Influence of Variety and Harvest Date on Sweet Potato Weevil Damage

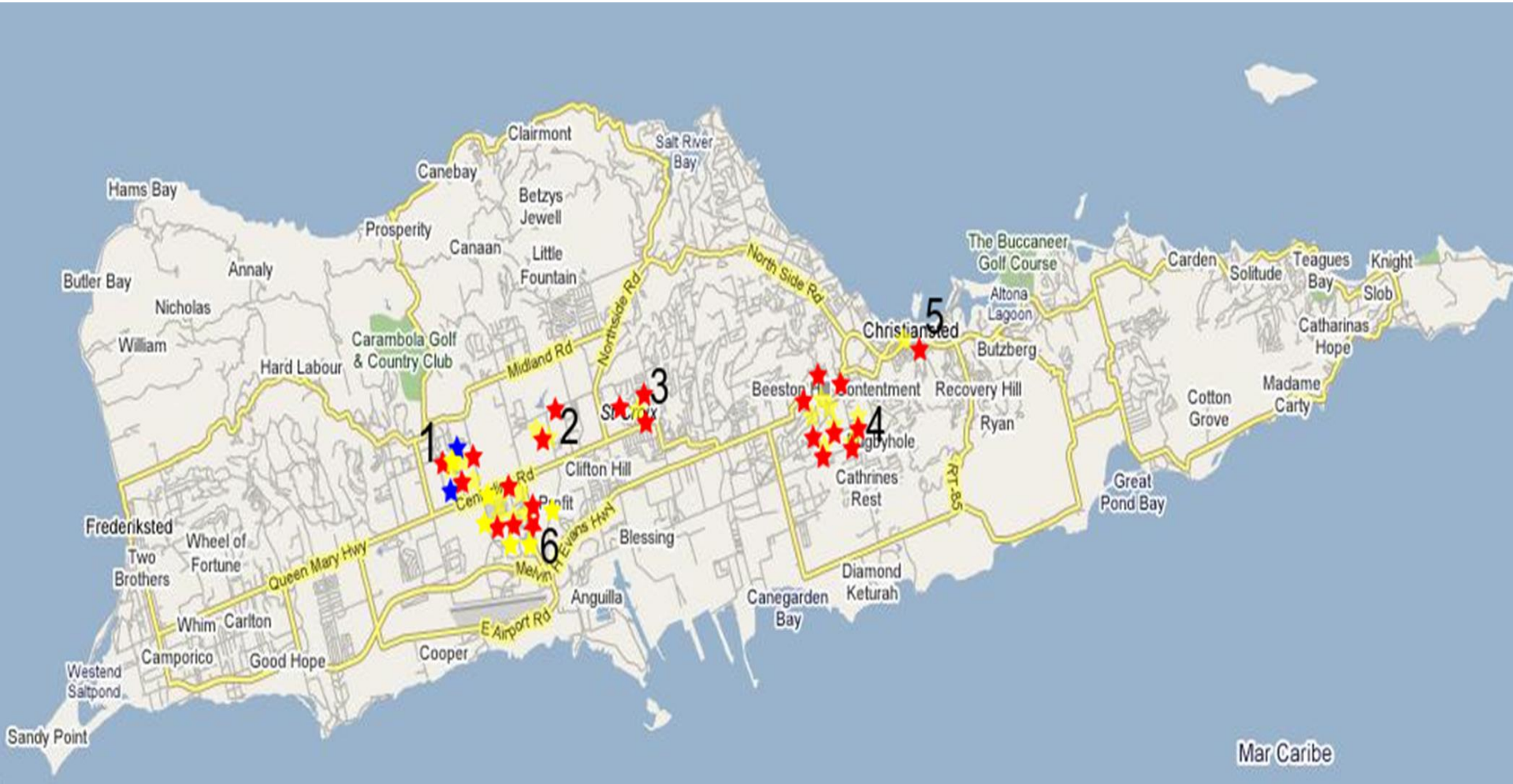
Thomas W. Zimmerman, Stafford M.A. Crossman, Carlos Montilla, Noel Burnett, Chinaemere Igwebuike, Kenya Emanuel

