

Parameters of Sweet Cherry Cultivar Evaluation

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Fruit Characteristics

Fruit Type: Description of cherry category as a light or dark sweet cherry.

Skin color: Dark sweet cherry skin color is sorted using the Dan Guyer Sweet Cherry Maturity Index where the numbers 1-5 correspond with the following color chart:



Light sweet cherries are assessed and grouped into the following categories:

- Yellow
- Trace blush (10%)
- Moderate blush (50%)
- High blush (90%)

Flesh color: Internal flesh color of both light and dark sweets is assessed and grouped into the following categories:

- Cream-white, Cream-yellow
- Pink
- Red
- Dark red
- Black red
- Other

Percent cracking: A sample of 50 fruit is examined for cracking. The number of cracked fruit is divided by the total number of fruit for percent cracked fruit.

Firmness: Cherry firmness is collected using the Firmtech II which measures firmness in grams/mm using the force deformation response from gradual compression of a cherry. For example, a firmness measurement of 200 would mean that if a force of 200 grams were placed on the fruit, it would deflect 1 mm. Firmness is averaged from a 25 fruit sample.

Size: Fruit size is measured in grams on a digital scale without stems attached. The weight (g) per cherry is averaged from a 25 fruit sample.

Soluble Solids: Soluble solids (brix) are measured by a refractometer which quantifies the concentration of sugar in cherry juice. This test requires a juice sample collected from 10-12 cherries then a subsample is used to measure percent soluble solids.

Flavor: Three to five research technicians eat a cherry and rate the flavor as poor, average, or outstanding.

Pit Shape: After flavor is determined the pit is evaluated for shape: spherical (good for processing), intermediate, or elongate (bad for processing).

Tree Characteristics

Yield: Yield is evaluated at the time of harvest and is categorized into one of six groups: very heavy, heavy, average, light, very light, or not measured.

Bloom: Every year full bloom date is recorded for each variety. All dates from that year are then divided into three bloom groups: early, mid, and late. Each variety's bloom group is recorded in the database.

Harvest Timing: Harvest timing is collected in a similar fashion as bloom group. Harvest date is recorded when fruit are fully mature. All harvest dates from that year are then divided into three groups: early, mid, and late. Both harvest date and timing are recorded in the database.

Tree Vigor: Tree vigor is recorded either during bloom or harvest and is placed into one of four categories: weak, medium, strong, or not measured.

Noted Disease Incidence: Each year during harvest observations are collected on the incidence of three diseases, bacterial canker on wood and leaves, brown rot, and leaf spot. For each disease the incidence is described as none, trace, moderate, or prevalent/severe and is recorded in the database.

Noted Cold Damage: Each year during bloom, observations are collected on the severity of cold damage, where observations are categorized into one of five groups: low, moderate, high, no conditions encountered, or not measured.