

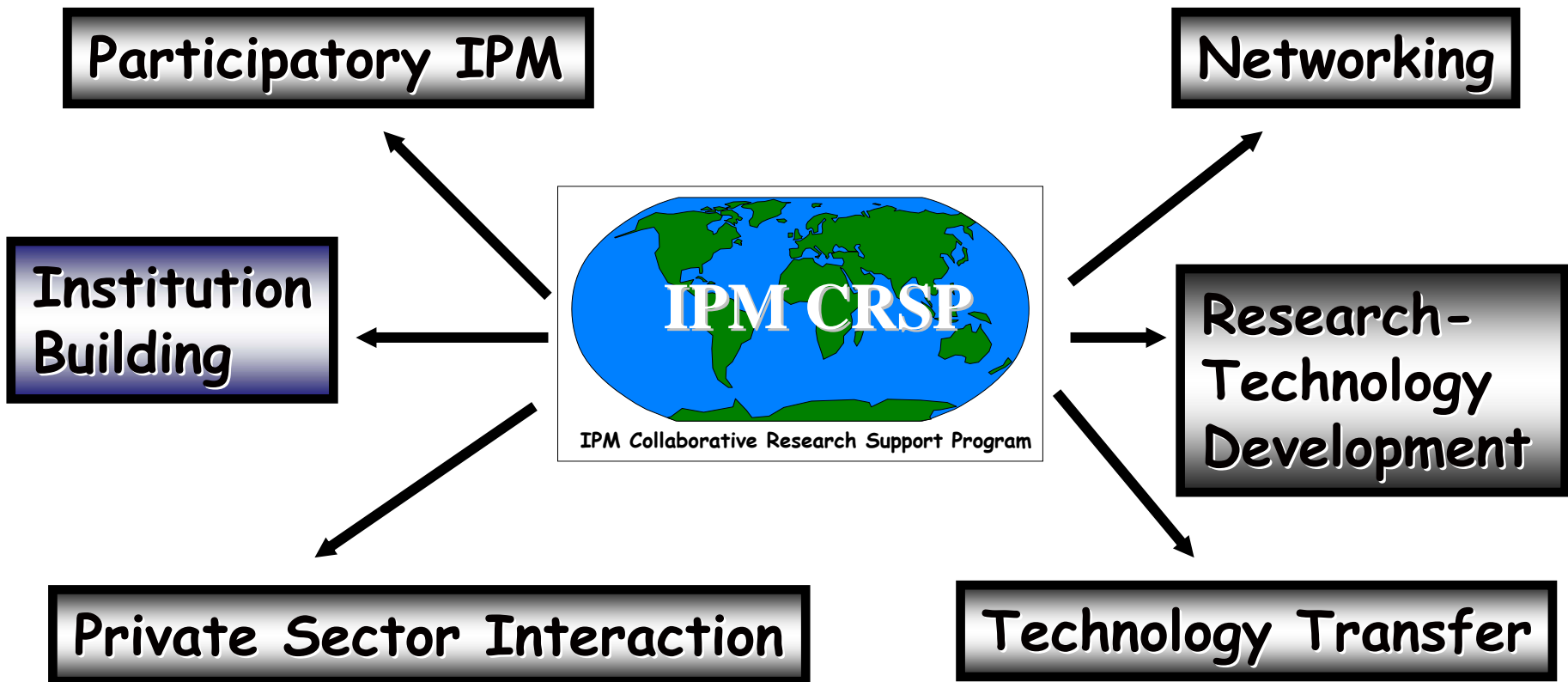
# The International Plant Diagnostic Network

A Multinational Collaboration

Sally Miller



# IPM CRSP ACTIVITIES





# IPM-CRSP Objectives

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- Advance IPM science, and develop IPM technologies, information, and systems for sound land resource management
- Improve IPM communication and education
  - ↑ ability of practitioners to manage knowledge
  - ↑ adaptation, adoption, and impact of ecologically-based IPM



