Tropical Fruit Biotechnology in the Virgin Islands

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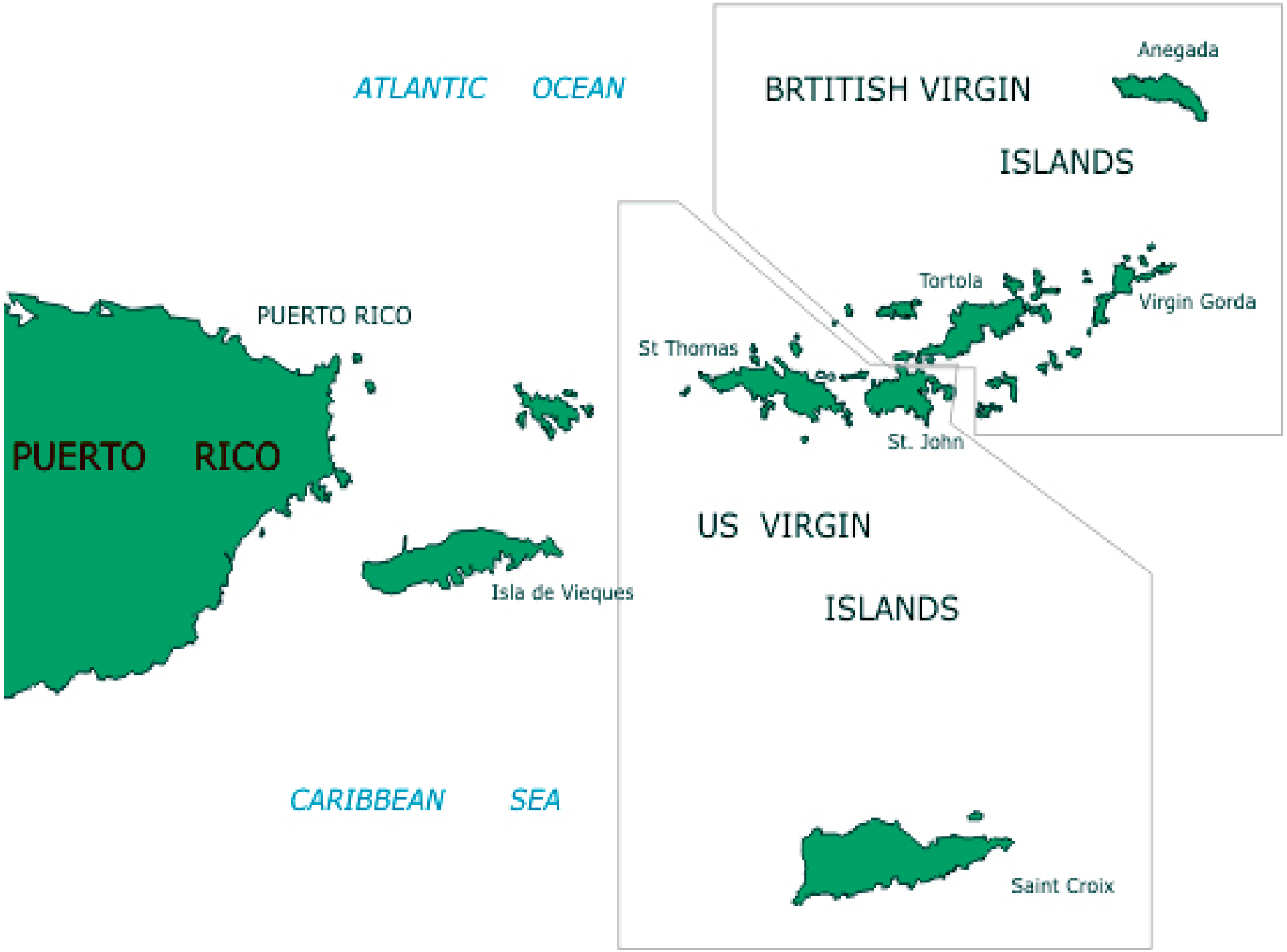
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BRTITISH VIRGIN
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Virgin Gorda
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PUERTO RICO
PUERTO RICO
Isla de Vieques
CARIBBEAN SEA
Saint Croix

Challenges to Tropical Fruit Production in the Virgin Islands

- Small Farms < 5 acres
- Semiarid
- Limited Water
- Calcareous Soils pH~8
- High Supply Costs
- Hurricanes

