

Strawberries

Easy

Keys to Success

- Keep plants weeded! Weed competition greatly reduces harvest
- Rejuvenate beds every 2 to 3 years to maintain vigor.

Pruning

- Rejuvenate beds by selecting young plants and tilling the bed to kill the older plants. Replant the young plants at wide spacing (12" x 12"). Rejuvenate every 2-3 years or when bed becomes crowded. Rejuvenate in the fall (September), and be sure to water deeply and regularly, since the roots have been disturbed.
- Day-Neutral Varieties should have runners removed regularly. Day-Neutral Varieties should be re-planted every 2-3 years, not rejuvenated.

Fertilizing

- Use compost in the fall or early spring. Apply 1" thick across bed.

Major pests and diseases

- Fruits will rot if touching soil. Use cardboard or black plastic to keep fruit from touching soil.
- Birds are a major pest. Use netting during fruiting season.
- Be sure to rejuvenate. Quantity and size of berries decreases dramatically after 3 years if rejuvenation is not done.

When and how to plant:

- Plant from bare-root in spring.
- Be sure to plant at the correct depth! Planting too deep or too high = death

Choosing Varieties:

- June-bearing varieties: too many to list. All are good. "Earliglow" and "Jewel" are particularly good. Expect a small harvest the first year, and full production the second spring.
- Day-Neutral varieties: not as popular in Virginia, but my experience shows that they deserve a second look. "Albion" and "Seascape" did well for me, producing throughout the summer and into the late fall. They produce a little throughout the summer, instead of one big harvest. Good for fresh eating, but not enough at any one time to preserve. Remember to remove runners!

Blackberries

Easy

Keys to Success

- Build a strong trellis to hold the canes and fruit.
- Keep beds weeded.
- Water during dry summer months
- Prune in February/March

Pruning

- Blackberries fruit on 2nd year wood, called “Floricanes”. In the spring, you will see new shoots emerging from the soil. These are called “Primocanes”. They will grow to their full height that first summer. The next spring, those canes will now produce blossoms and fruit. Now they are a “Floricanes”. After fruiting, that individual cane will brown and die during the winter. So in February/March, remove all the old, dead canes that have finished fruiting. The plant will send up an abundance of new shoots every year to replace those that have died.
- There is no need to prune the shoots, and our experience has been that no benefit is gained from pruning shoots, other than height management.

Fertilizing

- Blackberries benefit from fertilizer after year 2. Use compost or a fertilizer that has a lot of phosphorus (the middle number of the N-P-K numbers, such as 10-7-13, the phosphorus is indicated by 7, meaning that the bag of fertilizer is 7% phosphorus by weight)

Major pests and diseases

- In the piedmont of Virginia, we have the most problems with stink bugs and June Bugs eating the fruit. They can be difficult to control, but never cause losses more than 50%. We recommend planting extra plants and living with a few damaged berries.
- Blackberries have few disease problems.

When to plant:

- Spring. Space plants 24 to 30 inches apart in rows that are spaced 8 to 10 feet apart.
- Build a trellis that has horizontal bars set 24 inches apart at a height over the ground of 3 to 4 feet.

Choosing Varieties:

- Choose thornless varieties. There is no reason to **ever** plant a thorny blackberry! The thornless varieties are superior in every way.
- The cultivars named after Native American tribes (Arapaho, Natchez, Ouachita, for example) are all good, are thornless, and were bred by the University of Arkansas.

Blueberries

Easy

Keys to Success

- The pH of soil is **EVERYTHING!**
- Blueberries thrive on very acidic soil (pH of 4.5 to 5.5). Most soil in home yards is 5.5 to 6.5, which is **NOT** acidic enough for proper growth. You **MUST** amend the soil with sulphur and pure peat moss!
- Net to keep birds off fruit in May/June.
- Water during dry spells in summer.

Pruning

- Not required, except to remove dead, diseased, or rubbing branches.

Fertilizing

- Fertilize in spring with an acid fertilizer, such as Espoma Holly-Tone

Major pests and diseases

- Birds. Net a week before fruit are ripe (late May).

