

Pumpkin Varieties – What’s New and Coming
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Introduction

Discounting the Maine potato crop, pumpkins are the third leading vegetable crop in New England. But how profitable are pumpkins for New England growers? There are two challenging problems for New England growers. First, periods of humid and rainy prevalent in New England result in more disease problems than growers encounter in the western and southwestern U.S. Typically, ornamental pumpkin is a crop that does not receive as much cultural attention as food crops, and as result, there is often considerable crop loss due to fruit being unmarketable. Secondly, supermarkets have grabbed an increasing share of the market by selling the large, 18 to 25 pound, pumpkins practically below cost of production for growers in New England. And the quality of the large pumpkins sold by supermarkets is often quite good. What can New England growers do to beef up pumpkin profits? One major way to increase pumpkin sales is for growers to offer a larger variety of pumpkin types that are appealing to consumers and not sold by supermarkets. There are over 100 pumpkins varieties offered in seed catalogs, representing all sorts of shapes and sizes. The second, perhaps more challenging approach, is to use better cultural techniques and disease-resistant varieties for reducing crop loss. Breeding work on pumpkins at UNH focuses on both of these approaches: developing novel types of pumpkins and developing pumpkins with better tolerance to diseases prevalent in New England.

New Types of Pumpkins

Based on feedback from garden centers, there appears to be tremendous demand for white pumpkins. For some years, we have had a breeding project to develop white jack-o'-lantern pumpkins with good stems. UNH has recently released a mid-size white jack o'lantern pumpkin, Moonshine, but seed supplies were limited last year, and it may not be available until next May. Moonshine is early, reasonably productive and has a good stem, but if foliage cover is not good, it may acquire either a bluish or creamy yellow hue. Once harvested, the color appears to hold up well. We have also tested a smaller white pumpkin that is quite attractive and holds the white color better than Moonshine. However, we currently do not have a timetable for release of that hybrid.

We are also testing pumpkin hybrids with other shades of color, mostly yellow hues. Production is commencing on a yellow pumpkin in the 4 to 5 pound class that looks quite attractive when grouped with white pumpkins. Next year we plan to evaluate yellow pumpkins in the 15 to 20 pound size class. Eventually we hope to introduce pumpkins with stripes such as we have introduced into our ornamental gourds, but that project is long term. It is possible with genetic engineering to introduce other colors into pumpkins such as purple and blue, but the value of the pumpkin crop is not high enough to justify the current cost of producing such variation.

There are a couple of novel warty varieties of pumpkins that have been recently introduced, Super Freak and Goose Bumps (Siegers Seed). We had both of these in our trials and thought

they were sort of ugly, but nonetheless, they appeared to be a hot item at a garden center where we test-marketed them. These varieties will not be easy to use as carving pumpkins because of the hard shell associated with the warty character.

Disease Resistance in Pumpkins

The focus of most disease resistance programs in pumpkins both at public institutions and seed companies has been to introduce varieties with powdery mildew resistance. Harris-Moran was the first seed company to introduce good varieties with PMR and has introduced several attractive varieties during the last five years. Many of these varieties are a bit late for growers in central and northern New England, and may not have good tolerance to some of the diseases prevalent in our region. One of the new, moderately early Harris-Moran varieties in the 15 to 20 pound class which performed well in our trials this year is Magic Wand. The degree of powdery mildew resistance in pumpkins is intermediate and in many circumstances will not eliminate the need to use chemical control. Hollar Seeds has developed breeding material with a higher level of resistance, but it may be awhile before acceptable varieties are available with their improved resistance. At UNH we got a late start breeding PMR in pumpkins, and we have released only two varieties that I would recommend trying - Cedar Jack (High Mowing Organic Seeds), a 12 to 18 pound pumpkin, and Prankster (Rupp Seeds), a popular pumpkin in the 3-4 pound class. Both of these hybrids are semi-bush and reasonably early for New England growers. We continue to cooperate with several seed companies in the Northeast, and we hope to be releasing several new varieties in the near future. Our focus is not only on PMR, but also on varieties with fruit tolerant to black rot (*Phoma cucurbitacearum*), fusarium fruit rot (*Fusarium sp.*), bacterial leaf spot rot (*Xanthomonas campestris* pv. *Cucurbitae*) and angular leaf spot (*Pseudomonas syringae*). One advantage of breeding in New England as compared to the West coast is that we can make field selections against these pathogens, and hopefully introduce new varieties that suffer less field loss than those offered by the larger seed companies. We are also searching for germplasm with tolerance to Plectosporium blight (*Plectosporium tabacinum*), a disease that appears to be becoming widespread in New England. This disease, if not controlled with fungicides, can be devastating, causing brittle vines, leaf curling, and diamond-shaped white streaks on stems and fruits of pumpkins.

Timetable for new introductions

Breeding progress can be very slow, especially for traits that can be selected only under certain environmental conditions. We plan to introduce one or two new varieties every year in the immediate future, but they will not begin to solve all of the grower disease and marketing problems. New England growing conditions have been especially challenging during the past five years. There are always new diseases and other problems on the horizon, and so our quest for the ideal pumpkins in different size classes is never reached. Hopefully the UNH breeding program will continue assist seed companies in a meaningful way to deliver new varieties to growers that will enhance local markets and increase profitability.