UVI AES Biotechnology & Agroforestry

Student project to identify viruses in Sweet Potato

From the six growing areas, all had 1-3 viruses

Yellow represent Potyvirus, Blue represent Cucumber Mosaic Virus and Red represent Zucchini Yellow Mosaic Virus

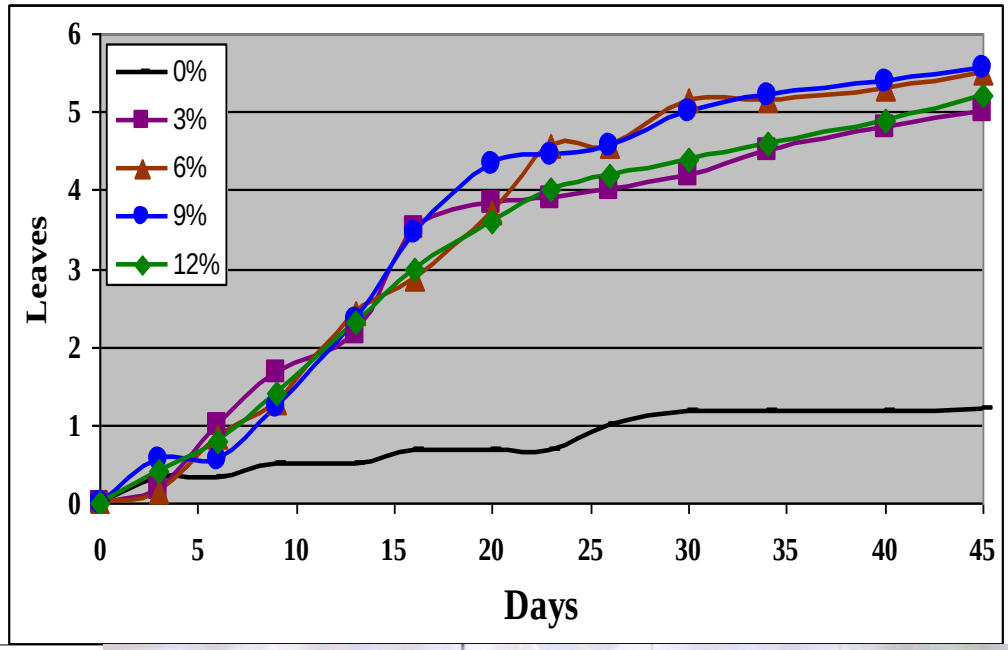


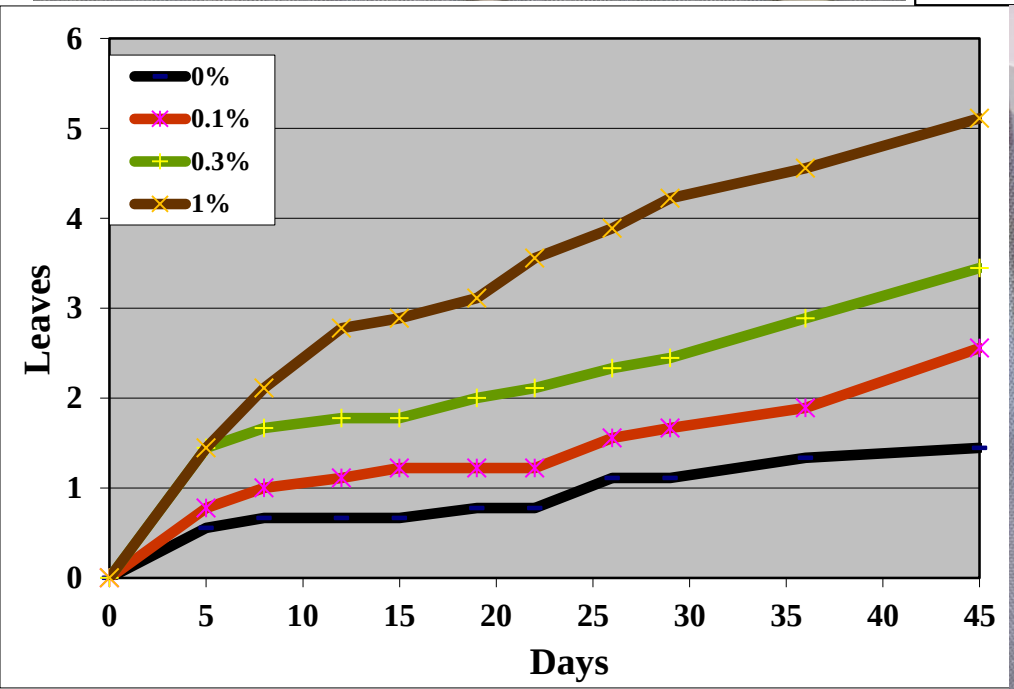
Sweet Potato Varieties

Caribbean	USDA*	LSU*
Craneal	Francia	B-14
PR 406	Gonime	Evangeline
PR 8023	Liberty	Murasaki
Pujol	Mojave	
St Kitts	Okinawa	
Sweet James	Ruddy	
	Toquecita	
	White Jewel	
	Yellow Sunflower	