When to plant:

- Spring. Plant 3 to 4 feet apart, in rows that are 10 feet apart.
- Test soil to determine pH. If the pH is above 6.0, it may be extremely difficult to lower it enough to make growing blueberries practical.
- Use pure sphagnum peat moss with no lime (**not** the same thing as potting soil). Mix peat moss into planting hole at rate of a five-gallon bucket per hole.
- Sulfur (Elemental Sulphur) should be mixed into the soil. Takes a long time to act, but is the best and cheapest way to change the pH. It would be best to apply the sulphur the fall before planting in the spring.

Choosing Varieties:

- All varieties are great. Choose early, mid-season, and late-season varieties for a continual harvest from Late May through the middle to end of July.
- With proper variety selection, it is possible to have a harvest that lasts 8 to 10 weeks.

Grapes

Easy

Keys to Success

- Trellis
- Plant only varieties that are proven in Virginia.

Pruning

- An art to itself!
- Removing 75% of growth each year, to leave stems that are pencil sized, cinnamon-brown, and have good vigor. Cut back to leave 3-4 buds for next year.

Fertilizing

- Grapes benefit from fertilizer applied in the fall. Rake up all debris and dispose in landfill or burn pile, put down granular fertilizer like 10-10-10 or an inch of compost, then apply wood chip mulch on top.

Major pests and diseases

- Many, particularly in wet/rainy springs. Variety selection is crucial.
- Good sanitation and removing/raking up dead leaves, fruit and branches in February/March helps.
- If you were going to spray, you would be spraying in May with a fungicide (organic or not) to control Black Rot.

When to plant:

- Spring
- Space plants 6 to 8 feet apart on very sturdy trellis so that limbs are elevated 4 to 5 feet above ground.

Choosing Varieties:

- Concord. The #1 grape for Virginia! Disease-resistant, and bears reliably. Good flavor with seeds. Makes great jam and juice. I do not have experience with “Concord Seedless”, but it merits a closer look.
- Muscadine types. Native to the east coast. Superior disease resistance, even better than Concord. Can be grown without any sprays. Try and taste before you plant, some people don't like the flavor. I thought it was good, but strong. Most varieties have seeds and thick skins, so would be best as jam and juice.
- Don't waste your time with “seedless eating”, “wine” types, or “Table” grapes unless you are willing to spray weekly during the spring and summer to prevent disease.

Figs

Easy

Keys to Success

- Figs love heat! South-facing walls or against buildings or inside of greenhouse structures are best.
- Figs must be protected from winter cold by wrapping, or building cold-frame or greenhouse structures over them.
- Figs get big! Allow them to grow 10 feet by 10 feet.
- Mulch with a thick layer of wood chips to a radius of 5 feet out from around the base. Figs have shallow roots that are prone to drying and freezing in winter, and mulch helps with both problems.

Pruning

- Not usually necessary except to remove dead, diseased, or rubbing branches.

Fertilizing

- Fertilize a small amount in late spring or apply an inch of compost in a 10-foot circle around base of plant.

Major pests and diseases

- None of significance.
- Birds sometimes bother the fruit, but figs are hard to put nets over.
- Wasps and hornets sometimes bother the fruit, set traps for them once fruit begin to ripen.

When to plant:

- May and June, to allow lots of time for growth before winter

Choosing Varieties:

- There are a few varieties that are more cold-hardy, such as Brown Turkey and Chicago Hardy, but even these varieties benefit from wrapping.
- There are numerous varieties that are excellent, you can grow whatever you want as long as you protect the plant in winter.

We are growing:

- Celeste – great flavored, small purple fig
- Lattarula – very sweet yellow fig
- LSU Purple – good producer, high sugar content.

Raspberries

Moderately Easy

Keys to Success

- Red and yellow raspberries are the easiest to grow.
- “Everbearing” or “Fall-bearing” means it fruits on new wood. This is good.
- Choose varieties that can be grown as a fall crop to reduce pruning time.
- Trellis so that canes don't flop.
- Pick daily, since berries spoil quickly
- Rejuvenate after 6 to 8 years, since raspberries tend to peter out after a while

Pruning

- Red Raspberries can be grown as “fall” bearing, instead of summer bearing. In the late winter (February/March), use a mower and mow the brambles down to within 1” of the soil. The plant will flush new growth in summer, and flower and produce berries in the fall (usually late August/September until frost)
- The alternative is to remove dead floricanes in winter, leaving primocanes. This will result in two harvests, a small July harvest and a moderate September harvest. The two harvests will add up to slightly less than the single large harvest described above. This method is very painful since raspberries have aggressive thorns and long sleeves must be worn while pruning.
- Black raspberries have a primocane/floricane lifecycle, similar to blackberries, which makes pruning more difficult due to thorns.

