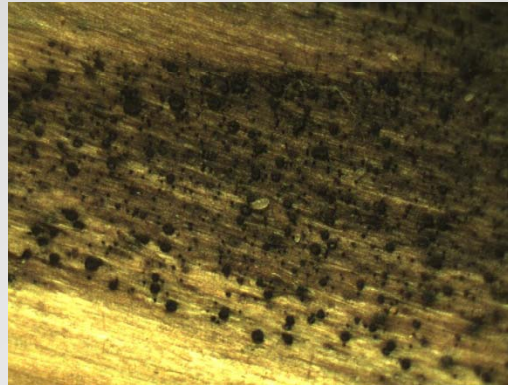
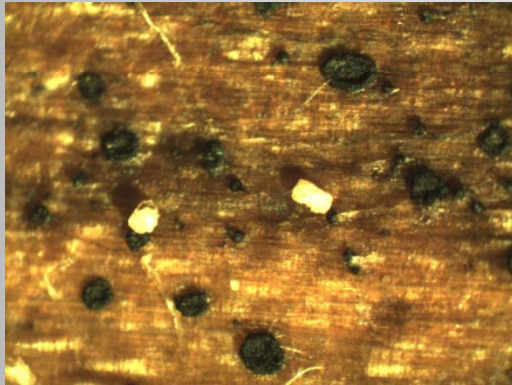


LATEST DEVELOPMENTS IN PINE DECLINE RESEARCH, DISEASE DEVELOPMENT, AND MANAGEMENT

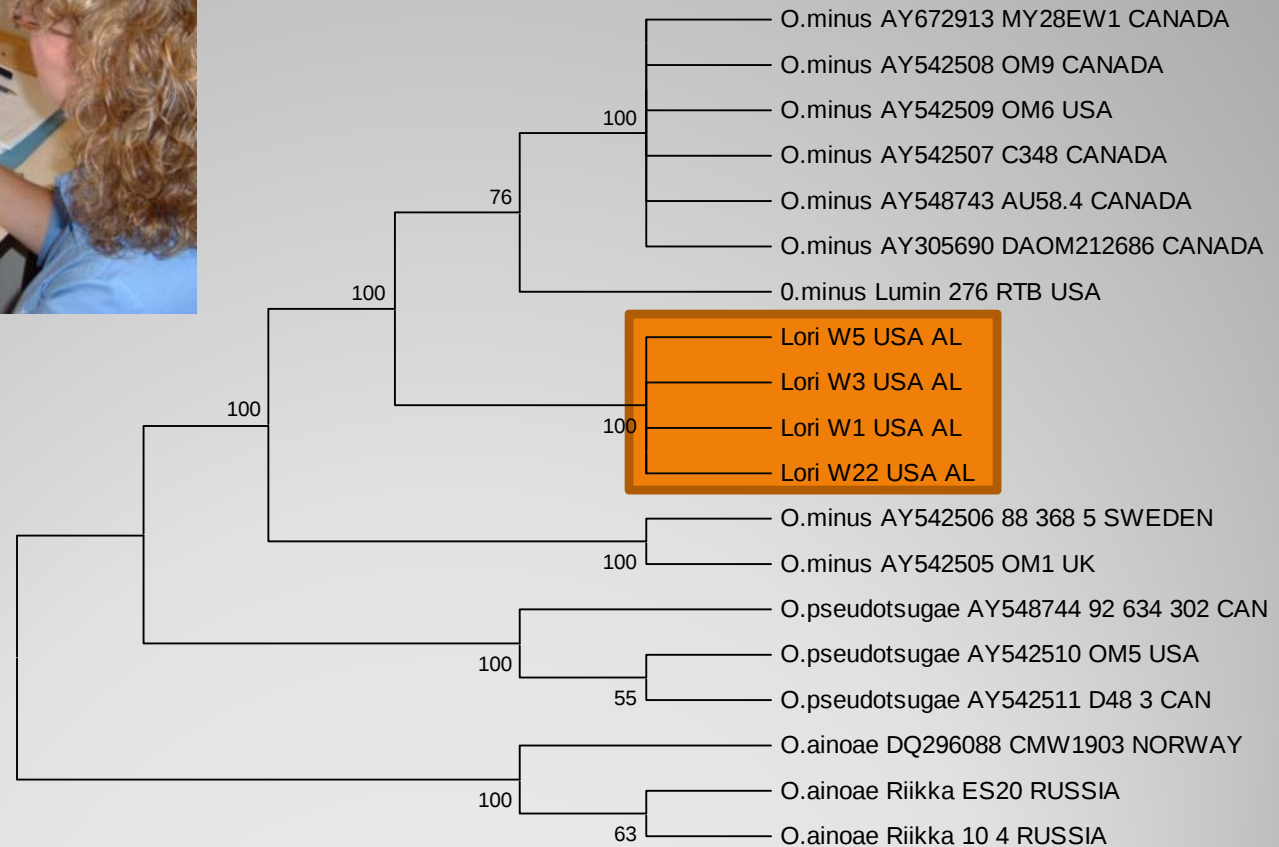
Lori G. Eckhardt, Ph.D.
Forest Health Cooperative;
Forest Health Dynamics Laboratory;
Auburn University, Alabama