Virus-Free material arrived as 1-2 two test tubes and needed to be micropropagated in vitro

Sweet Potato grown in vitro with multiple sucrose concentrations





In vitro plants were grown under a 16 hr photoperiod at 25C Rooted shoots were transferred to sterilized potting mix, covered for a week to assist in acclimatization. After two weeks, they were transferred to a greenhouse.

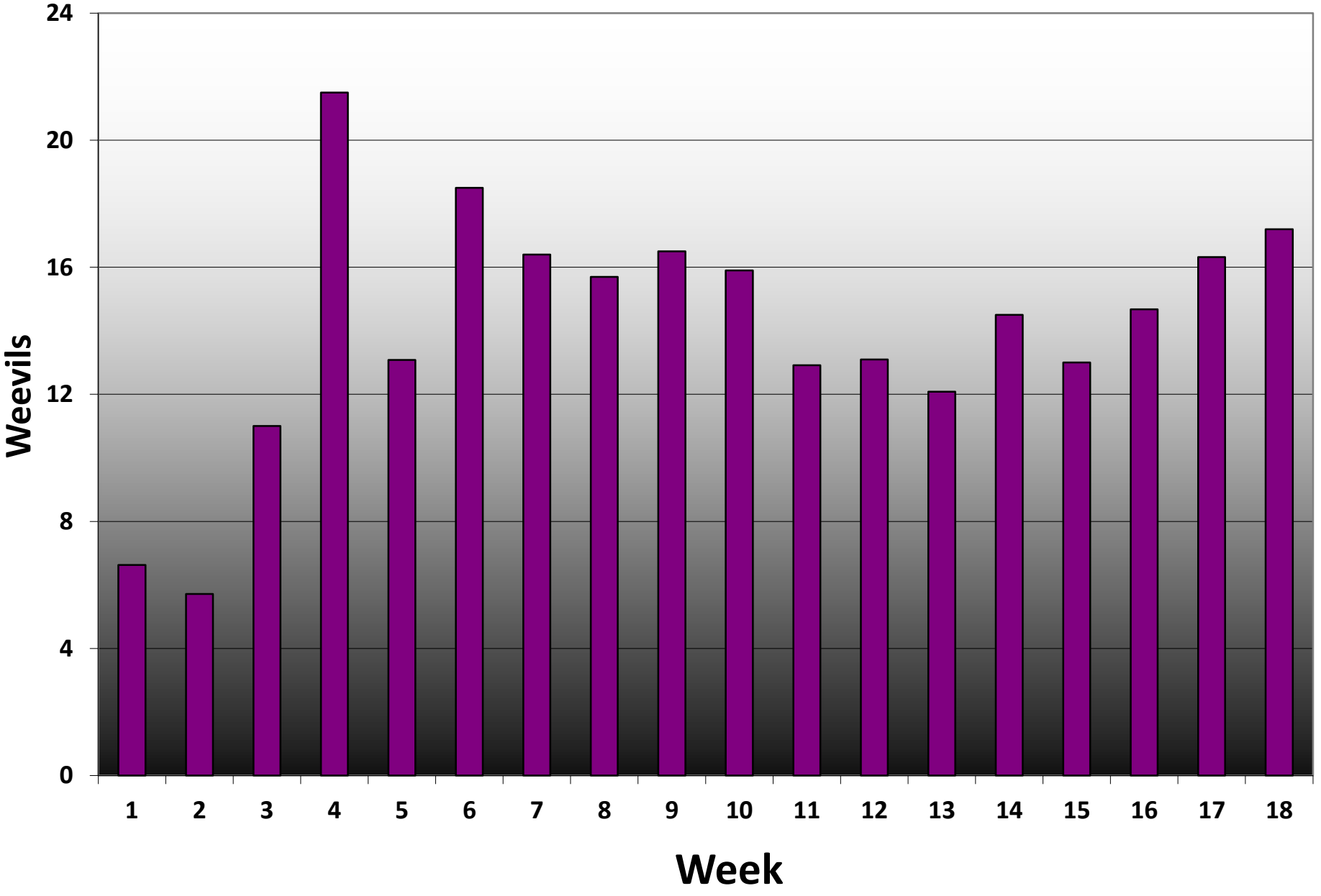
Replicated trial 1 ft between plants 4.5 ft between rows, 9 varieties/row, 17 plants/variety/row, 3 rows/block, 3 blocks