# The IPM-CRSP

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- Provide information and capacity building to reform and strengthen policies and local/national institutions that influence pest management
- Develop and integrate sustainable resource-based, local enterprises into national regional and global markets

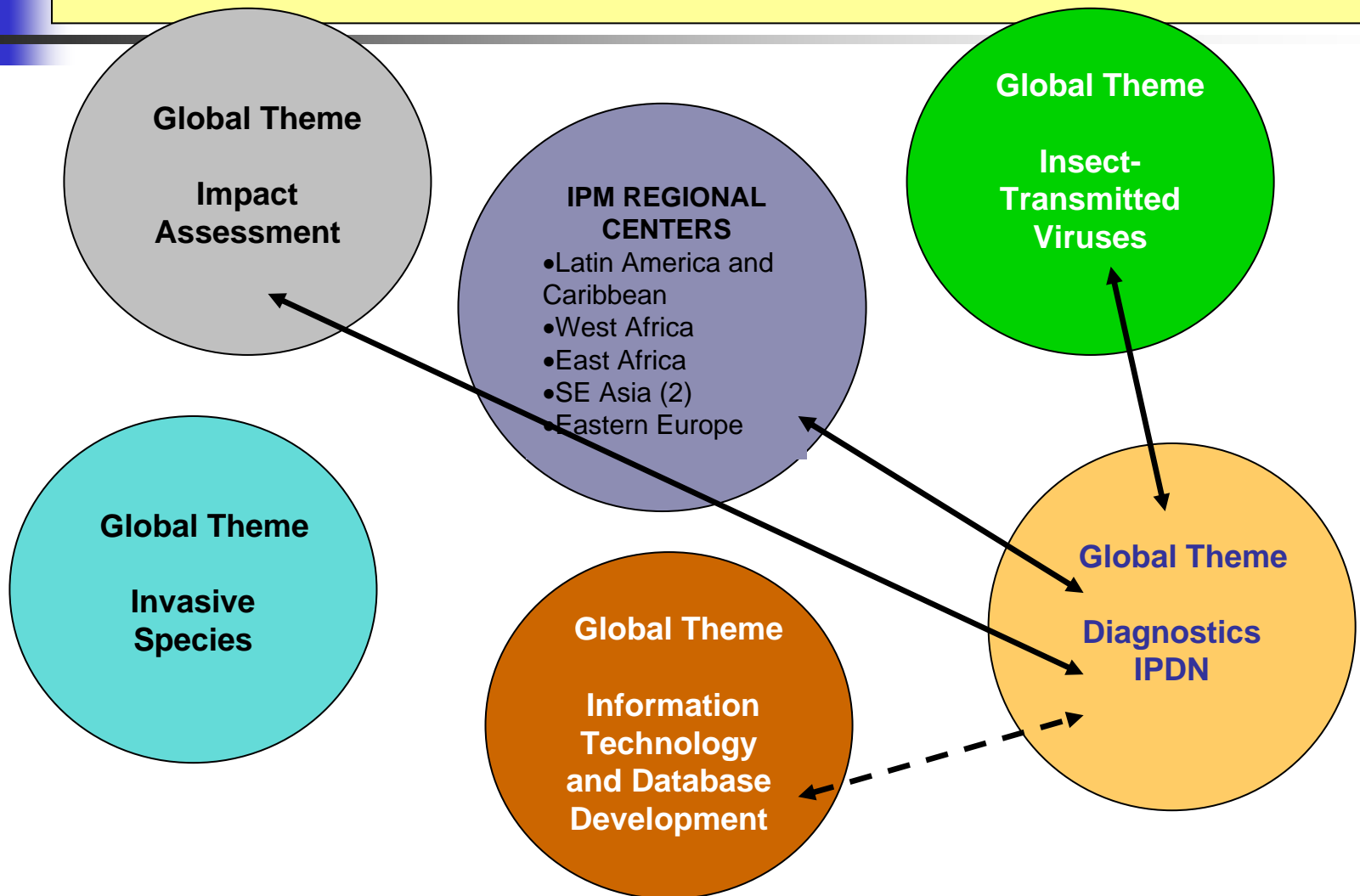