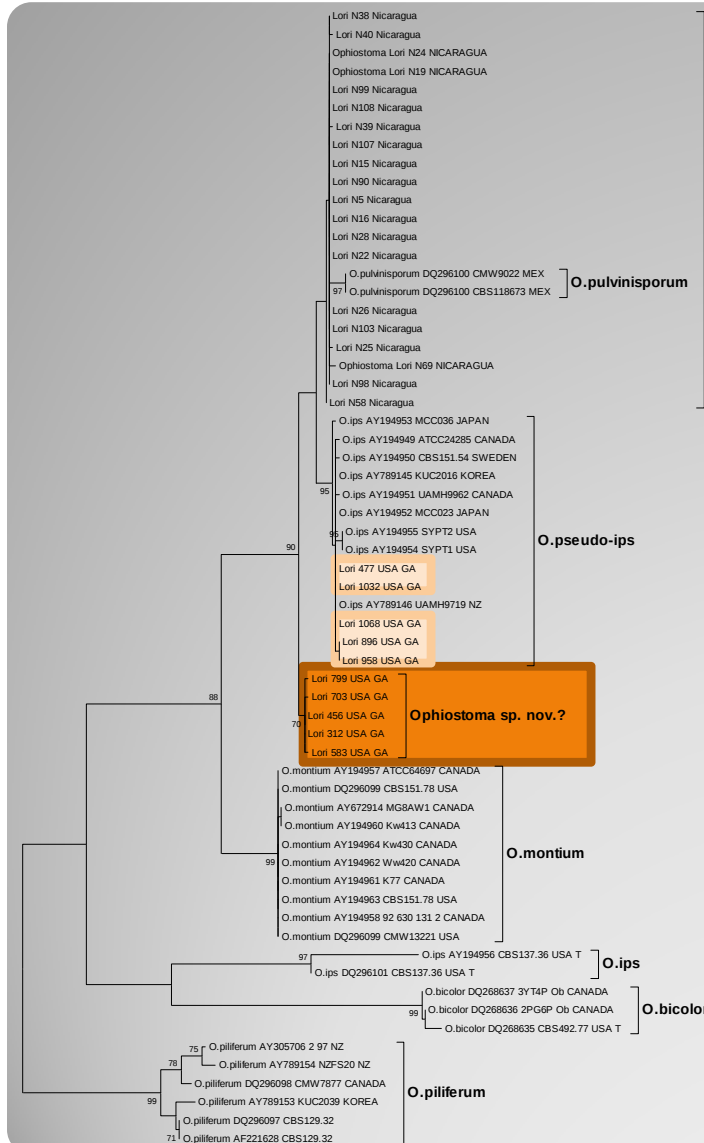
- *Hylastes* galleries infested with *Ophiostoma* in loblolly pine



