



# PERFORMANCE AND KEY PESTS OF BOK CHOI AND CHERRY TOMATO IN DIFFERENT REGIONS OF PUERTO RICO

Ermita Hernández<sup>1</sup>, Irma Cabrera<sup>2</sup> and Raul Macchiavelli<sup>2</sup>  
 Agroenvironmental Science Department, University of Puerto Rico at Mayaguez

## Significance

Most of the vegetable farms in Puerto Rico are small scales with different production systems. In order to expand the local market with alternatives products it is necessary to validate the performance of different varieties within regions. The identification of key pests is the first strategy to implement good crop management for a successful agrobusiness.

## Objectives

Evaluate the adaptability and performance of new small tomato and Asian vegetables varieties produced on open field production systems in different locations and to explore value added opportunities for local niche markets.

## Methodology



In January 2019, a split plot design arranged as a 3 x 3 with four blocks validated the varieties within regions. Three main plots were the location: **West** (Guanica), **Center** (Adjuntas) and **South** (Juana Diaz). Three subplots were the varieties for each crops arranged as RCBD: *Bok Choi* ('Mei Qing Choi F1', 'Joi Choi F1' and 'Chinese Pak Choi') and *Cherry Tomatoes* ('BHN 968 F1', 'BHN 268 F1' and 'BHN 785 F1').

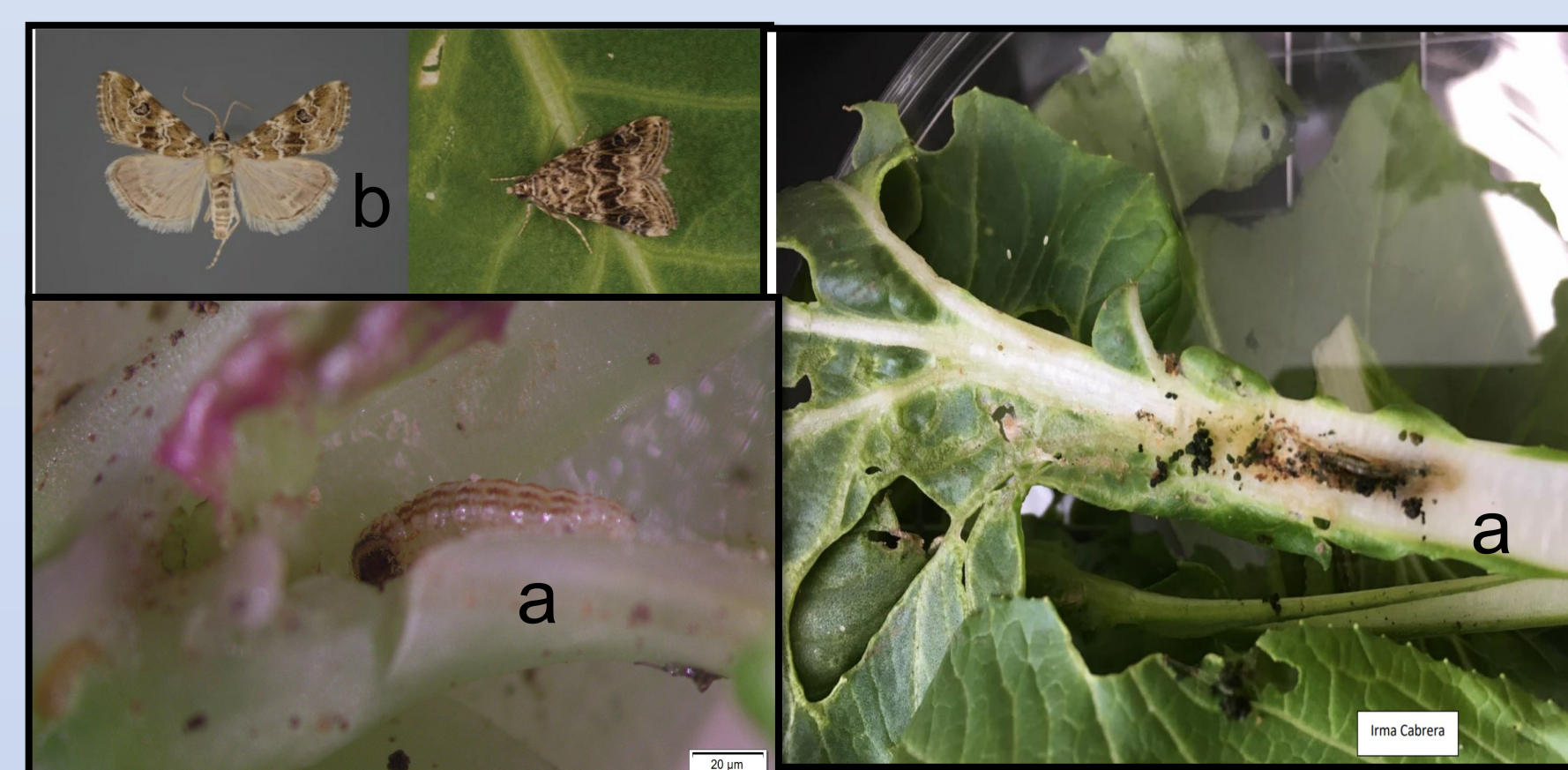
## Results

Location	Mei Qing Choi	Joi Choi	Chinese Pak Choi
Juana Diaz	4129b	6398a	6595a
Adjuntas	4049b	7469a	4956b
Guánica	1392a	2350a	2178a