# Program Considerations

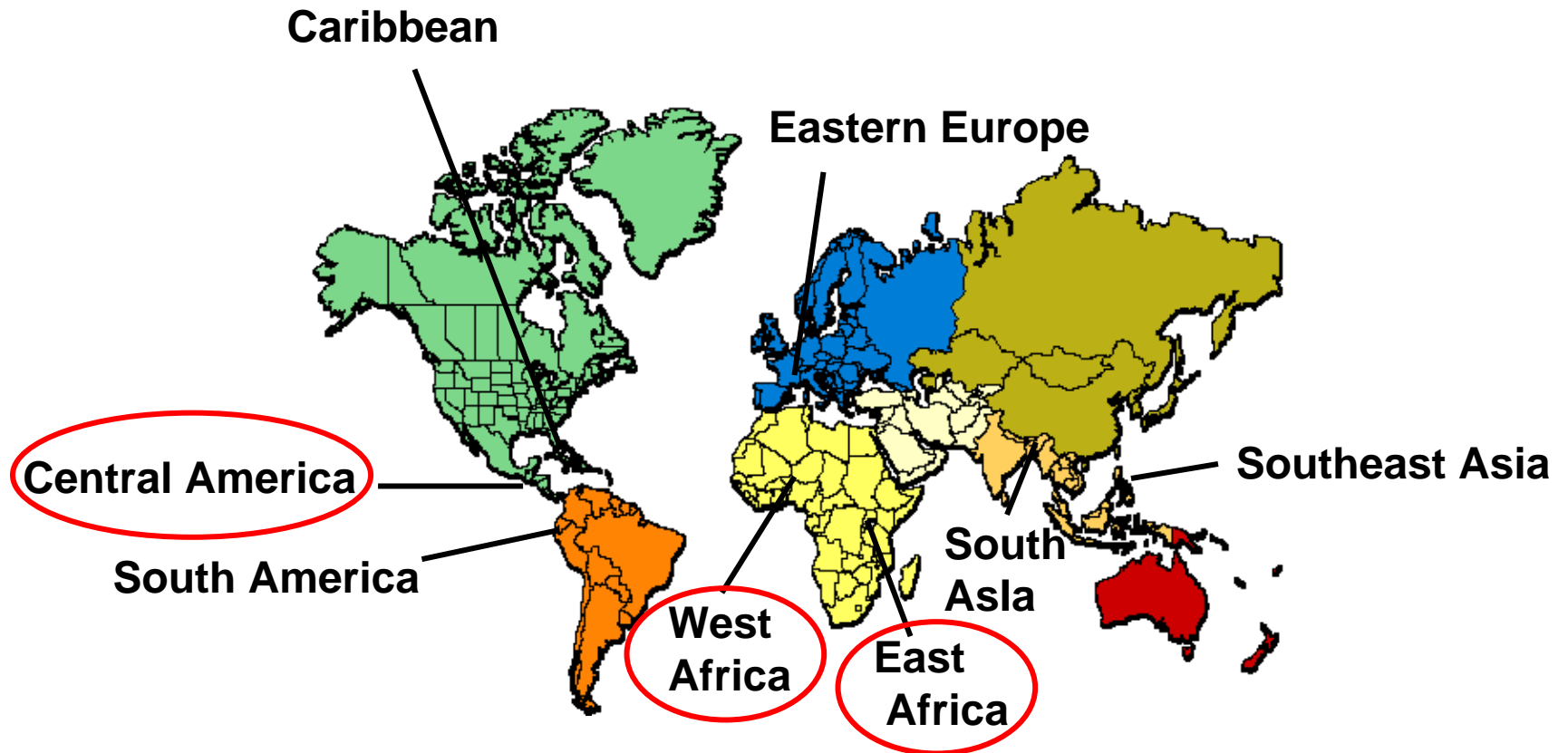
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- Multi-institutional approach to IPM research, training and outreach –
  - U.S. universities
  - IARCS
  - NGOs
  - NARS in host countries
- Participatory approach, involving stakeholders in problem definition
- Address IPM problems with potential of significant impact