Six weevil traps placed throughout the field and monitored weekly

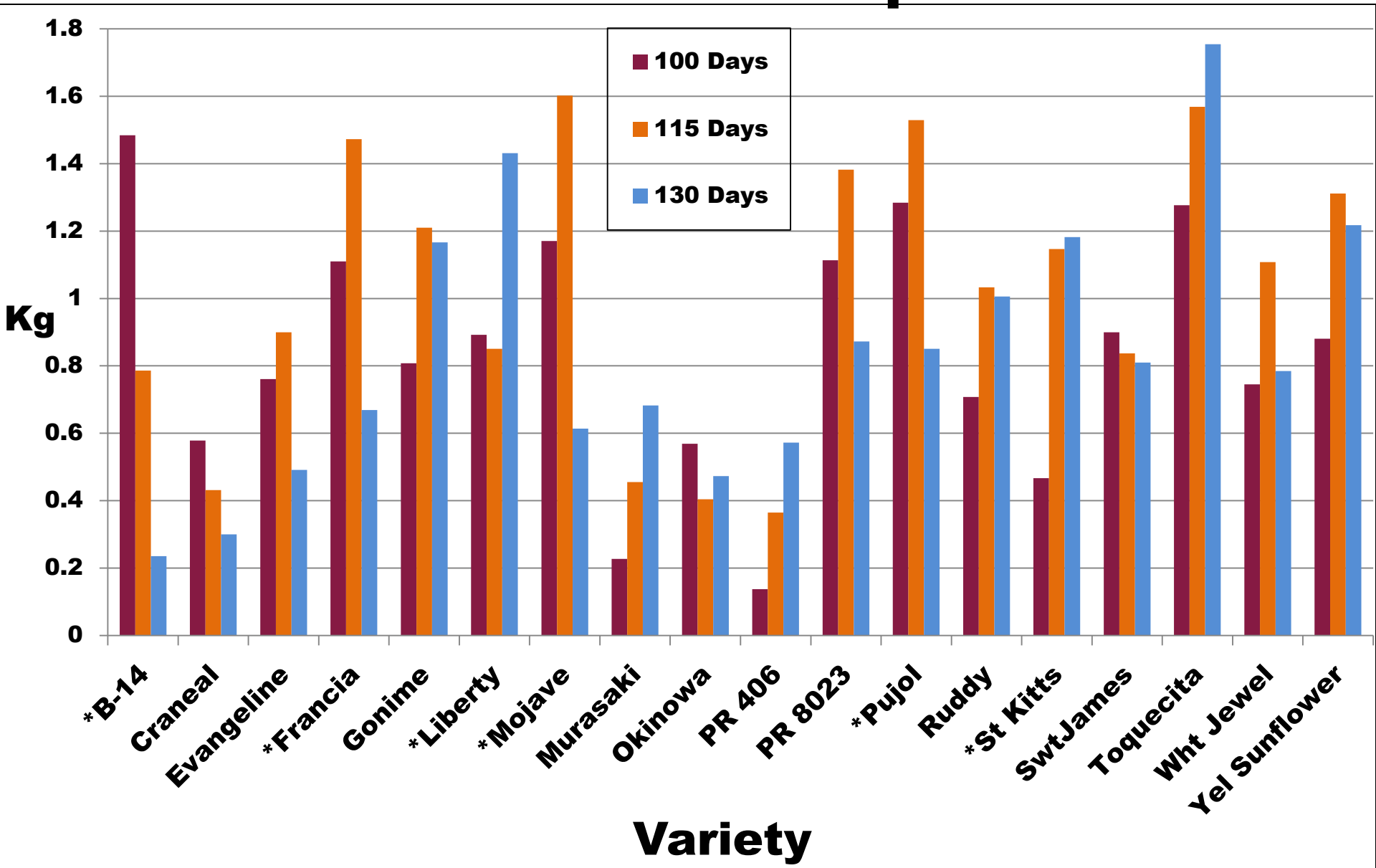
Sweet potatoes ready for vine removal and harvest