Focus on Traditional Caribbean Crops

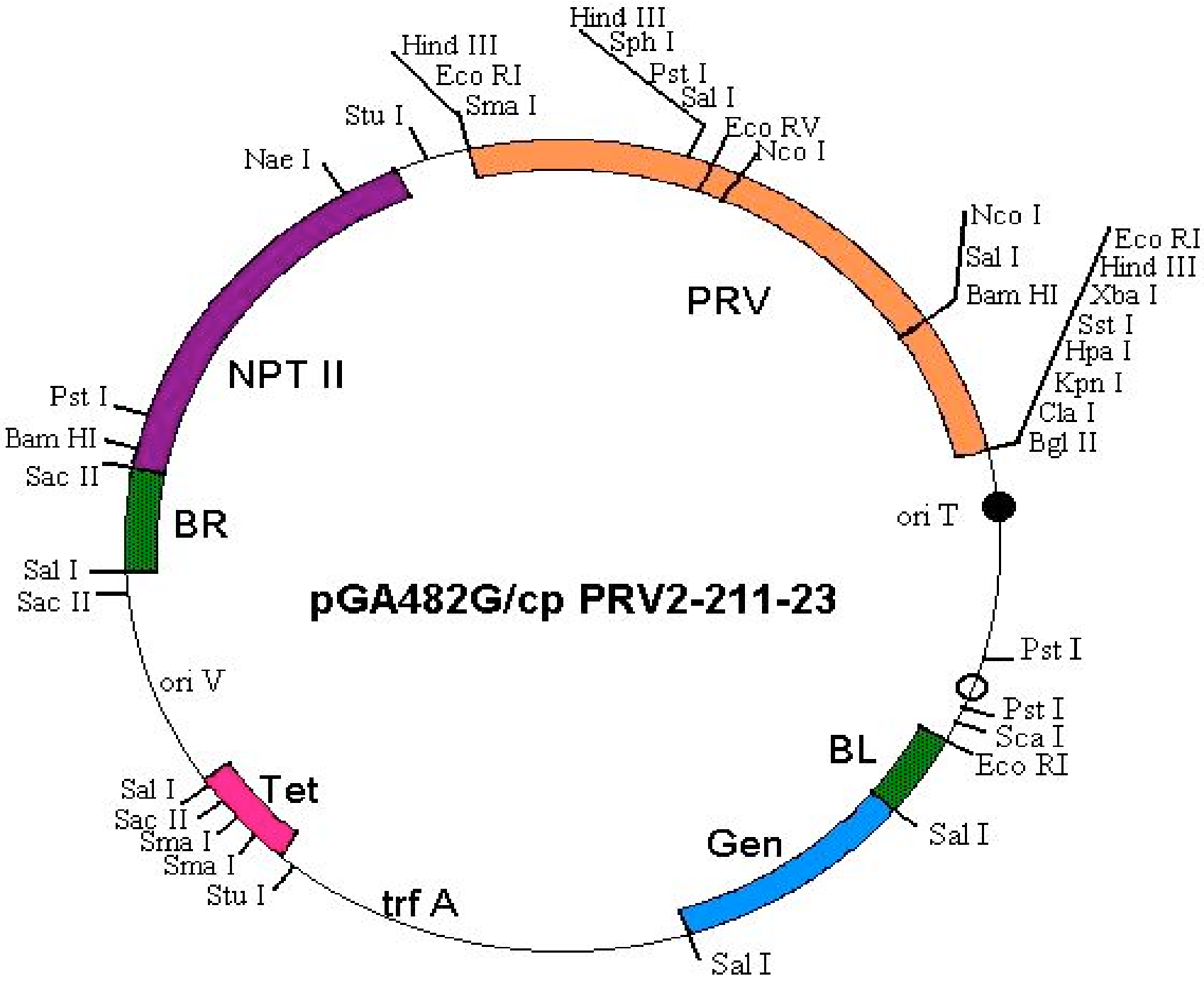
- Papaya
- Passion Fruit
- Pineapple
- Cassava

Papaya Variety Evaluation

Papaya Breeding & Selection

Early bearing (w/in 1 m), fruit 1-2 Kg & hermaphrodites

PRSV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NPT II
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Pst I
Sal I
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Nco I
Hind III
Eco RI
Sma I
Stu I
Nae I
Nco I
Sal I
Bam HI
Eco RI
Hind III
Xba I
Sst I
Hpa I
Kpn I
Cla I
Bgl II
Pst I
Bam HI
Sac II
Sal I
Sac II
Pst I
Pst I
Sca I
Eco RI
Sal I
Sal I
Sac II
Sma I
Sma I
Stu I
Sal I