# Structure and Strategy for Fulfilling the Objectives of the IPM CRSP



# Regional Sites with Diagnostic Centers





# International Plant Diagnostic Network (IPDN)

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- Established October 2005
  - IPM CRSP Global Theme
    - “Regional Diagnostic Laboratories”
- Modeled after U.S. National Plant Diagnostic Network

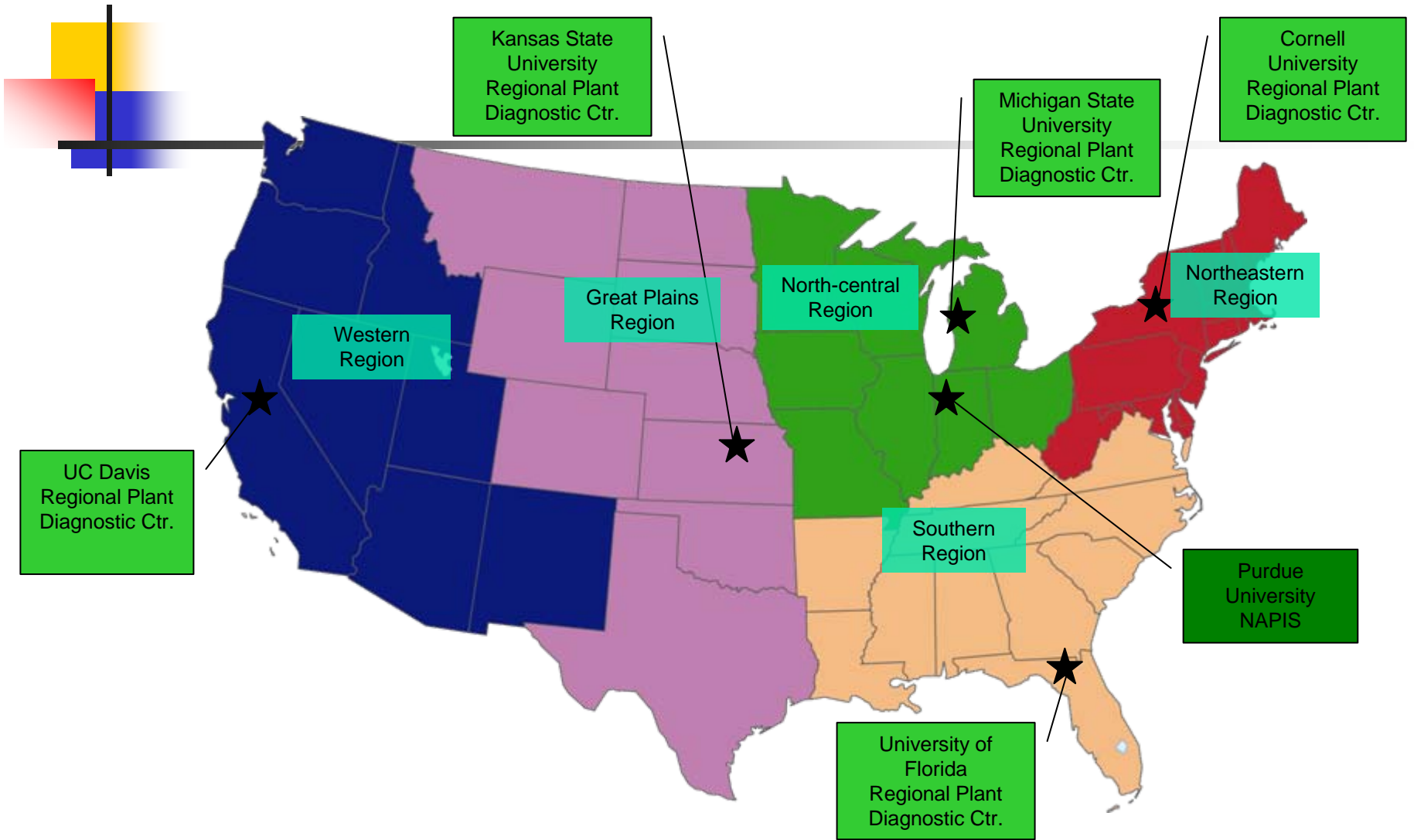


# U.S. National Plant Diagnostic Network

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- Mission: Enhance national agricultural security by quickly detecting introduced pests and pathogens
- Effective communications network
- Harmonized reporting protocols
- National database of pest and disease occurrence

# National Plant Disease and Pest Diagnostic Network







# State Diagnostic Laboratories

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- Most associated with major university with agricultural programs
- Carry out diagnostic tests for stakeholders in the state
  - Pathogens, insect pests, nematodes, weeds
  - Endemic and invasive species
- Have no enforcement function



# U.S. NPDPN Structure/Function

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- Collaborates with U.S. Animal and Plant Health Inspection Service (APHIS) on decision support to respond for invasive pathogens (SOD, SBR, Rs 3/2, and others)
- Develops SOPs, validation, certification protocols
- Facilitates permit applications, positive controls, list of diagnosticians and experts, etc.
- Working with IT group to improve database management



# Training Programs

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- NPDN Mission and Biosecurity Awareness
- Monitoring for high risk pests
- Secure sample submission
- Art and Science of Diagnosis
- Preparedness exercises
- Digitally Assisted Diagnosis
- Several presentations on SOD, SBR, RS, HR insects

# IPDN Regions and Labs

West Africa - IITA Benin  