Harvesting

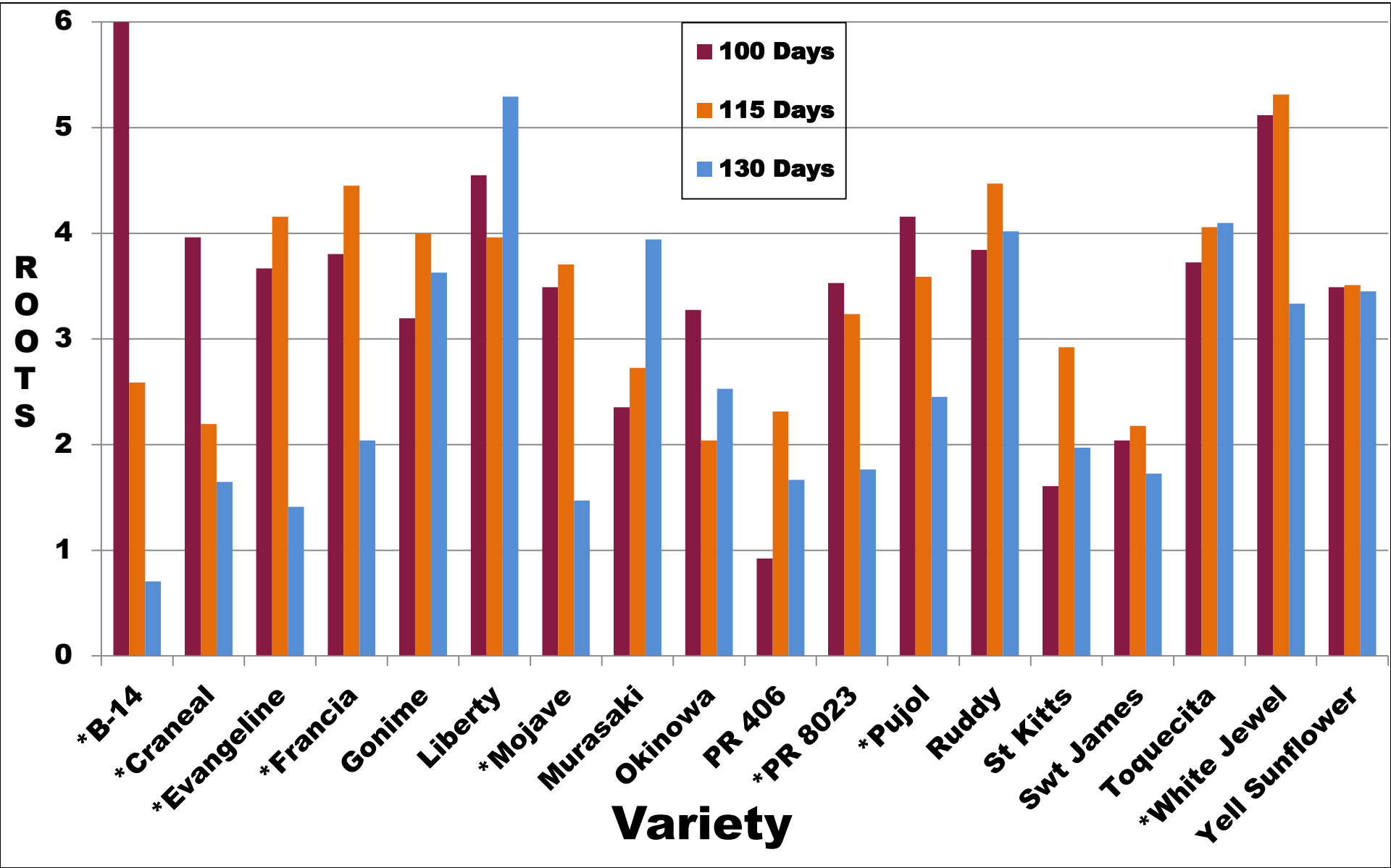
Average number of male weevils captured weekly per trap