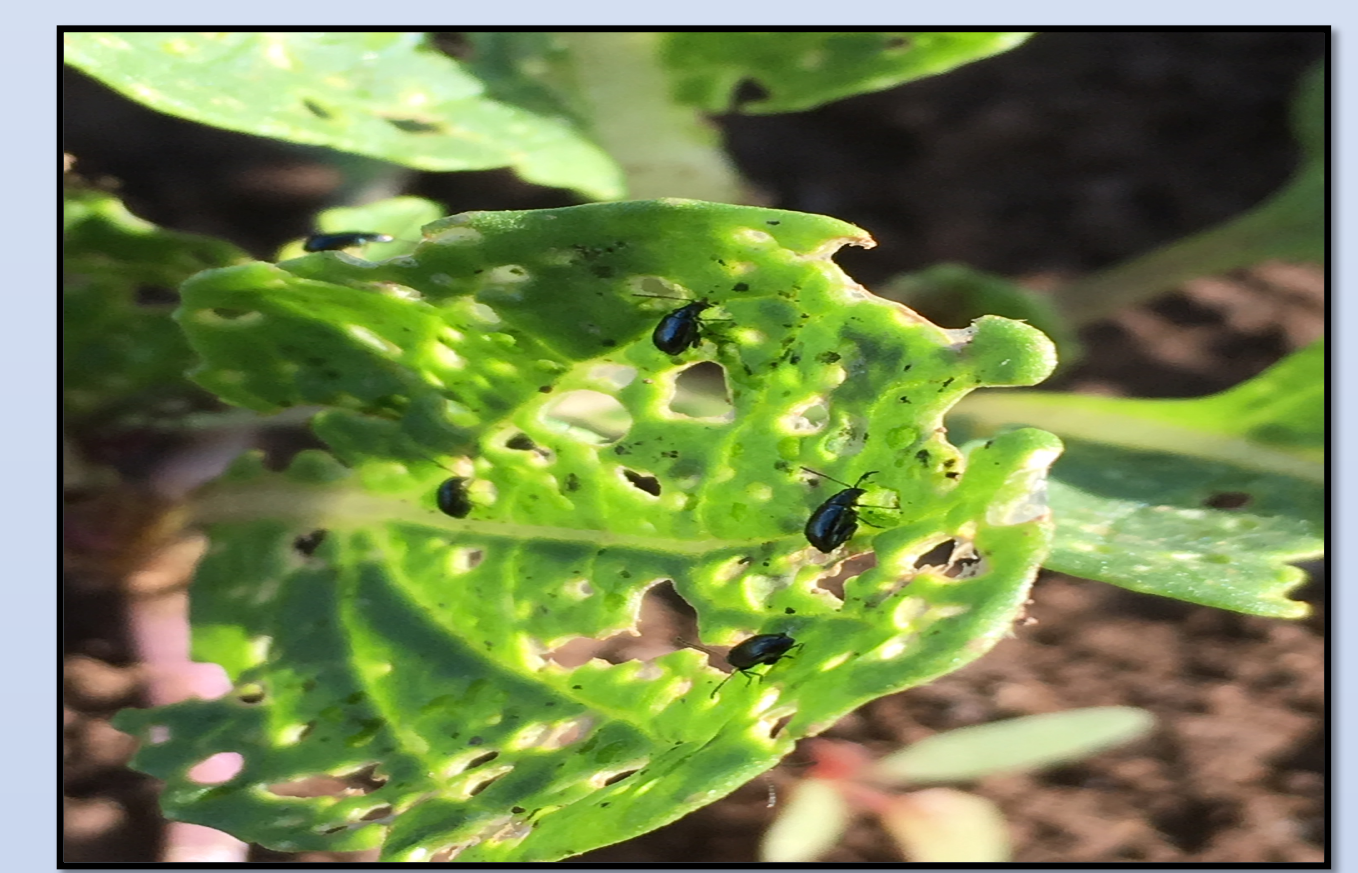
**Table 1:** Pounds per acre of Bok Choi varieties within three locations. P=0.05.

