

Avocados



Avocados Overview

- Popular in Tex-Mex cuisine
- Have more potassium than bananas
- Good source of vitamins K, E, and B, especially B6 and B5
- Flesh is about 15% oil or fat, much of which is healthy, monounsaturated
- Studied for its role in lowering cholesterol and limiting certain forms of oral cancer.
- Avocado fruit is a large berry

Avocados Overview

- Three species
 - Guatemalan
 - Mexican
 - West Indian
- Blooms from January to March
- Fruit matures within 6 months for Mexican types and 18 months for Guatemalan types
- Tropical evergreen trees that can grow 40 to 80 feet tall
- Other names: alligator pear and aguacate

Avocados – Commercial Production

- Mexico leads the world production with over 1 million metric tons produced annually
- In the United States
 - California (65,000 acres)
 - Florida (6,500 acres)
 - Hawaii (60 acres)

Avocados – Commercial Production

- In Texas, production so small it is not reported in the USDA statistics
- The only Texas counties that are suitable for commercial avocado production are in the Lower Rio Grande Valley

Avocados - Climate

- Severe cold is the most limiting factor to success
 - West Indian types tolerate almost no subfreezing temperatures
 - Guatemalan types may tolerate 26 to 30 degrees F
 - Mexican types are the most cold hardy and suited to Texas' climate, with some varieties tolerating around 19 to 20 degrees F as mature trees

Avocados - Soil

- Most suitable soils are coarse and well drained
- Do not tolerate flooding or poorly drained soils
- Can tolerate a range of pH values
- Salinity can injure avocados
- West Indian varieties are most tolerant of salt

Avocados - Varieties

- Two pollination types
 - Type A – flowers open in the morning as receptive females and close in the afternoon. They reopen the following afternoon for pollen shed
 - Type B – flowers open in the afternoon as receptive females, close overnight, and reopen the following morning to shed pollen
- It is important that orchards are inter-planted with varieties of both types to ensure good pollination

Avocados - Varieties

- Mexican varieties ground in Texas
 - Brogdon
 - Holland
 - Wilma
 - Winter Mexican
- Lula is a popular Guatemalan x West Indian variety grown commercially in the Lower Rio Grande Valley

Avocados - Varieties

- West Indian varieties produce very large fruit that is low in oil and has a milder flavor
- Mexican types is rarely larger than 8 to 12 ounces, is green to purple or black, and have very thin skin
- Guatemalan varieties are intermediate between the two other varieties

Avocados - Varieties

- 'Hass' is the most widely consumed avocado in the United States
- Main commercial variety in California
- Thought to be a Guatemalan x Mexican hybrid
- Has insufficient cold hardiness for Texas

Avocados – Site Selection

- Must keep cold protection in mind
- In residential sites, the south or southeast side of a house or shed is generally the warmest at night because of north wind protection and the sun's warmth radiating from the structure
- Fruit production is greatest in full sun

Avocados – Propagation & Planting

- Do not grow seedlings from supermarket avocados
 - Do not come true from seed
 - Ungrafted seedling may take up to 10 to 15 years to bear fruit
 - Salty irrigation water can cause moderate to severe leaf tip burn
- In Texas, most common propagation method is cleft (tip) grafting

Avocados – Propagation & Planting

- Plant trees no closer than 10 to 15 feet from house
- Space trees 20 to 30 feet from each other and from other large trees
- Position graft of the rootstock close to the soil line
- Stake and shade tree during the first several months of hot weather and strong sunlight

Avocados – Freeze Protection

- Plant trees deep to facilitate soil mounding
- During a freeze, drape young tree with a blanket and anchor to the ground
- Set heat source under the tented tree
- High tunnel greenhouses can provide extra protection

Avocados - Irrigation

- Irrigate similar to citrus
- Apply at a rate and frequency that will prevent wasting water or leaving water standing around the tree for more than a few hours

Avocados - Fertilization

- Soil test before planting
- Soil test every second or third year thereafter to identify deficiencies
- Apply nitrogen annually

Avocados – Pruning and Training

- Do not need to be trained or pruned for normal growth
- Prune freeze-damaged trees to remove dead wood

Avocados - Weeds

- Protecting newly planted trees from weed and grass competition is critical during the first 2 to 3 years

Avocados - Problems

- Most common disorder in Texas
 - Tip Burn
 - Marginal necrosis (browning of the leaf edges)
- Caused by water stress and salinity, which is most prevalent during hot, dry weather

Avocados – Insects & Other Pests

- Few insect pests have been documented in Texas
- Mites sometimes occur on the foliage
- Opossums thrive on mature fruit and will climb the tree to feed when none are on the ground

Avocados - Diseases

- Anthracnose
 - Primarily affect fruit that are nearing maturity
 - Starts as tiny, brown to black spot that are circular and sunken
 - Spots can enlarge to ½ inch or more
 - Cause fruit to crack horizontally and vertically across the spot
 - Particularly severe on thin-skinned varieties

Avocados - Harvest

- Will start consistent production in 2 to 3 years after establishment
- Mature trees can produce 2, 3 or more bushels of avocados annually
- Fruits do not ripen on the tree – must be harvested and held for several days before they are ready to be consumed
- Cooler temperatures assist in ripening harvested fruit
- Ready to eat when fruit softens

Avocados - Uses

- Consumed fresh, either alone or in salads, dips, appetizers, guacamole, or pico de gallo
- Overripe fruit can be pureed and frozen for later use – dips and soups
- Skins on thin-skinned varieties can be eaten