diet

- Legumes
- Fruits
- Vegetables
- Herbs
- Grasses
- Broadleaved Weeds
- Bark from fruit trees
- Bark from shrubs
- A true generalist feeder of plants
- Opportunistic feeder

Legumes Eaten – clover feast



Legumes Eaten – clover feast

- Easy protein source
- Especially for
 - ▣ very young
 - ▣ old
- Less favored later

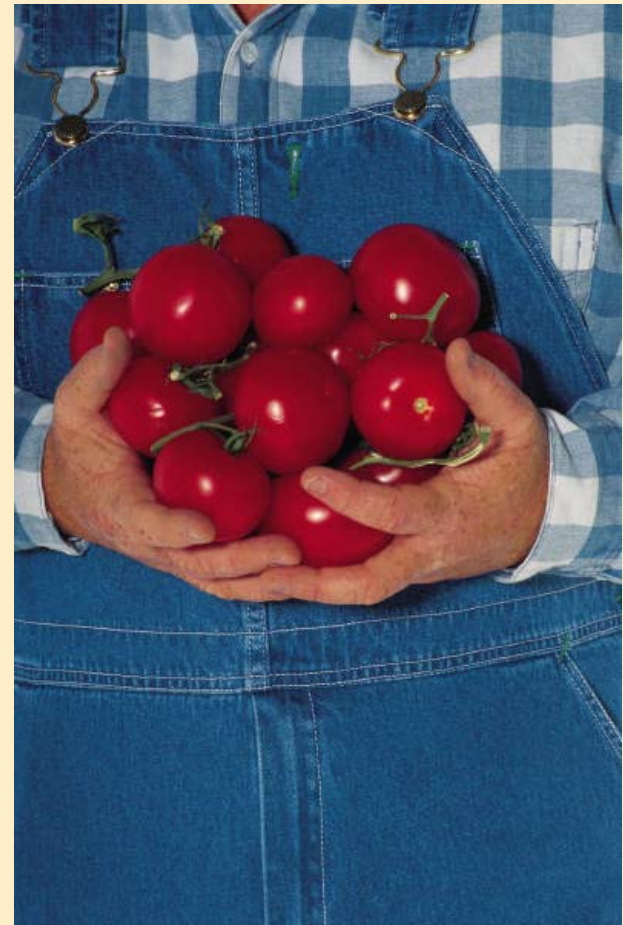


Legume Vegetables Eaten



Preferred Vegetables Eaten

- Some eat tomatoes almost exclusively
- Some like tomatoes as part of regular diet
- Some will not eat tomatoes at all



Preferred Vegetables Eaten

- Groundhogs LOVE corn
- A cornfield is groundhog heaven



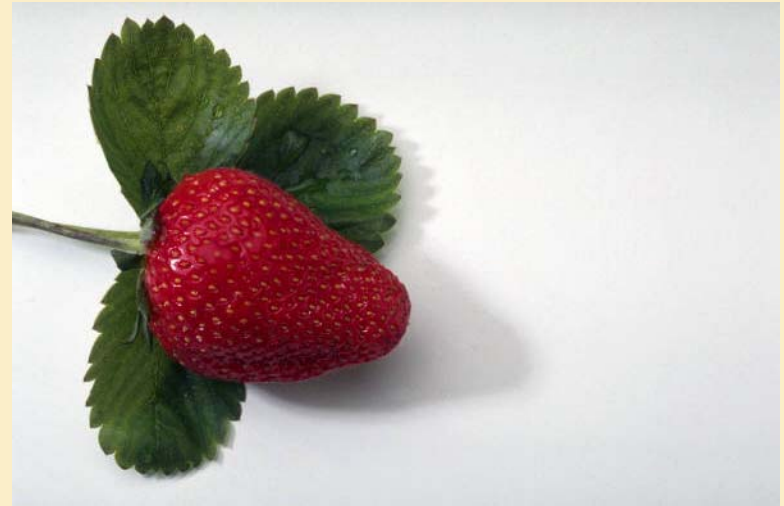
Other Vegetables Eaten



More Vegetables Eaten



Choice Fruits Eaten



Choice Fruits Eaten



Prunus serotina - Amerikaanse vogelkers,
Wikipedia



Broadleaved Weeds Eaten



Dandelion, White Clover, Plantain

Herbs Eaten



LSWiles



Photo by S. Cochran

University of Nebraska-Lincoln Extension
<http://lanaster.unl.edu>



[http://www.mobot.org/gardeninghelp/
plantfinder/plant.asp?code=B968](http://www.mobot.org/gardeninghelp/plantfinder/plant.asp?code=B968)