Papaya Varieties Selected

Washington 5

Yuen Nong 1

Ro Transgenic Yuen Nong 1

R1 Segregating Yuen Nong 1

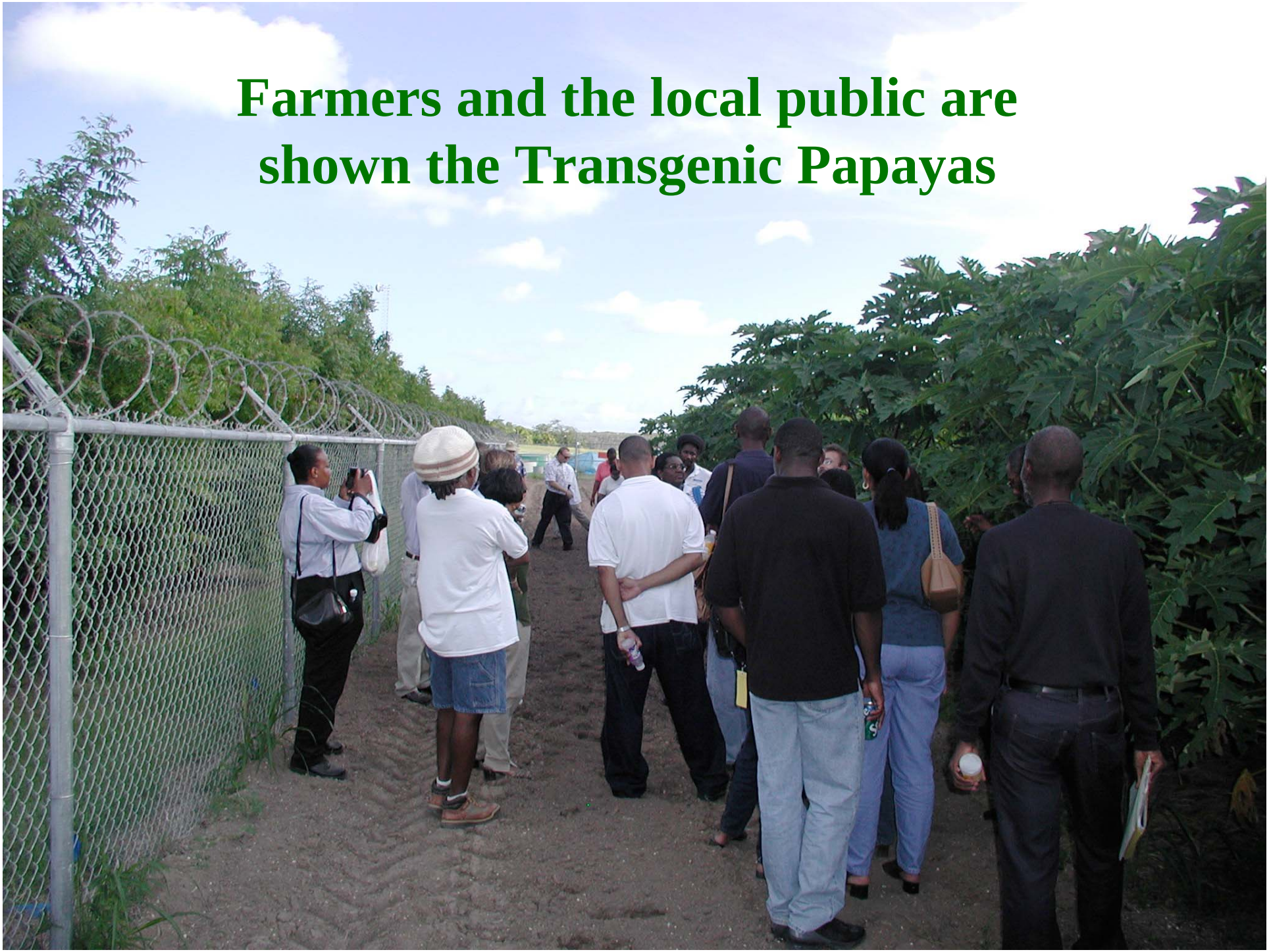
R1 Washington segregating for PRSV resistance

