Are there a lot of rodents in many of America’s Cities? Yes.
• Killing some rats in a few burrows on a particular street

Vs.

Managing rodent populations to tolerable levels in a NYC neighborhood.

Managing rodent populations in a large city is a complex undertaking requiring the coordinated efforts among all city agencies and…

The cooperation of the public (if only……)

However, some rat infestations can become chronic and “last” for many years….why?
1. Urban myths about city rats
1. Super rats; big as
2. Becoming “immune” to the poisons
3. Legions of rats below the city
4. Dog food/feces offsets poisons

5. Rats know it’s a trap
6. 1 rat per person
7. Rodents must gnaw on objects to keep teeth from growing.
8. Cats control rats and mice
Updates……. Updates……. Updates…….
Rodents as pests
1. Can transmit diseases:
2. Quality of life
3. Frighten people
4. Bite people
5. Gnaw on wires/pipes

Disease and Health Implications Associated with Rodents in Urban Areas

June 2006
May 2005
7 people die from Mouse -borne Lymphocytic choriomeningitis

June 2005
Grocery Distribution Center fined 1M Due to rodent infestation

March 2006
Grocery Distribution Center fined 8.2 M President of DC: 2 yrs. Prison
A case of size matters?

Dogs, cats, raccoons, mice

Indoor air quality and health:

Mold (non PMP)

Chemicals (Part PMP)

Pest bio- residues

and excrement (?)
Rodents and Indoor Air Quality: A Future Issue?

Rodents and diseases
Rodents/Food Poisoning
Rodents and hanta virus
Rats and Hepatitis E
Rats and Leptospirosis
Mice and LCM virus
Mice and Allergens

Mouse Allergen Increases Asthma Risk in Inner-City Homes
2/10/2005
Airborne levels of mouse allergen in many inner-city homes may be high enough to trigger asthma attacks in children.

Johns Hopkins Children’s Center study in the February issue of the Journal of Allergy and Clinical Immunology.
The Significance of House Mouse Fecal Pellets Found in Urban Structures as Reservoirs of the Lymphocytic Choriomeningitis Virus (LCMV)

Researchers
RMC Pest Management Consulting: Bobby Corrigan, Ph.D
Purdue University:
Wan-Tien Tsai
Linda Mason, Ph.D
Jeff Stuart, Ph.D
And Participating Pest Management Professionals

A National Pest Management Foundation Research Study Jointly Funded by:
The National Pest Management Association
And The Pest Management Alliance
Rodent excrement

1. Urine (mouse urinary protein) (allergies)

2. Fecal pellets (?)

LCM virus, salmonella, and what (if any) other pathogens??
LCMV
Lymphocytic choriomeningitis virus

“Perhaps the most overlooked disease in developed areas”

According to the Centers for Disease Control, LCMV may be contracted by humans through the inhalation of dust contaminated with dried mouse feces or through consumption of food adulterated with mouse excrement. It is especially important to note that the CDC also reports that LCM in our urban areas is grossly unrecognized and underreported because it mimics symptoms of the "flu".


About 5 percent of mice, hamsters and other rodents carry LCMV and about 2 percent of the general public has antibodies to it, meaning they've been exposed to it at some point.

Mouse feces (animal excrement) in our urban buildings has been overlooked as an indoor air pollutant (e.g., nursing homes, offices, etc....)
Mouse colonies often establish defecation areas ("latrines") ceilings, wall voids, etc.
IPM in urban buildings, schools, offices, etc:

A worry about small amounts of pesticides in the indoor air - but not airborne fecal residues?

Mouse fecal pellets will be collected from:

5 different regions of the U.S.
* Schools
* Office Buildings
* Food Serving Establishments
* Health Care Facilities
* Multi-family Housing

1. Laboratory techniques for isolating the LCM virus from feces have been improved/developed at Purdue.
3. Feces from real world facilities
1. Food plant A: + LCM
2. Food plant B old: - LCM
3. Food plant B new: - LCM
4. Ext. Pharmaceutical +LCM
5. East coast commercial pest management route: >50%
Of **Demanding** Health Inspectors And **Dedicated** Pest Management Professionals

Who owns the responsibility for the presence of rodent feces inside buildings?

The clients are responsible for maintaining the air quality of the building

E.g., molds, bacteria from dirt, animal excrement, etc.

But relative to pests, the pest professional should document what areas may need cleaning attention.
The building owner/ the facility management

Who owns the responsibility for alerting for the presence of rodent feces inside buildings?

Feces are sometimes deposited in visible and accessible areas; but rodent’s also commonly deposited in out of the way, out of sight areas, areas where pest professionals and health professionals are trained to inspect.
Scats
Scatology
Scatologist

Typical adult mouse on average diet: 35-50 fecal pellets /24 hr. 10-100
Typical adult *N. rat* on average diet:
25-40 fecal pellets
/24 hr.
5-75
Colors:
Black (1)
Brown (2)
Food-dependant

Rodent bait colors.

Black and shiny doesn’t prove their fresh
Grayish/ dusty doesn’t prove they are old.

Can you age old droppings?
No.

Can you age fresh droppings?

Mice: soft/moist 3 hrs.
Rats: 24 hrs.
But…
Its location, location, location.

Large insects (Am. Cockroaches, field crickets) vs. mice
Common everyday items that may look like mouse droppings but are not:

Burnt food pieces
Pipe rubber/foam insulation
Caraway seeds
Maltoform seeds
Chocolate sprinkles

OTJ doubt while looking at turds is nothing to be embarrassed about. Hand lens and possibly more
In many cities, the presence of rodent feces are considered by health and food safety inspectors as “smoking guns” as to the premises having a rodent problem.
Pest Professionals
Health Professionals:
Provide How-to fact sheets
for removing small (and large)
quantities of rodent feces

www.cdc.gov