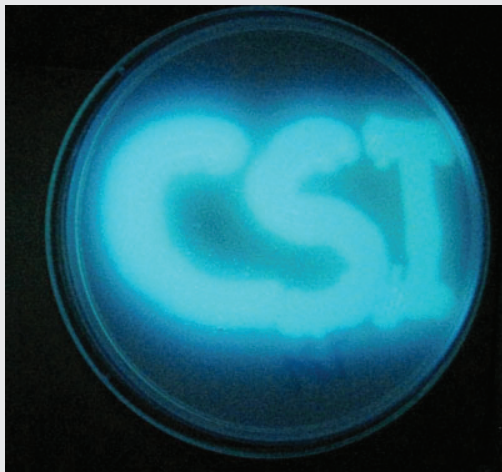


Diagnostics and Educational Outreach

Gail Ruhl, Purdue University, Plant and Pest Diagnostic Lab

A dark room, a black light and a plate of fluorescent bacteria (streaked onto Kings B medium) illuminating the letters 'CSI' — just the 'attention grabber' needed to introduce the subject of Crop Scene Investigation (CSI) to junior and senior high students! This demo provides an excellent segway into forensics and the



Fluorescence illumination of gram negative bacteria under a black light. Photo courtesy of Gail Ruhl, Purdue University.

fun we have with diagnostics. You can follow up by passing out plates of gram negative bacteria and have students use tooth picks to place some of the bacteria into a drop of KOH on a slide and swirl it around to see stringy strands of DNA (the result of lysed cell walls). Refer to the following lab posted on the APS website to help you out with specifics http://www.apsnet.org/edcenter/K-12/TeachersGuide/DNA_Easy/Pages/default.aspx.

Follow up with a hands-on lab on symptoms and signs used for diagnosing plant problems.

Incorporate detection of virus/fungal/bacterial diseases using lateral flow serological detection. Recently expired test kits that you would not use on samples in the lab are excellent for teaching purposes!!! Students LOVE to put on purple latex-free gloves, grind up infected plant tissue and watch for the control 'line' and if positive, the sample 'line' to 'magically' appear.

It is easy to engage students in an hour of activities and discussion and who knows — you may even pique their interest to learn more about the art and science of plant disease diagnosis. ☺ 🌱

NPDN / USDA-APHIS 2011 Advanced Diagnostic Training

Karen L. Snover-Clift, Cornell University and Laurene Levy, USDA-APHIS-PPQ-CHPST-NPGBL

The NPDN Diagnostics Subcommittee and members of USDA-APHIS-PPQ-CHPST-National Plant Germplasm and Biotechnology Laboratory (NPGBL) plan to continue offering the extremely valuable training workshops for a number of pathogens and techniques throughout this year (see following page for details). New this year are hands-on training offerings for citrus leprosis virus, sweet orange scab (*Elsinoe australis*) and citrus black spot (*Guignardia citricarpa*). Participants of these meetings are expected to cover their travel, lodging and meal expenses. There is no registration charge for the meeting or for meeting materials; these expenses are covered by our colleagues at USDA-APHIS-PPQ-CPHST-NGBTL. If you are interested in participating in any of these workshops please refer to the information provided and contact Karen Snover-Clift at kls13@cornell.edu.

Diagnostic Updates