Fertilizing

- Raspberries benefit from fertilizer after year 2. Use compost or a fertilizer that has a lot of phosphorus (the middle number of the N-P-K numbers, such as 10-7-13, the phosphorus is indicated by 7, meaning that the bag of fertilizer is 7% phosphorus by weight)

Major pests and diseases

- Stinkbugs can disfigure fruit (although it remains edible)
- Rain on ripe berries causes them to quickly (4-6 hours) perish and spoil. Try to pick before every rain.
- Berries that flop over and touch the ground usually rot. Try to ensure your trellis captures all the canes.

When to plant:

- Spring.
- Space at 2 feet in the row, with rows 6 to 8 feet apart.

Choosing Varieties:

- Some new red varieties claim to be mostly thornless but I have not tried them personally.
- Best red for Virginia may be “Caroline”
- Best yellow may be “Anne” (definitely better than “Fall Gold”)
- Not sure what best black is, “Jewel” is popular but newer varieties may be better.

Cherries

Hard

Keys to Success

- Pruning
- Variety selection on a good rootstock.
- Net to deter birds.

Pruning

- Sweet cherries grow much larger than sour cherries.
- Similar to Apple pruning, but yearly pruning of leader to a less-vigorous upright side shoot.
- Burn or landfill the pruned branches.
- Wide crotch angles on a central leader system.

Fertilizing

- Cherries benefit from fertilizer after year 3, but not as much as other fruit trees. Apply sparingly. Use compost or a fertilizer that is balanced (like 10-10-10) or that has a lot of phosphorus (the middle number of the N-P-K numbers, such as 10-7-13, the phosphorus is indicated by 7, meaning that the bag of fertilizer is 7% phosphorus by weight).
- Mulch heavily with wood chips (not dyed mulch). Keep wood chips 6 inches deep, extending out from tree 6 feet.

Major pests and diseases

- Wet springs lead to lots of fruit rots.
- Wet springs can also cause fruit to crack and swell, which causes it to spoil quickly. Consider covering with a tarp if extended periods of rain are forecast during harvest.
- Birds can be a major threat. Sour Cherries generally are less attractive to birds.
- Canker diseases that attack the trunk. Prune in summer, immediately after harvest to reduce canker infection.
- Cherry fruit flies. Use yellow sticky traps baited with ammonia.
- Spotted Wing Drosophila fruit fly. Use yellow sticky traps baited with vinegar.
- American Brown Rot. Worse on sweet cherries. Prune out with sterilized pruners.

When to plant:

- Spring or fall, in soil that is well-drained. Cherries do not like soil that is always wet.
- Sour Cherry trees can reach 10 to 12 feet tall by 10 feet wide, space 14 feet apart.
- Sweet Cherry trees can reach 40 feet tall by 30 feet wide unless on a dwarfing rootstock such as a Gisela.
- Plant with the graft line 2-4 BELOW the soil line. This is opposite of all other trees! This helps extend tree life considerably (Cherries are notoriously short-lived).

Choosing Varieties:

- Sour cherry varieties: York Sweet, Surefire, Sweet September.
- Sour cherry “Bush Cherry” types: Jan, Joel, Joy, Carmine Jewel, Crimson Passion (resistant to Plum curculio?)
- Sweet cherry varieties: Sam, Kristin, Hudson, Hedelfingen, White Gold, Black Gold

Pears

Hard

Keys to Success

- Variety selection. **MUST** be resistant to Fire Blight!
- European pears are easier to grow than Asian pears, because of blight resistance.
- Time. Pears take 10-12 years to start bearing. Dwarfing rootstocks help. OHxF 87 or OhxF 333.
- Pruning to encourage lateral branching, a real challenge for pears.
- Harvesting correctly, allowing to ripen in storage.

Pruning

- Similar to apples, see that discussion in the following section.
- Pears have a very vertical disposition. They want to grow up, and a pear on a standard rootstock can reach 30-40 feet.
- Pick a rootstock that is semi-dwarf, with good resistance to fireblight.
- Spread branches when young to increase branch angle towards horizontal.

