

Improving Costata Romanesca Summer Squash

Costata Romanesca is an open pollinated heirloom summer squash variety known to most gardeners and market farmers. It generally has a vining plant structure and produces moderate amounts of fruit that are long, slender, green striped with flecks, and ribs. It is grown for its great taste and texture (even when large) and the copious amounts of large, male blossoms that some use for stuffing. Many may ask why try to improve a variety that is already great and widely grown? Like many heirlooms it also has its weaknesses. Costata commonly grows to be a very large vining plant that can take up much of the garden. The vining structure makes it hard to cultivate in a market farming situation and is also challenging to harvest. It is also very susceptible to Powdery Mildew that commonly affects most cucurbits. Harvests can be cut short due to an outbreak of this disease. Thirdly the yield of Costata is not as high as many market growers would like. Although a moderate producing summer squash may be preferred by back yard gardeners who can't handle an over abundance of fruit, a market gardener needs and expects a predictable high yield of fruit.



Costata Romanesca

PMT Caserta

Success PM

Improvement: In response to comments from organic growers we have started an organic breeding project to try to create an improved Costata Romanesca type Squash. Our goal is to breed a squash that has the fruit type, fruit appearance, and culinary attributes of Costata Romanesca with a bush plant habit, powdery mildew tolerance, and increased yield. To this end, we started in 2004 by crossing Costata Romanesca to several Powdery Mildew Tolerant (PMT) summer squash from the public breeding program of George Moriarty and Molly Jahn at Cornell University. This included Success PM, PMT Caserta (un-released variety), and later Romulus PM (crosses made in 2005). Initial selections were made from the F₂ generation (highly variable) during the summer of 2004. Starting in 2005 we grew out the F₃ generations at the Cornell University Freeville Organic Research Farm. Also two organic growers grew out the same selections on their organic farms to help guide us in our further selection. Selections continued to be for a Costata type squash, but the goal was widened to include other novel types of squash. Because Success is a yellow summer squash we started to see several very appealing lines with yellow and green stripes. Over the winter of 2005-06 we grew out small samples of the 2005 selections and exposed them to Powdery Mildew to determine levels of Powdery Mildew tolerance. This helped us choose which lines to plant in 2006. Over the 2006 season we repeated this process and will continue to do so in 2007



Success PM x Costata Romanesca

PMT Caserta x Costata Romanesca

Progress: We are making steady progress to our initial goal of breeding an improved Costata Romanesca squash and our widened goal of high quality novelty summer squashes. Very stable lines should be available for growers and seed companies to trial in 2008. Currently we have a limited amount of F3- F5 generation seed available to trial. For seed or additional information contact Michael Glos (mag22@cornell.edu).



06-145-6L (F4)

06-123-2R (F2)



06-124 (F3)

06-128-6L (F3)



06-128-8 (F3)

06-129-9L (F3)



06-129-1(F4)

06-129-10L



06-136-4 (F4)

06-141-4L (F4)

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