Sweetpotato Variety Field Day

Kauai Agriculture Research Center

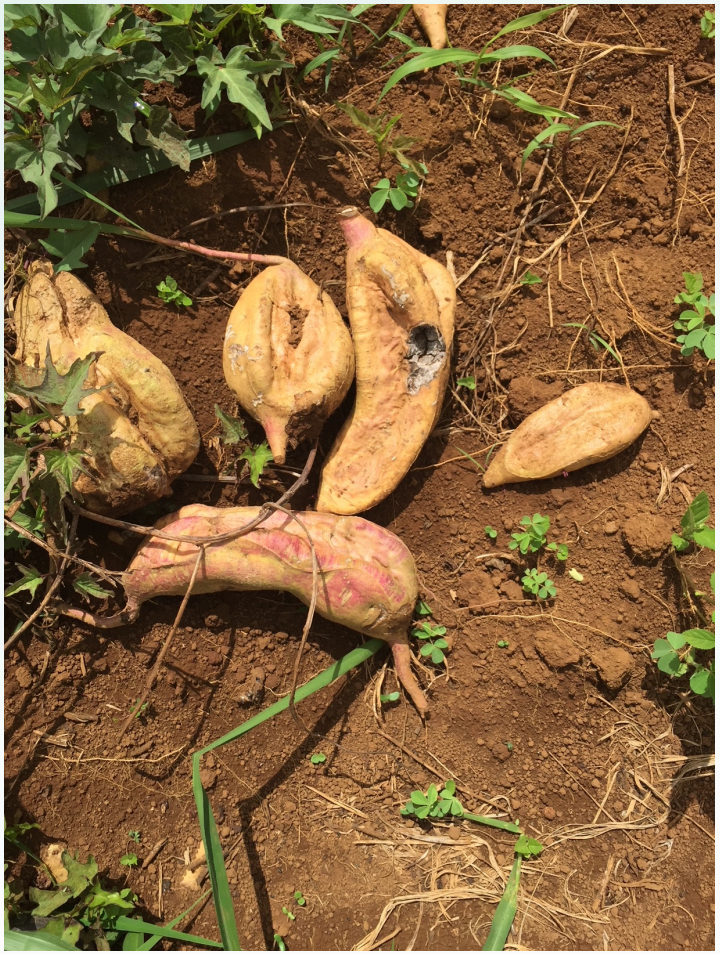
October 8, 2019

Program

- Introduction to Sweetpotato Variety Trial (Background) – Roshan Manandhar
- Nematode Manangment for Sweetpotato – Koon-Hui Wang
- Insect pests and Diseases – Roshan Manandhar
- Food safety – Emilie Kirk
- Break
- Field demonstration – James Keach

Background

- Sweetpotato pests – weevils, nematodes, diseases etc.
- Reniform nematode outbreak in one of the farm on Kauai (May, 2018)
- Almost 70% of tubers showed symptoms of nematode infection – flat, cracked and slipper shaped



Background

- Sampling – soil samples were taken from infected field, pasture lands and fallow field for determining reniform nematode density

Field	Reniform nematodes/ 250 cc of soil	Economic threshold Counts / 250 cc
Infected field	2070	500
Pasture land	700	
Fallow field	10 - 150	

Background

- Plant do show symptoms of reniform nematode infection above ground
- Long duration crop, low population of nematodes still builds up high at the time of harvest
- The epidemics of nematode damage is unpredictable – hard to decide when to use management options
- Resistant varieties????
- Screening varieties for reniform resistance varieties

Field Layout

Variety names:

1. NZ 196
2. Regal
3. Sumor
4. Jonathan
5. Ruddy
6. W-390
7. Okinawan
8. Mokuau
9. Kona B
10. Hui 18B
11. Kan keo keo
12. Purple-LC

Cultural Operations

- Planting – May 7, 2019
- Weeding and fertilizing – May 29, 2019 (NPK 7:30:20)
- Weeding and fertilizing – July 19, 2019 (NPK 16:16:16)
- Soil sampling for nematode counts – July 27, 2019
- Weeding and fertilizing – August 8, 2019 (foliar spray, NPK 0: 28:25)

Pest Problems

Flea Beetle damage

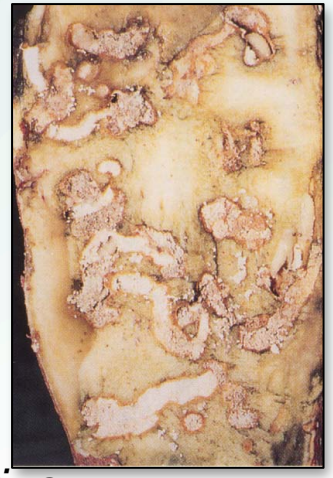
Chinese Rose Beetle damage

Bird damage

Insect-pests

- Sweet potato weevils
- Sweet potato bug
- Sweet potato vine borer

Sweetpotato weevils (Curculionidae: Coleoptera



Rough sweetpotato weevil – *Blosyrus asellus*

Sweetpotato weevil – *Cyclas formicarius*

https://www.ctahr.hawaii.edu/oc/freepubs/pdf/IP-38.pdf

Sweetpotato bug (Coreidae: Coleoptera)

Leaf footed bug, *Phymoserus grossipes*

Sweetpotato vine borer (Noctuidae: Lepidoptera)

Omphisa anastomasalis

Diseases

- Rhizopus soft rot
- Java black rot
- Black rot
- Scab disease

Rhizopus soft rot (*Rhizopus spp.*)

Infection starts at the tip, where it is detached

Disease can progress rapidly

Internal discoloration – light dark brown, External growth fungal mycelium -whiskers

https://www.ctahr.hawaii.edu/oc/freepubs/pdf/PD-68.pdf

Java black rot (*Diplodia gossypina*)

Internal decay

Black Stromatic mass of the fungus break through from the periderm of infected root

https://www.ctahr.hawaii.edu/oc/freepubs/pdf/PD-55.pdf

Black rot (*Ceratocystis fimbriata*)

Early infection in storage – white fluffy mycelial growth

Large circular shrunken black spots

Questions!!!