Fertilizing

- Pears benefit from fertilizer after year 3. Apply in late winter. Use compost or a fertilizer that is balanced (like 10-10-10) or that has a lot of phosphorus (the middle number of the N-P-K numbers, such as 10-7-13, the phosphorus is indicated by 7, meaning that the bag of fertilizer is 7% phosphorus by weight).
- Mulch heavily with wood chips (not dyed mulch). Keep wood chips 6 inches deep, extending out from tree 8 feet.

Major pests and diseases

- Fire Blight. Can kill branches or even the whole tree. There are many resistant varieties, but even varieties with good resistance can have a branch tip here or there that gets Fire Blight. Prune the disease out in winter with pruners that have been sterilized.
- Hornets and wasps can eat an entire fruit with remarkable speed. Set traps and monitor regularly.

When to plant:

- Spring or Fall.
- Pears on semi-dwarf rootstock should be spaced 12-16 feet apart.
- Pears on standard rootstock should be spaced 20 – 30 feet apart.

Choosing Varieties:

- European types that hold promise: Potomac, Magness, Maxine (on our property down the hill), Shenendoah, Warren, Moonglow.
- Asian types that hold promise: Gaum Chum, Daisui Li, Korean Giant, Shin Li, Shinko.
- Multiple varieties need to be planted for cross-pollination. Usually the description will indicate which varieties are compatible. Asians do NOT pollinate European and vice versa.

Apples

Hard

Keys to Success

- Variety Selection. Most store varieties are not suited to Virginia, due to disease pressure.
- Disease and insect management – sprays or holistic – your choice. Both are substantial work.
- Pruning. An art unto itself.

Pruning

- See the handout for visual reference.
- Prune in winter (Feb/Mar), or if regrowth is excessive, in mid-summer.

Key Points:

- Light to all the productive branches.
- Removal of branches that are not necessary.
- Vertical leader with horizontal, productive, scaffold branches.
- Height management for semi-dwarf and standard rootstocks.

Fertilizing

- Apples benefit from fertilizer, but it should be moderate or compost/wood chips only. Too much fertilizer can lead to an over-abundance of growth that can be hard to manage during pruning.
- Mulch heavily with wood chips (not dyed mulch). Keep wood chips 6 inches deep, extending out from tree 8 to 12 feet, depending on tree age.

Major pests

- Plum Curculio
- Codling Moth
- Apple Maggot Fly
- Apple Borers

Major Diseases (Varieties below are mostly resistant to these diseases)

- Fire Blight
- Cedar Apple Rust
- Apple Scab

No varieties are resistant to Sooty Blotch or Fly Speck – but these are only cosmetic diseases!

Planting:

- Dwarf: 12 feet apart and support with stakes since weaker root system.
- Semi-dwarf: 16 to 18 feet apart.
- Standard: 20 to 30 feet apart.

Choosing Varieties:

- Arkansas Black, Liberty, Enterprise, Centennial, William's Pride, Redfree, Black Twig, Akane, Freedom, Limbertwigs, King David.
- Multiple varieties need to be planted for cross-pollination. Usually the description will indicate which varieties are compatible.

Peaches

Very Hard

Keys to Success

- Peaches are a gamble in Virginia. Be prepared to lose.
- Variety selection for disease resistance.
- Avoiding late frosts.

Pruning

- Similar to apples, except that peaches don't tend to be as large of trees or as vigorous, so take the apple recommendations and size them down.
- Fruits towards ends of branches: must rejuvenate prune by selecting back to a side leader.

Fertilizing

- Peaches benefit from fertilizer, but it should be moderate or compost/wood chips only. Too much fertilizer can lead to an over-abundance of growth that can be hard to manage during pruning.
- Mulch heavily with wood chips (not dyed mulch). Keep wood chips 6 inches deep, extending out from tree 6 to 8 feet, depending on tree age.

Major pests and diseases (In addition to many that attack Apples)

- American Brown Rot (Control by sanitation, see discussion sheet)
- Oriental Fruit Moth
- Peachtree Borer (similar to Apple Borer in regards to control)
- Bacterial Leaf Spot (Plant resistant varieties)
- Peach Leaf Curl (Plant resistant varieties)

When to plant:

- Spring or fall. Space 12 to 15 feet apart.

Choosing Varieties:

- Frank, Red Haven, Harrow Diamond, Red Leaf all offer some potential.
- Several varieties are needed for cross-pollination. Usually the description will indicate which varieties are compatible.