Groundhog Science Diet

- Agway Woodchuck Chow
- Similar to rabbit food, but larger pellets

About Groundhogs – the Numbers



- Breed in March-April
- 1 litter/year, 32 days to gestation
- Litters ave. 3-4
- 6 year lifespan usual

Painting: Smithsonian, Todd Zalewski, in Kays and Wilson's Mammals of North America,
©Princeton University Press 2002; http://www.mnh.si.edu/mna/full_image.cfm?image_id=1410

Burrows are Hazards



Groundhog Burrows

- One main entrance
- May have several alternate entrances

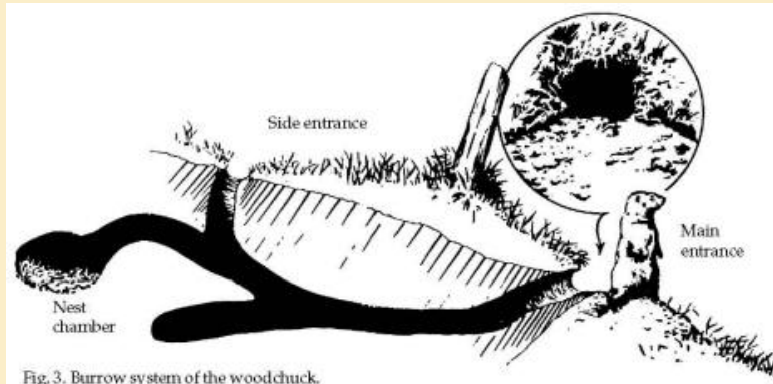


Fig. 3. Burrow system of the woodchuck.



Woodchucks, Wildlife Damage Control 8

Pam Hubbard, PSU MG

Burrow Hazard to Horses



Damage to Equipment



Damage to Buildings



Photo: USDA, via IL Extension
http://web.extension.illinois.edu/wildlife/identify_buildings.cfm



Photo: Laura Kammin, U. IL Ext.;
http://web.extension.illinois.edu/wildlife/identify_buildings.cfm

Groundhog Reduction Plan

- Predators
 - ▣ Animal
 - ▣ Human & Cars
 - ▣ Hunting/Box Trapping
- Harassment
- Exclusion - fencing
- Chemical Deterrents
- Pesticides for non-restricted use
<http://state.ceris.purdue.edu>

Predators of Groundhogs



Coyote, barn owl, red-tailed hawk, fox, bobcat, long-tailed weasel

<http://animaldiversity.ummz.umich.edu/>

Predators of Groundhogs



Hunting/Trapping in PA

- Register for license

- Local from an issuing agent

- Online @ PA Automated License System

- <http://www.portal.state.pa.us/portal/server.pt/community/pgc/9106> - Quick Clicks in right panel to “buy a hunting license”

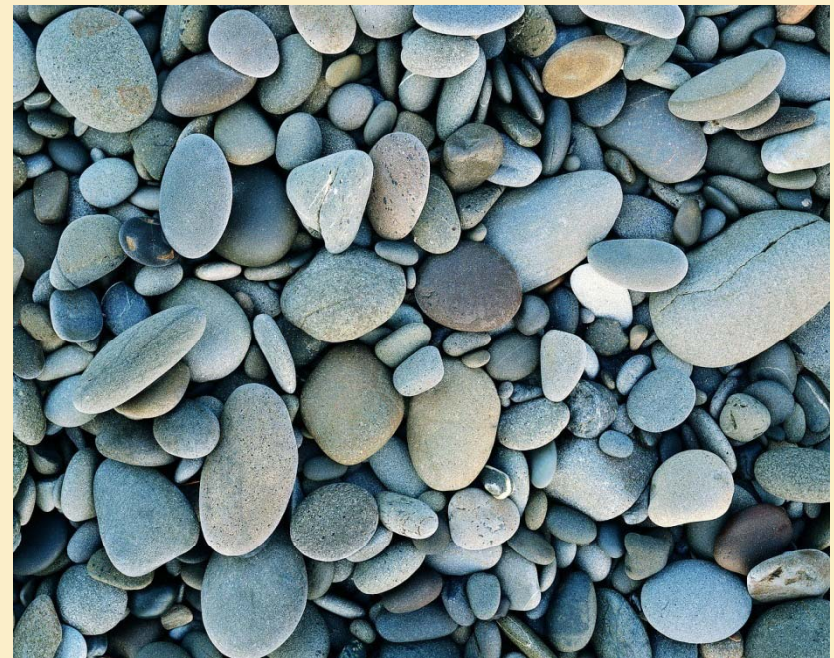
- No longer available – FAX or mail option