PRSVcp Transgenic Washington

One week after spraying Kanamycin sensitive seedlings

No Yellow Spots, Transgenic

Farmers and the local public are shown the Transgenic Papayas



Recording soil moisture using tensiometers

Fruit for Seed Harvest

What we want to see, a productive local farmer or backyard gardener

A Passion for *Passiflora*

The Unspeakable


Three wire system ready to plant

Three wire system after one year

One wire system after one year


Red x Yellow
F1

Pineapple

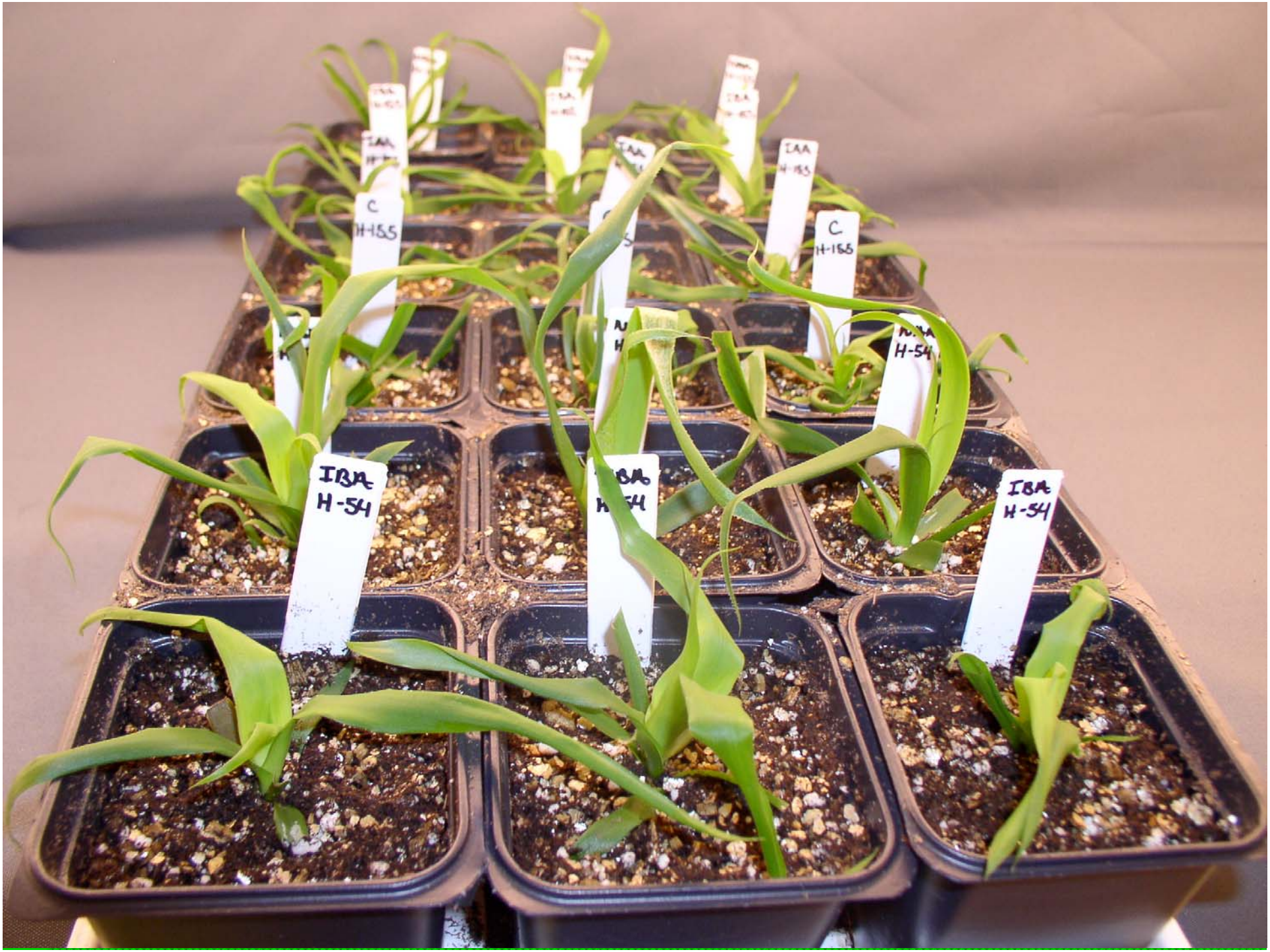
18 varieties from USDA Germplasm collection