New *Ophiostoma*'s (GA and AL)



New *Ophiostoma*'s (AL)



New *Ophiostoma* (GA)

- 100 Feral Hogs sampled 2006
- Currently sampling 2009



Feral Hogs and Bluestain Fungi

Forest Health Dynamics Laboratory, 2009

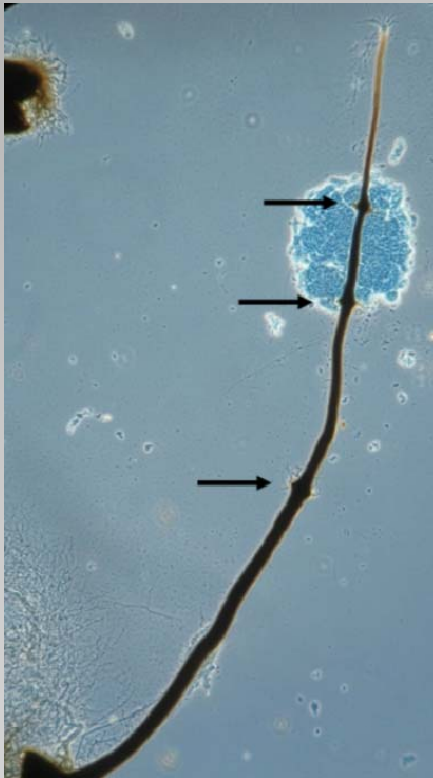


- Two new species of *Ophiostoma*
 - *Ophiostoma sparsiannulatum*
 - Also isolated from *Hylastes salebrosus*, *H. tenuis*, and *Dendroctonus terebrans*, as well as, root tissue from *P. teada* and *P. palustris*.
 - *Ophiostoma culverii*
 - Also isolated from root tissue from *P. teada* and *P. palustris*.
- *Leptographium procerum*

<i>L. procerum</i>	<i>L. sparsiannulatum</i>	<i>L. culverii</i>
48%	51%	67%

Feral Hogs and Bluestain Fungi

O. sparsiannulatum



O. culverii



Feral Hogs and Bluestain Fungi

Forest Health Dynamics Laboratory, 2009





Longleaf Pine Injections

Forest Health Dynamics Laboratory, 2009



Injection

- EB
- PT
- EB + PT
- Control (No Injection)



