Parenthocarpic Crops for High Tunnels

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Parenthocarpy is development of a fruit without pollination. Parenthocarpy could be a genetic trait or induced by environmental conditions such as low light and cool temperatures. Many greenhouse cucumber varieties and some summer squash can set parenthocarpic fruit. Parenthocarpy may be of particular interest to high tunnel producers since early-season cucumber and squash production is often limited by bee activity within the high tunnel. Cucurbit pollen is very heavy and sticky and is only carried by pollinating insects. Moreover, cucurbits are monoecious, meaning there are separate male and female flowers on the same plant (Figure 1). Cucurbit flowers may be open for only 6 hours and pollen viability rapidly declines.

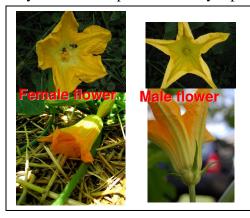




Figure 1. Squash has separate male and female flowers. Bees are necessary to cross-pollinate most varieties of squash. Parenthocarpic varieties of cucumbers and squash do not require cross pollination for fruit set and are well-suited to high tunnel production.

Table 1. Cultivars of parenthocarpic cucumbers and summer squash.

Cultivar Vegetable			
Camaro	Cucumber		
Corona	Cucumber		
Sultan	Cucumber (Beit alpha)		
Diva	Cucumber		
Rocky	Cucumber (Beit alpha)		
Socrates	Cucumber (Beit alpha)		
Tyria	Cucumber		
Tasty Jade	Cucumber		
Timor	Cucumber (Beit alpha)		
Cavili	Zucchini		
Defender	Zucchini		
Dundoo	Zucchini		
Parthenon	Zucchini		
Venus	Zucchini		

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