Location	No. Harvest	BHN 968	BHN 785	BHN 268
Juana Diaz	7	4919a	4796a	5754a
Adjuntas	9	1320b	1855a	2540a
Guanica	6	1835a	1757a	1984a

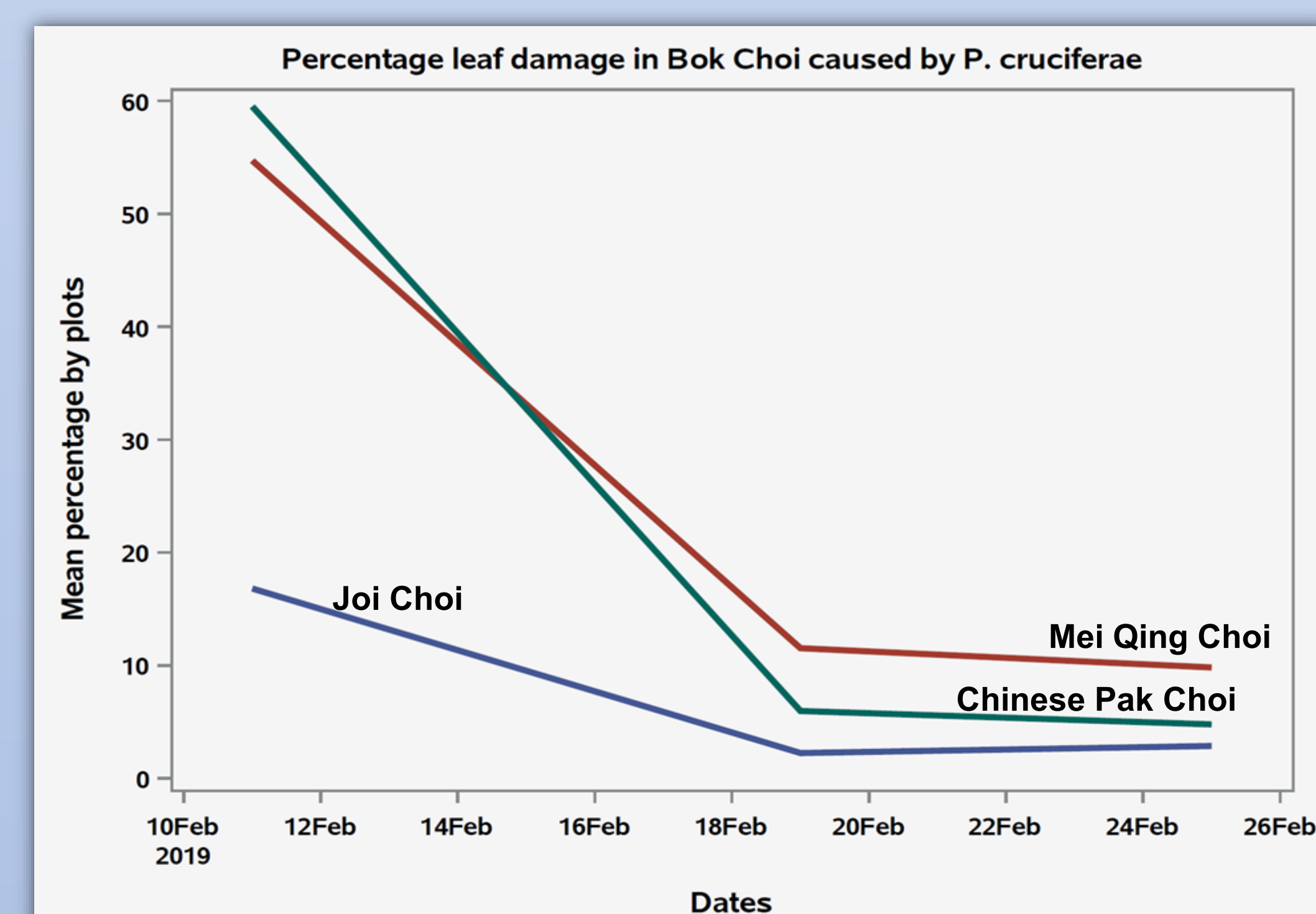
**Table 2:** Pounds per acre of cherry tomato varieties within three locations. P=0.029.



**Picture 1.** a) Larva and steam damage caused by cabbage webworm *Hellula* spp. and b) adult moth identified at three location in Bok Choi. Photo credits a) Irma Cabrera EEA/UPRM and b) Lyle J. Buss UF/IFAS.



**Picture 2.** Adult beetles and leaf damage caused by flea beetles *Phyllotreta cruciferae*. Identified at all three location in Bok Choi. Photo credits to Irma Cabrera EEA/UPRM.



**Graph 1.** At the location of Juana Diaz the percentage of leaf damage by *P. cruciferae* was significantly lower in Joi Choi F1 when compared to Mei Qing Choi and Chinese Pak Choi. P=0.0157.

## Conclusion

- Joi Choi F1 and Chinese Pak Choi performed with more pounds per acre at Juana Diaz. However, Joi Choi F1 performed best at Adjuntas.
- *P. cruciferae* pressure was significantly higher at the Juana Diaz location compared to Guanica and Adjuntas. Joi Choi F1 showed significant less leaf damage caused by *P. cruciferae* compared to the other varieties at Juana Diaz.
- All varieties of cherry tomato performed best in Juana Diaz. However, varieties BHN 268 and BHN 785 had significantly higher pounds per acre compared to BHN 968 at Adjuntas.
- These results will help vegetable growers choose a variety that performs better in their geographical region and to identify key pests.