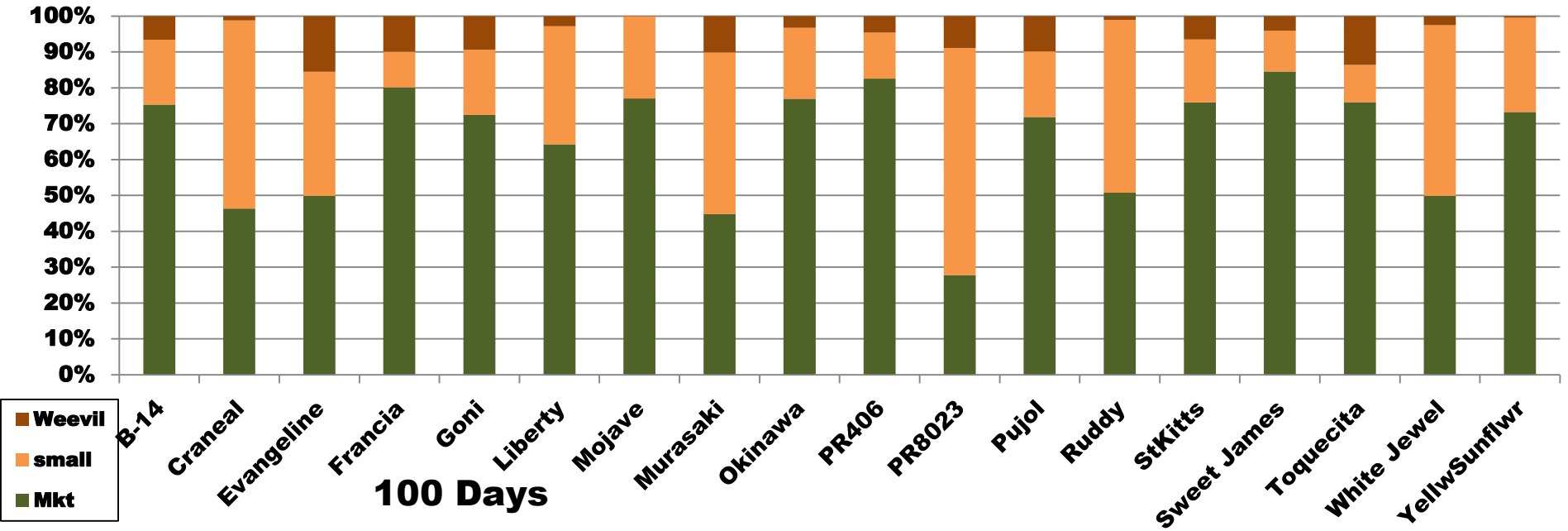
Average Kg Marketable Tuberous Sweet Potato Roots per Plant