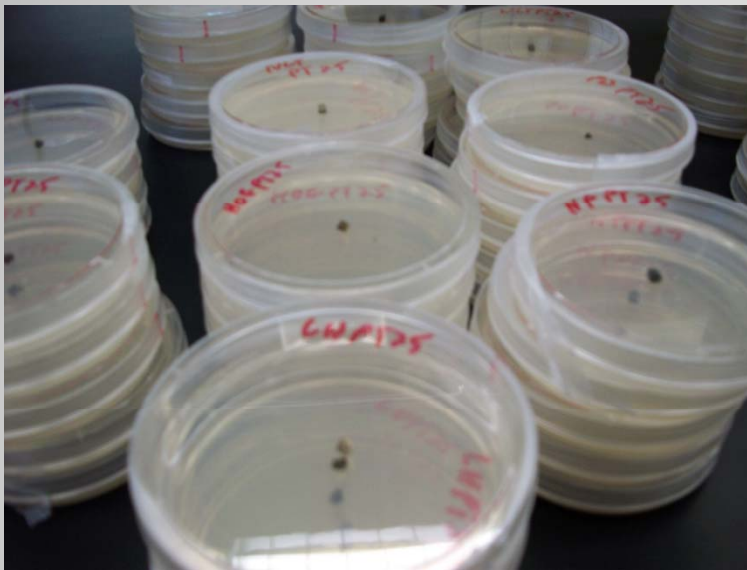
Inoculation

- *L. terebrantis*
- *L. huntii*
- Bole
- Root

Treatments

Chemicals

- EB
- PT
- EB + PT

