

PLP 3002
Agrios 14: 479 - 563
Virus diseases

Scenarios:
Some viruses transmitted by humans
and aphids

Control Principles

- Exclusion
- Eradication
- Protection
- Genetic Resistance

Viruses transmitted
by humans

- Tobacco mosaic virus
- Potato X virus (Bolivian scenario)

Viruses transmitted by aphids

- Closterovirus (citrus tristeza)
- Cucumovirus (cucumber mosaic)
- Potyvirus (many)

Citrus tristeza
virus scenario

- Citrus tristeza closterovirus
- Toxoptera citricida
- 3 other species
- Stock/scion incompatibility
 - Sour orange root stock
 - Rough lemon root stock

Lettuce scenario

- Lettuce mosaic potyvirus
- Seed borne
- Transmitted by many aphids
- Narrow host range
- Control? (Seed certification)

Celery scenario

- Celery, a two-year crop
- Celery mosaic potyvirus
- Not seed borne
- Transmitted by many aphids
- Narrow host range
- Control? (isolation)

Passionfruit scenario

- Vine crop
- Passionfruit potyviruses
- Narrow host range
- Transmitted by many aphids
- Control? (passionfruit free growing period)

Gladiolus scenario

- Cucumber mosaic cucumovirus
- Wide host range
- Transmitted by many aphids
- Rate of spread?
- Control? (roguing)

Squash scenario

- Several potyviruses
- Not seed borne
- Transmitted by many aphids
- Control? (stylet oils)

Onion scenario

- Two-year crop
- Onion yellow dwarf potyvirus
- Not seed borne
- Transmitted by many aphids
- Control? (volunteers)

Aphid control?

- Pesticides?
- Mulches?
- Bolivian potato scenario

Dieffenbachia/Caladium scenario

- Dasheen mosaic potyvirus
- Narrow host range
- Transmitted by many aphids
- Control? (tissue culture)

Plant Tissue Culture

- Stage 1
- Stage 2
- Stage 3
- Stage 4