East Africa - AVRDC Tanzania  
Central America  
AgroExpertos Guatemala





# IPDN Collaborating Institutions

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- Ohio State
- Va Tech
- Univ. Florida
- Univ. Wisconsin
- Univ. California - Davis
- USDA APHIS
- USDA CSREES/NPDPN
- IITA, AVRDC -Regional Center for Africa, Agroexpertos
- IPM CRSP programs
  - W. Africa, E. Africa, Central America/Caribbean regions
  - Insect Transmitted Viruses, Impact Assessment, IT Global Themes

# Objective 1

- **Create systems with the technical capacity to diagnose plant diseases in three participating regions**
  - Small equipment upgrades
  - Supplies
  - Reference material
  - Technical support





# Objective 2

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- **Develop a communication and data networking system** that details pathogen distribution, diagnosis and IPM options and links target countries to each other and to experts in the U.S. and elsewhere.
  - Polycom communications system
  - Website
  - Clinic Information Management System (CIMS) - University of Florida DDIS
    - Data sharing possible but limited according to country requirements



# Objective 3

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- Develop and carry out comprehensive training programs to increase diagnostic capacity within host country institutions for phytosanitary and IPM applications
  - Training 1/ stakeholder meeting
    - Guatemala/C.A. - June 2006
    - Benin/West Africa - September 2006
    - Tanzania/East Africa - January 2007
  - Training 2 - 2007
    - Advanced diagnostic training - USA
  - Training 3 - 2008
    - Follow-up training in-region

# Objective 4



Banana xanthomonas wilt

- Develop/adapt biotechnology-based diagnostic tests and protocols to meet the needs of regional IPM CRSP programs, USAID Missions and/or other donors.
  - BXW
  - Whitefly/aphid transmitted viruses
  - Diseases of African indigenous crops