Sweet potato virus elimination through tissue culture

What is tissue cultured planting material?

Plant tissue culture is when plant cells or tissues are cultured in a medium in the laboratory to give new plantlets

- Tissue culture facilitates elimination of viruses
- Tissue cultured plants grow faster and are relatively uniform
- Yield of biomass and tubers is high on virus free material

Sweet potato virus: a deadly disease

Sweet potatoes are prone to attack by viruses. These viruses are transmitted by sap sucking insects such as aphids and white flies.

1. The viruses invade the vascular plant tissues thereby affecting the normal plant physiological processes.
2. Plant performance is adversely affected reducing biomass and tuber yield.
3. Yields can be reduced by as much as 100% when plants are severely affected by viruses.

Common sweet potato viruses

- Sweet potato feathery mottle virus (SPFMV)
- Sweet potato mild mottle virus (SPMMV)
- Sweet potato caulimo-like virus (SPCLV)

Important sanitary measures for sweet potato viral diseases

- Avoiding use of retained planting material for period exceeding 3 years
- Control of vector insect pests in the nursery or field
- Practicing hygiene during preparation of planting material i.e. vine cuttings

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