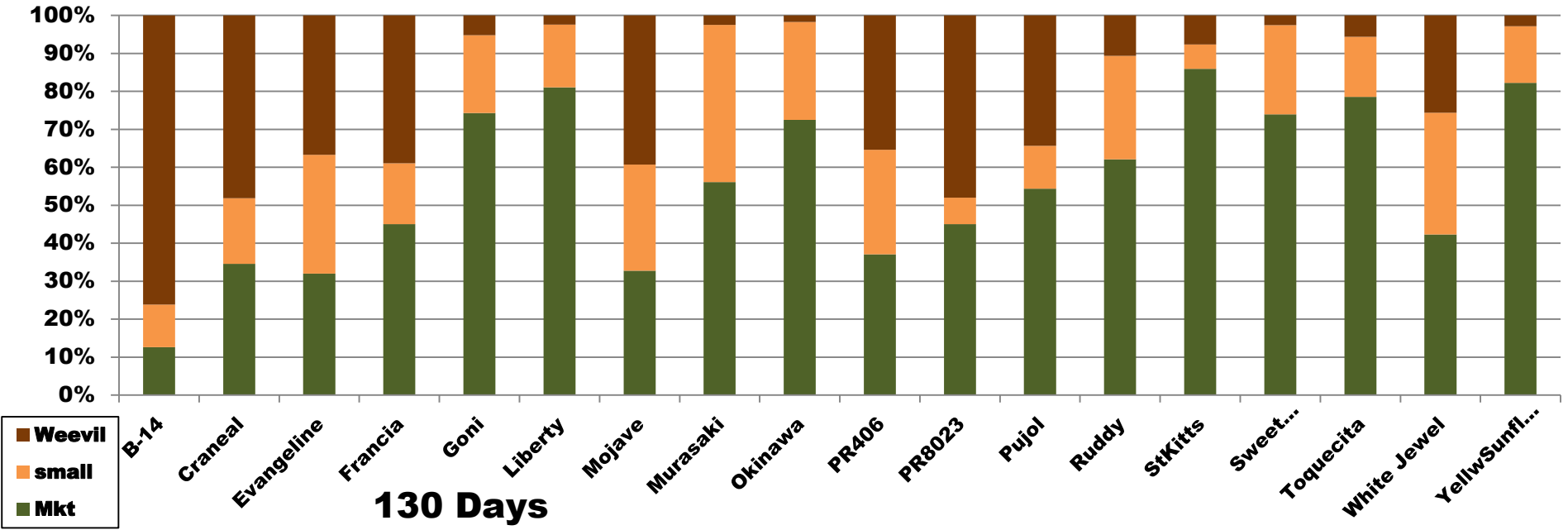


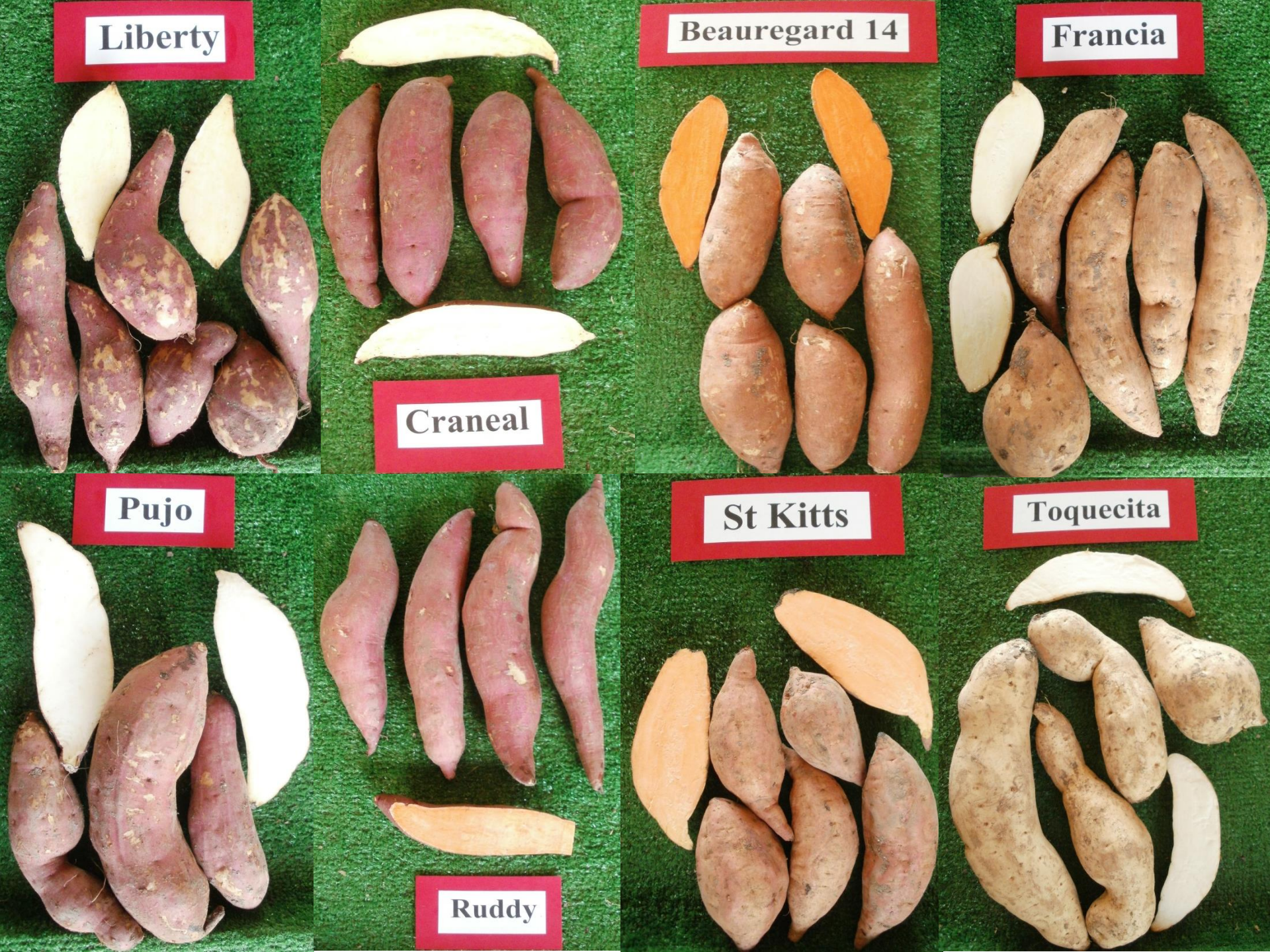
Average Number of Marketable Tuberous Sweet Potato Roots per Plant



Comparison between 100 and 130 day for Marketable, Small and Weevil damaged Sweet Potatoes






Liberty
Craneal
Beauregard 14
Francia
Pujo
Ruddy
St Kitts
Toquecita

Taste Evaluation

Refrigerated Storage

At harvest soluble solids (sugars) 6-8%

After 2 weeks soluble solids increases to 8-13%

After 4 weeks soluble solids range 10-16%

Future studies on postharvest to determine refrigeration vs room temperature storage influence on sugar content

Conclusions

- **Sweet potato viruses are present throughout St Croix**
- **0.1-0.3% sucrose can used for extended culture life 1 year**
- **Weevils are present throughout sweet potato production**
- **Harvest at 100 days minimizes weevil damage**
- **Varieties B-14, Francia, Mojave, Pujol, PR 8023 and Toquecita produce over 1 Kg/plant in 100 days**
- **Varieties with the greatest weevil resistance at 130 days were Gonime, Liberty, St Kitts, Sweet James, Toquecita and Yellow Sunflower**
- **Refrigeration increases soluble sugar content**

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Coauthors:

Stafford M.A. Crossman
Noel Burnett
Chinaemere Igwebuike
Carlos Montilla
Kenya Emanuel