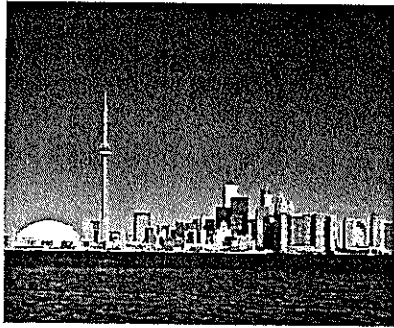


Termites in the City of Toronto

Arnie Rose



Introduction

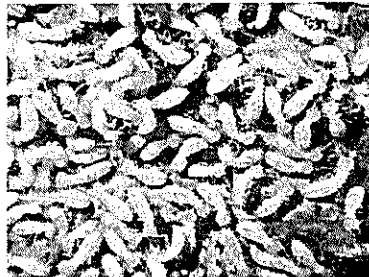
- Arnie Rose: Acting Manager, Housing Programs, City of Toronto
- Over 10 years experience with termite activity
- Termite as threat to affordable housing

Topics of Discussion

- Termite biology and colony behaviour
- What is wood-soil contact?
- Pressure-treated wood applications
- Termites in Toronto
- Current research
- Where we go from here?

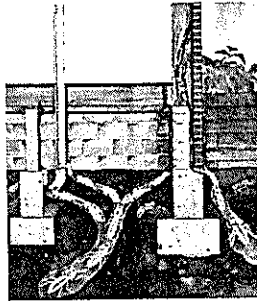
Subterranean Termite

- Mother Nature's wood decomposer
- A wood-digesting social insect living in large colonies



Colony Size

- Up to 10 million in a city block
 - ◆ 50 to 100 houses
- No "nest" -- many galleries



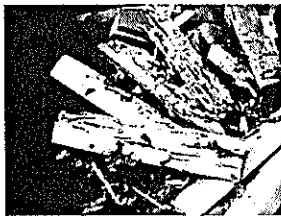
Colony Castes

- ◆ Nymphs - 20% of population
- ◆ Workers - 75% of population**
- ◆ Soldiers - 3% of population
- ◆ Reproductives - 2% of population*



Conducive Conditions

- Moisture
- Wood-soil contact
- Yard wood:
 - ◆ food
 - ◆ habitat
 - ◆ overwintering



Colony Behaviour

- Live in the ground
- Forage 24 / 7 for wood and wood-based materials
- Mutual feeding and grooming
- Protection through shelter tubes
 - ◆ built of feces, soil and moisture
 - ◆ used in protected travel above ground



Termite Damage

- Typical wood damage
 - ◆ interior
 - ◆ along the grain
 - ◆ maintains protection
- Foam board
 - ◆ Off-gassing of CO₂
 - ◆ easy for tunnelling
 - ◆ safe harbourage
- Books, furniture, cardboard

Wood-Soil Contact

- Hidden paths in built environment
- Unrestricted access to food and habitat
- Typical conditions:
 - ◆ Interior
 - ◆ Exterior

Pressure-Treated Wood

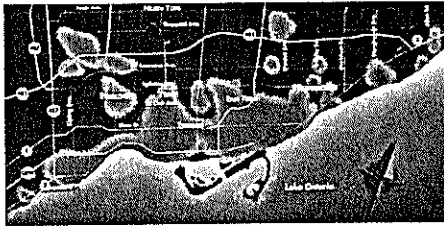
- Common landscaping applications
 - ◆ Planters
 - ◆ Retaining walls
 - ◆ Driveway edging
 - ◆ Fences, decks and porches

PTW and Wood-Soil Contact

- How does PTW contribute to wood/soil contact
 - ◆ Installation
 - + Cutting and drilling
 - ◆ Aging
 - + Cracking
 - ◆ Damage by occupants
- Factory-applied preservative compromised

Termites in the City of Toronto

- Initially found in 1938 near the port
- Spread northeast during 40's&50's
- By 1980 found throughout the city
- Records up to 1993 of termite treatments throughout city~



Municipal response - I

- 1960's
 - ◆ termite control by-law
 - ◆ designated inspector
 - ◆ \$'s for chemical control
- 1970's Provincial \$'s for control
- 1982 Entomologist advice
 - ◆ increase biology knowledge
 - ◆ infested wood handling
- 1980's advisory inspections
 - ◆ identify moisture and wood-soil contact