Old Caribbean varieties & newer Cayenne


BA
BA+Kin

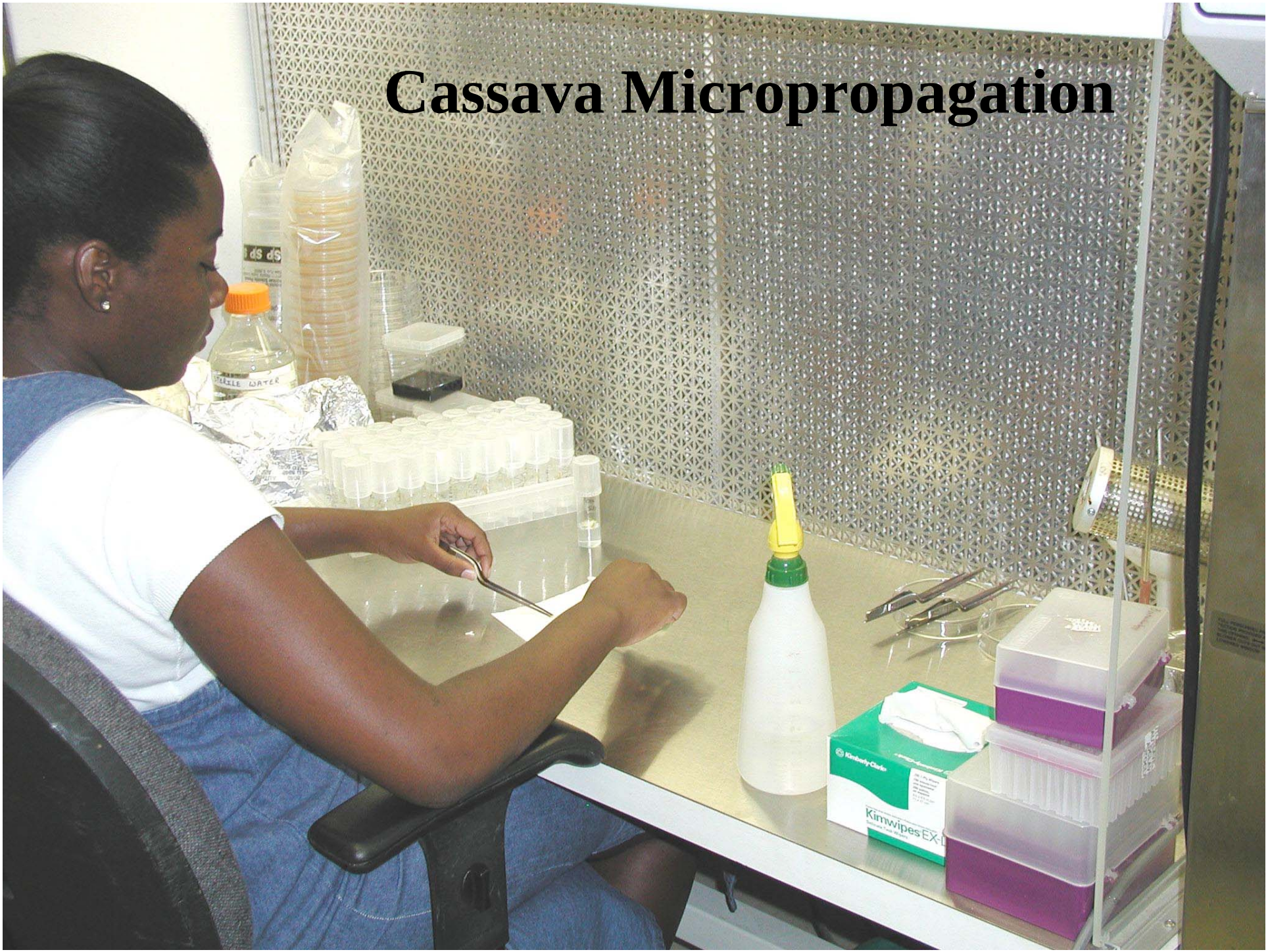

H-155
whole
H-155
whole
H-155
Half
H-155
Half

Auxin like compounds and rooting


IBA
H-54
IBA
H-54
IBA
H-54
C
H-155
C
H-155

Cassava

Cassava Micropropagation



First field trials of transgenic Cassava

Amylose Free Starch in Cassava

Grapes

Disease resistance (PD)

Table & wine

Tropical production

Future

Biological control of nematodes

Post-harvest papaya storage

Modified starch cassava

Invasive plants