Hunting/Trapping in PA

- 1st Timers need to take a Hunter/Trapper Education Course
- Those from other states/nations need to provide proof of course from their state
- Any hunter/trapper active prior to Sept. 1, 1982 does not need to take course

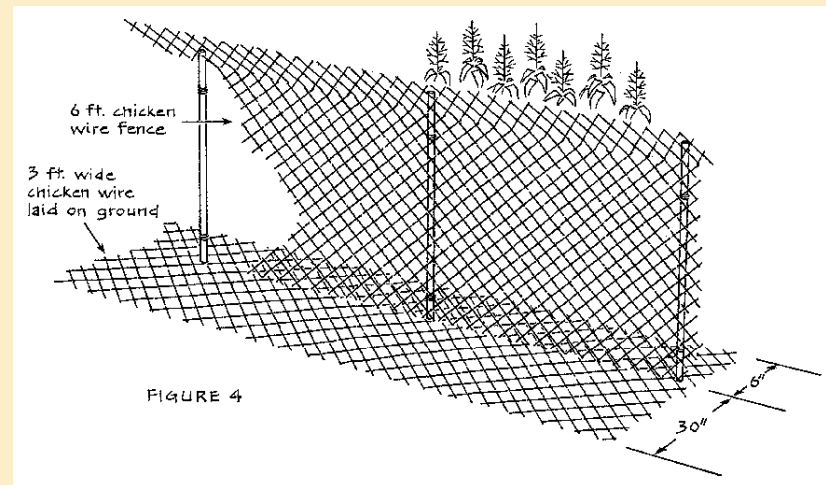
Harassment of Groundhogs

- Continually fill up entrances with rocks
- Most will leave after several weeks
- Must continue to discourage incoming groundhogs



Exclusion – Fencing them Out

- Prevent climbing & burrowing
- 3-4 ft. tall – heavy poultry wire or 2" mesh
- Bury 2" in ground, lower 6" at L-angle
- Top 15" out at 45° angle



<http://www.massaudubon.org/Images/fencing2.gif>

Chemical Deterrents

□ Taste

- Havahart Critter Ridder
- Black pepper, capsaicin
- Caution



□ Smell

- Shake-away Coyote Urine Granules
- Coyote urine



Heavy-duty Pesticides

□ Pesticide list

- Phostoxin
- MUST READ LABEL
- Danger
- Restricted use
- Requires licensed pesticide applicator

□ Gas cartridges

- 10 different active ingredients in various products
 - Sodium nitrate
 - Potassium nitrate
 - Carbon, sulfur, etc.
- MUST READ LABEL
- Warning

Benefits of Groundhogs

- Burrows provide homes
- Digging – soil aeration & movement
- Trout fly hairs
- Game animal = food
- Hides for moccasin soles
- Used in medical research
- Gentle, if left alone
- Link to the wild
- They make us laugh

New Residents of Groundhog Burrows



New Residents of Groundhog Burrows



http://animaldiversity.ummz.umich.edu/site/resources/phil_myers/ADW_mammals/Carnivora/skunk9594.jpg/view.html

Digging

□ Aeration



Mahdi Al-Kaisi, IA State

□ Digging



Dave Messersmith, PSU

Trout fly hairs



<http://www.fishingwithflies.com/images/lmg135.jpg>

Game Animal

- Fried
- Roasted
- Stewed
- Patties
- Pie
- North Carolina State recipes at <http://www.ces.ncsu.edu/martin/wildrecipes/>

Soles of Moccasins



- American Indians used all parts of animals they hunted
- Groundhog hides were noted for durability

Used in Medical Research

- Hepatitis B model
- Liver cancer studies
- Infections with WHN - woodchuck hepatitis virus - have a similar effect on their liver



Gentle animal, not aggressive



Link to the Wild



Groundhogs are Funny



Pam Hubbard, Penn State Master Gardener



Pam Hubbard, Penn State Master Gardener

Sometimes they go to great heights!



<http://www.hoghaven.com/photos/berry1.jpg>

Grunting Groundhogs are Happy

- <http://www.hoghaven.com/sounds/ghply2.wav>
- Groundhogs grunt when happy



How Much Wood, would a . . .

- Yes, they do occasionally chew wood
- If they chewed wood as much as they move soil in burrows
 - ▣ About 700 pounds of wood



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