

NORTH CAROLINA STATE UNIVERSITY
FLORIDA A&M UNIVERSITY
Challenges in Plant Resource Protection
NCSU - PP 495B
FAMU – ENY 4907

UNIVERSITY OF FLORIDA
Principles of Plant Pest Risk Assessment and Management
ALS 6942
Spring 2008

Instructor

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Lecture Schedule: Tuesday/Thursday, 15:00-16:15

NCSU Lecture Location: 153 Butler Building (corner of Varsity Drive and Western Blvd.)

Textbooks and References: No textbook is required for this course. Required readings and Power Point lectures will be distributed in class. Lectures and required readings will complement each other. Class exercises will provide hands-on experience.

Course Objectives: The purpose of this course is to provide students with theoretical as well as applied training in the regulatory aspects of plant protection using real-world case studies, scenarios and issues.

Upon successful completion of this course, students will be able to:

1. Describe the mission, structure and function of the United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Plant Protection and Quarantine (PPQ), and other related Regional, Federal and State Agencies and Laboratories involved in Regulatory Plant Science.
2. Describe the role of scientific disciplines such as Plant Pathology, Entomology, Weed Science, Botany and Ecology in relation to the regulatory process.
3. Describe the relevant legal and regulatory instruments at the international and national level, and how these relate to the mission of USDA-APHIS-PPQ.
4. Describe the role of USDA-APHIS-PPQ in promoting safe trade in agricultural products and in protecting agricultural resources and the environment.
5. Describe and understand ...
 - traditional as well as novel methods of pest surveillance, detection and identification,
 - the objectives and application of pest risk analysis,
 - the relationship between risk assessment, risk management and risk communication,
 - the technologies and tools available for management or eradication programs for exotic plant pests,
 - the safeguarding continuum,
 - the application of novel tools for field and laboratory diagnostics.
 - the mitigation measures routinely used to reduce pest risk.
6. Recognize the various job opportunities available in USDA-APHIS-PPQ and in State Agricultural Agencies, know how to find out about them and identify ways to prepare and be competitive for such positions.

Grading Policy:

Attendance - 10%

Participation in class – 12.5%

Mid-term - 20%

Complete Incident Command System 100 and 200 Training - 10%

Class Exercises and Homework – 12.5%

Project - 15% Pest Data Sheet

Final Exam - 20%

Grading scale A-F

PLEASE TURN OFF YOUR CELL PHONES DURING CLASS

Course Syllabus
NCSU - PP 495B, FAMU – ENY 4907, UF - ALS 6942
Spring 2008

	Lecture date	Topic	Required Readings
1	Jan. 10	Introduction, course format, expectations & grading policy. Introduction to the USDA-APHIS-PPQ. Incident Command System. Definitions & Acronyms.	Cavey, J.F. 2003. Mitigating Introduction of Invasive Plant Pests. IPPC – 2007 - Glossary of Phytosanitary Terms. Acronym Handout.
2	Jan. 15	Regional Plant Protection Organizations. History of Regulatory Plant Science. The global village – The Importance of Agricultural Trade. Invasive species.	Ebbels, D.L.2003. Appendix I: The Regional Plant Protection Organizations. Henstridge, P. 2002. History of regulatory plant health in the United States. McCullough, D.G. et al. 2006. Interceptions of non-indigenous plant pests at U.S. ports of entry & border crossings over a 17 year period.
3	Jan. 17	The role of science in Regulatory Plant Protection.	Shannon, M.J. 1994. APHIS. Palm, M.E. 1999. Mycology and world trade: A view from the front line. Palm, M.E. 2001. Systematics & the Impact of Invasive Fungi on Agriculture in the United States.
4	Jan. 22	Legal basis – International.	Guest Lecturer: Dr. Christina Devorshak The WTO SPS Agreement – what you need to know. Devorshak, C. 2008. Regulatory Entomology.
5	Jan. 24	Legal basis – National.	Plant Protection Act (PPA) Fact sheet. Questions & Answers about the PPA.
6	Jan. 29	Introduction to Risk Analysis. About Risk Risk Analysis Models Who does Risk Analysis ? Tools in the Risk Assessment toolbox	Guest Lecturer: Dr. Tony Koop Ways to go.

7	Jan. 31	Risk Assessment I.	Guest Lecturer: Dr. Tony Koop APHIS Guidelines for Pathway Initiated Pest Risk Assessments Version 5.02. ISPM 11 – 2005 - Pest risk analysis for quarantine pests including analysis of environmental risks & living modified organisms. ISPM 2 – 2007 - Framework for Pest Risk Analysis
8	Feb. 5	Risk Assessment II. Risk Management I.	
9	Feb. 7	Risk Management II. Phytosanitary Treatments Systems Approaches	Follett, P.A. & L. G. Neven. 2006. Current trends in Quarantine Entomology.
10	Feb. 12	Risk Management III. Risk Communication.	Byrd, D. M & Cothorn, C.R. 2000. Risk Communication.
11	Feb. 14	Risk Communication Exercise. Rule Making.	Guest Lecturer: Alison Neeley
12	Feb. 19	The Safeguarding Continuum. Pre-clearance Programs Port Activities Import Operations	
13	Feb. 21	Inspection Methodology. Inspection Exercise.	Guest Lecturer: Robert Griffin Inspection Methodology for Plant Quarantine. Hypergeometric Tables.
14	Feb. 26	Export Operations. Export certification. Solid Wood Packing Material.	Guest Lecturer: Laney Campbell PPQ Wood Packing Materials. ISPM 12 – Phytosanitary Certificates. ISPM 15 – Wood Packing Material.
15	Feb. 28	Midterm Exam.	
	Mar. 4	<i>Spring Break NCSU</i>	
	Mar. 6	<i>Spring Break NCSU</i>	
16	Mar. 11	<i>Spring Break UF FAMU-</i> Class Projects. Survey, detection & identification I.	

17	Mar. 13	<i>Spring Break UF-FAMU</i> Survey, detection & identification II.	
18	Mar. 18	Uses of Molecular Diagnostics in Making Regulatory Determinations.	Guest Lecturer – Dr. Pat Shiel
19	Mar. 20	Spatial Analysis.	Guest Lecturer – Dr. Dan Borchert Deadline - Incident Command System Training
20	Mar. 25	Introduction to Pest Management.	
21	Mar. 27	Pest Management case studies – Nematodes I.	Guest Lecturer – Dr. Scott Redlin
22	Apr. 1	Pest Management case studies – Nematodes II.	Guest Lecturer – Dr. Scott Redlin
23	Apr. 3	Pest Management case studies – Arthropods I.	Myers, J.H. et al. 1998. Eradication & Pest Management.
24	Apr. 8	Pest Management - Emergency Response I. State Departments of Agriculture Review of ICS Case Study – <i>Phytophthora ramorum</i>	Guest lecturer: Dr. Betsy Randall-Schadel
25	Apr. 10	Pest Mgmt. - Emergency Response II. Incident Command System Exercise	Guest lecturer: Dr. Betsy Randall-Schadel
26	Apr. 15	Pest Management case studies – Arthropods II - The role of Biological Control in Safeguarding Agriculture & Natural Resources	Guest Lecturer: Dr. Ken Bloem
27	Apr. 17	The art of negotiation - Bilateral, multilateral & international negotiation. <i>Last day of Classes - FAMU</i>	
28	Apr. 22	How to get a job with APHIS-PPQ.	
29	Apr. 24	Review & Course Evaluation.	
30	Week of Apr. 28	Final Exam.	