Winter squash is a delicious and nutritious food that can be grown, stored, and eaten in western Oregon from September through March. Currently, the majority of locally grown winter squash is eaten in September through November as storage losses are high. Consumers are increasingly seeking local winter foods; delicious long storing winter squash could meet this demand.

2. Identify long storing varieties resistant to storage rots

Squash varieties vary in their susceptibility to storage rot pathogens and maintenance of fruit quality throughout storage. Some varieties succumb to rots pathogens while others are resistant. Some varieties maintain excellent culinary quality for 6 months, while others lose quality early in storage. We tested the impact of irrigation on dryland and storage environment on storage losses of nine varieties of winter squash.

Imagined vs. Dryland Production

Two different irrigation regimes were used to grow squash for storage: overhead irrigation and dryland production. Dryland squash were watered up and not irrigated thereafter (it does not rain during the summer in western Oregon).

Controlled Environment vs. Barn Bay Storage

Two different storage environments were tested. Most extension publications recommend controlled environment storage to prevent chilling injury and maintain quality, but this is expensive. We stored squash in 1) a controlled environment (52-54°F and 60% relative humidity) and 2) a closed barn at ambient RH and above freezing.

There was little difference in storage duration and rot incidence between the two environments. The figures below show results from the controlled environment.

Storage Losses for Four Varieties, Winter 2016-17

- Testukubuto
- Crown Pumpkin
- Sunshine
- Sweet Mama

In general, dryland-grown squash were much longer than squash grown with overhead irrigation.

3. Evaluate winter sensory quality

Are they flavorful?

Flavor is complex and subjective. This project aimed to both describe the flavor of the most promising squash varieties as well as gauge consumer preferences for each type.

Tastings – Four formal tastings were conducted at several area conferences and farming events and squash were rated on their flavor, texture, and aroma. Fifteen excellent tasting squash were identified. These varieties are also high yielding, long storing, and resistant to storage rots.

Flavor Analysis – Chefs worked with Lane Selman and Tim Wastell to develop a flavor lexicon and flavor wheel to help chefs and consumers appreciate the diversity of flavors in winter squash.

When are they at best eating quality?

Just like pears, winter squash ripen after harvest and they taste best when they are fully but not overly ripe. Ripeeness can be determined using Brix and dry matter along with sensory analysis from trained chefs and consumers.

4. Educate consumers and chefs

Product Labels

Many consumers are familiar with butternut and acorn types. But most do not know what a kabocha is! To help farmers sell unfamiliar squash – and consumers to cook with them - we developed homemade stickers to inform home cooks about their potential uses. These produce labels send consumers to an informative website with recipes, videos, and variety information.

A Website for Home Cooks

www.eatwintersquash.com

Squash Sagra and the ‘Fill Your Pantry’ Market

The project teamed with Friends of Family Farmers and the Culinary Breeding Network to host a squash festival aimed at educating and inspiring consumers about winter squash.

Conferences and Festivals

This project engaged farmers and consumers at the North Willamette Horticultural Society Conference, Oregon Museum of Science and Industry Harvest Festival, and the OSU Small Farms Conference.

Top Performing Kabochas and Buttermugs

Testukubuto – An interspecies hybrid (C. maxima x C. moschata) that excels in EVERY CATEGORY! Yield, taste, texture, storage rots resistant, and storage duration outshined all other varieties tested.

Burgess
C. maxima, green kabocha

Delicia
C. maxima, green kabocha

Bonbon
C. maxima, buttercup

Shokichi Shiro
C. maxima, mini gray kabocha

Sunshine
C. maxima, red kabocha

Winter Sweet
C. maxima, gray kabocha

Sweet Mama
C. maxima, green kabocha

Crown Pumpkin
C. maxima, gray pumpkin

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