**Management of Plant Viruses**

**QUESTIONS TO ASK AND ANSWER TO DEVELOP APPROPRIATE AND EFFECTIVE MANAGEMENT STRATEGIES**

Some information that is needed on the ecology and epidemiology in order to develop appropriate and effective management strategies. This is just a place to start. Other information may be essential to management depending upon the disease.

1. Is this disease economically significant or likely to be so in the future?
2. What is the virus?

Family, genus and species?

Synonyms?

Known strains?

 Known geographic distribution?

1. Natural host range and symptoms
2. Symptoms in the crop host in question -

 When do they appear?

 Persistent?

 Seasonal?

 Recovery?

1. How are symptomatic plants distributed in the field?
2. Other known naturally occurring hosts (and symptoms)–

Are any potential reservoirs? Means of geographic dispersal?

1. How broad iss the known experimental host range?

Narrow (hosts in fewer than 2 plant families)

Intermediate (hosts in 3-10 families)

Wide (hosts in more than 10 families)

1. Diagnostic hosts (and symptoms)–

1. Transmission and Movement

How is the virus transmitted in the field?

1. If by vector – which ones? (family, genus, species)

In what manner?

Virus retained through a molt?

Virus replicates in the vector?

Is virus transmitted to progeny?

1. Without a vector – then by what means?

Contact between plants?

Grafting? Mechanically?

Runners? Seed? Pollen?

1. Role of transplants in virus movement

Is this crop or nearby crops planted via seed or transplants?

Are transplants produced via a certification process before purchase?

Is the virus in question part of the certification process?

D. What percent of the spread is due to primary spread? Secondary spread?

1. What diagnostic assays are available?
2. What assays have been developed for this virus?

ELISA? Immunostrip?

PCR,RT-PCR, or Real Time PCR?

Hybridization? Microarray?

Electron microscope?

Other?

1. What Sources for Testing are Available?

Private Diagnostic Labs?

Federal or state Regulatory diagnostic labs

University Diagnostic clinic (this state, other states?)

University researcher (this state, other states?)

Other?