Municipal Response - II

- 1980's more \$'s for chemical control
- 1990 advisory inspections + grants
 - ◆ identify conditions
 - ◆ identify termite presence
 - ◆ offer provincial and local grants
- Enforcement challenges
 - ◆ define active infestation
 - ◆ attached dwellings
 - ◆ compelling treatment

1999 Review of termite control

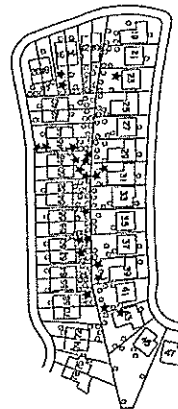
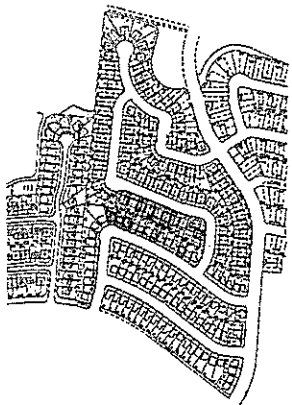
- ◆ Termites are spreading in Toronto
- ◆ \$'s spent don't reduce termites
- ◆ Phase out control grants
- ◆ Support research
- ◆ Harmonize control by-law
- ◆ Develop community-based strategy incorporating colony reduction

Current Research at U of T

- Block-based termite control
 - ◆ Monitoring
 - ◆ Trap-Treat-Release
 - ◆ Yard Wood Management
 - ◆ Colony suppression
- Neighbourhood-based protocol

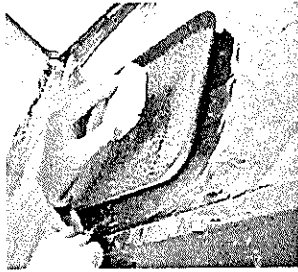
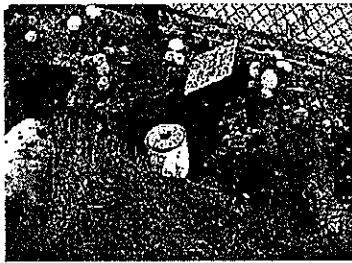
Monitoring

- Termite activity
- (Yard Wood)



TTR summary

- Trap
- Treat
- Release



Yard Wood Management

- Assess risk



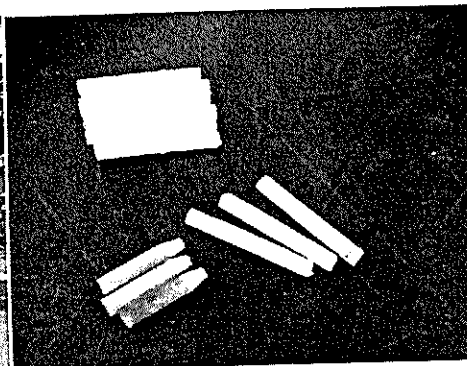
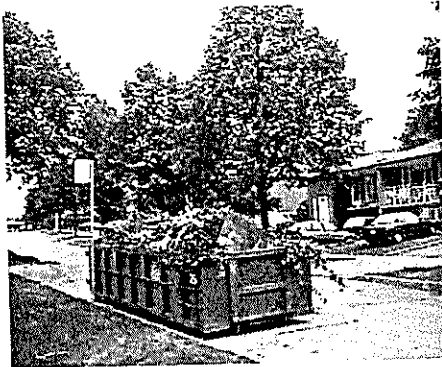
Yard Wood Management

- Wood Removals
- Disposal



Yard Wood Management

- Disposal (continued)
- Borates



Future City Directions

- Harmonized termite by-law
- Block-based Termite Control (BBTC) Pilots
 - ◆ Neighbourhood-based protocol
 - ✦ Local organizing
 - ✦ Set core and buffer study areas
 - ✦ Surveys and inspections
 - ✦ TTR and monitoring
 - ✦ Yard Wood Management
 - ✦ Reporting and follow up

Other issues

- Use of PTW in termite areas
- Building practices
- Codes and standards

Additional information

- **Web sites on termite information**
 - ◆ <http://www.utoronto.ca/forest/termite/termite.htm>
 - ◆ <http://www.uky.edu/Agriculture/Entomology/enthp.htm>
 - ◆ <http://www.labyrinth.net.au/~dewart>
- **Web sites on pesticide regulation**
 - ◆ http://www.hc-sc.gc.ca/pmra-arla/english/MenuPages/MainMenu_IE.html
 - ◆ <http://www.opac.gov.on.ca/>
- **Web site for pest control**
 - ◆ <http://www.pctonline.com/>
- **Email**
 - ◆ arose@city.toronto.on.ca