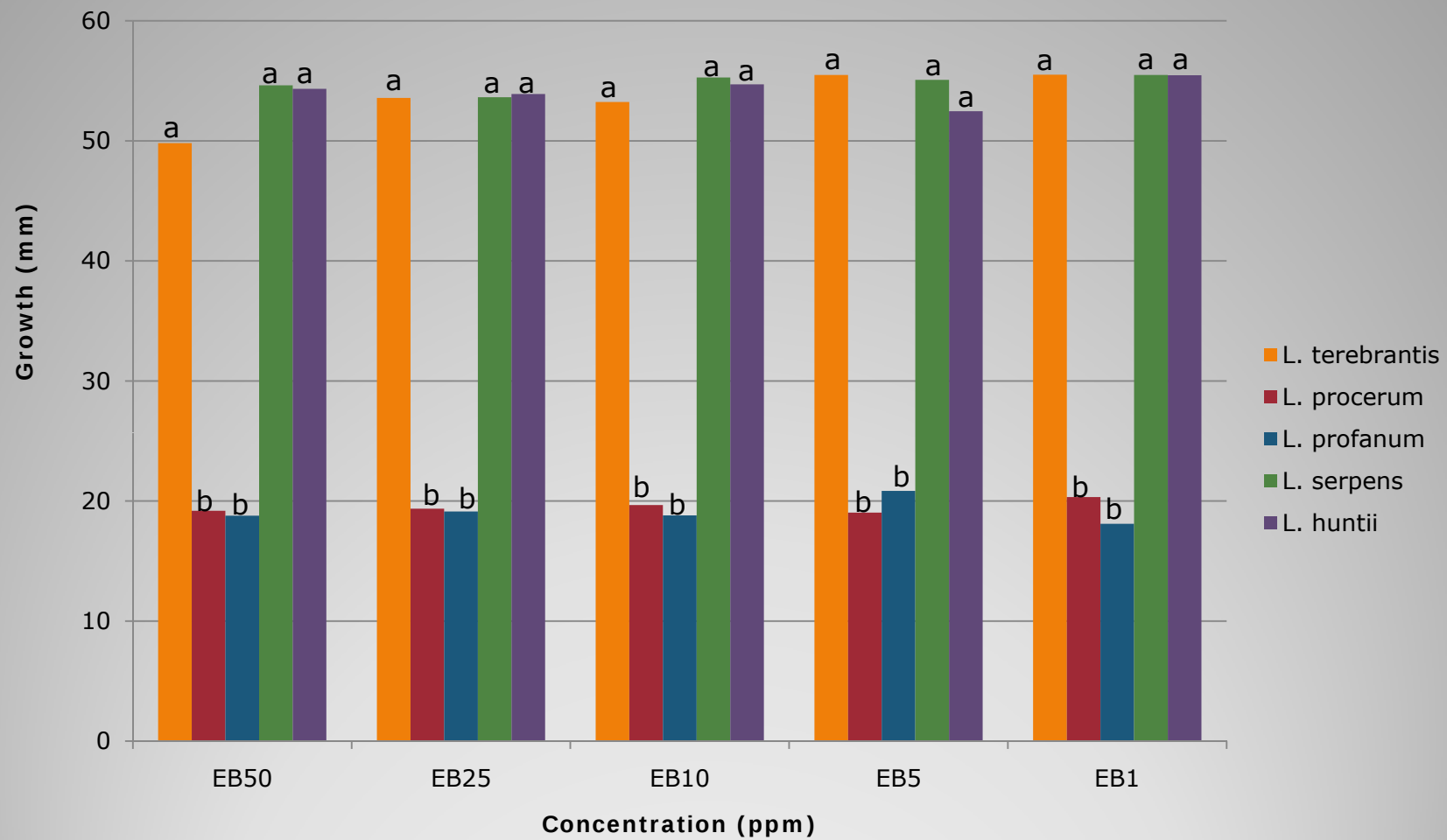


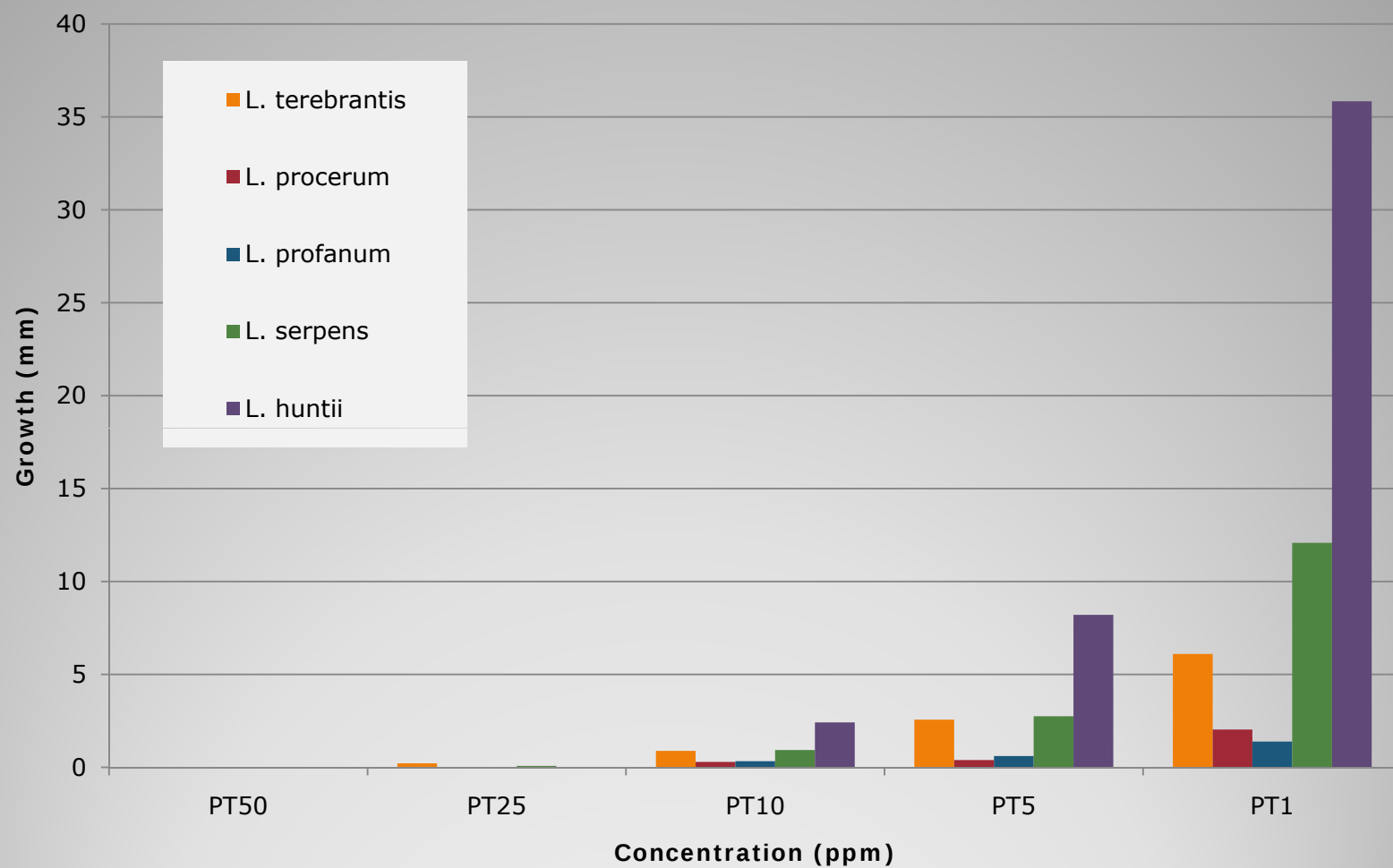
Concentrations

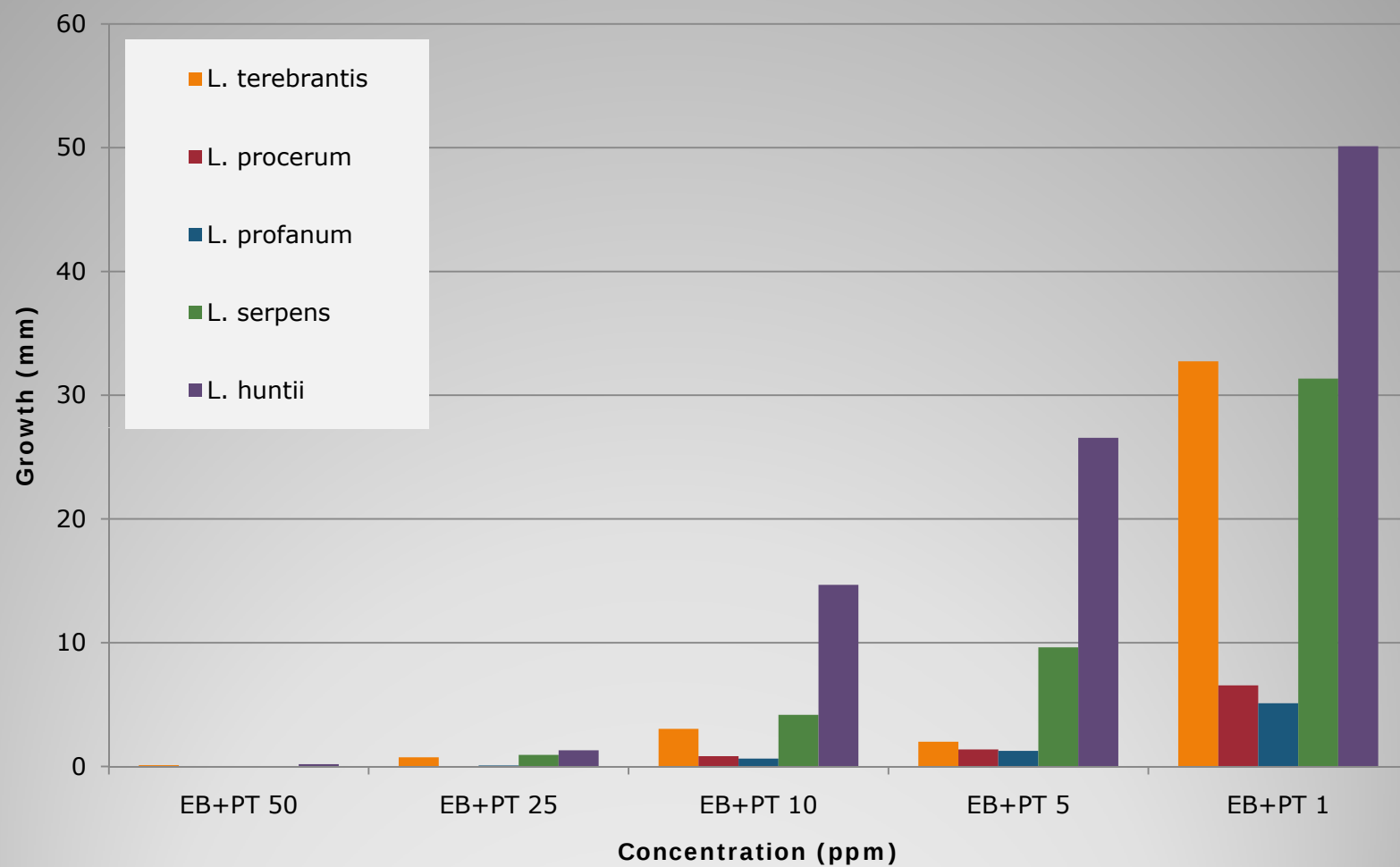
- 50 PPM
- 25 PPM
- 10 PPM
- 5 PPM
- 1 PPM

Fungi-toxic or
fungi-static

Fungal Growth Assays









Questions?

Forest Health Dynamics Laboratory, 2009

