



Growing Apples in the Piedmont

A 15 year experiment on 25 acres in the northern piedmont of NC.

Moore Farm

- ▮ **25** acres of homestead, 50% power generated by solar
- ▮ **7** acres deer fenced
- ▮ Fields and orchard integrated into 200 X 60 ft. plots with drip irrigation
- ▮ On site greenhouse and High Tunnel
- ▮ Chickens for eggs (**20**) and **4** pigs a year
- ▮ Sell vegetables and fruits to farmers markets
- ▮ **20** different varieties of vegetables
- ▮ Apples (**50**), pears, blueberries and grapes
- ▮ One full time worker, plus myself and a part-time nephew



Moore Farm

Is a part of Ouroboros Holdings LLC., a sustainability oriented company focused on seeking a sustainable model for small enterprises and farms.

The vision for the farm is to feed myself well and to be as self sufficient as possible.

Goals:

- Feed self
- Cover operating expenses and taxes. Profits?
- Integrate modern agricultural practices with traditional and organic. I.E., do what works as Integrated Pest Management
- Provide fruit and vegetables to farmer's markets Spring - Fall.
- Improve the soil and health of the farm land.



OUROBOROS
HOLDINGS

Farm Scenes

- ▮ High Tunnel construction
- ▮ Example of vegetables
- ▮ Agricultural plots with rows of apple trees on Northern side



Pork, Apples and Garlic

- Part of our strategy is to provide high value products that are difficult to produce and command a reasonable price. Garlic, Apples and Garlic are a part of that strategy.






Growing Apples as a part of the strategy

- ▢ Apples have always been a part of southern homesteading.
- ▢ “Growing Southern Apples” (1995) by Lee Calhoun is a great resource on the history and varieties of apple culture in the southeastern USA.
- ▢ There are 100’s of apple varieties available and dozens of root stocks.
- ▢ **How does one choose the best apples for our region (Piedmont-NC) and can history help us choose?**

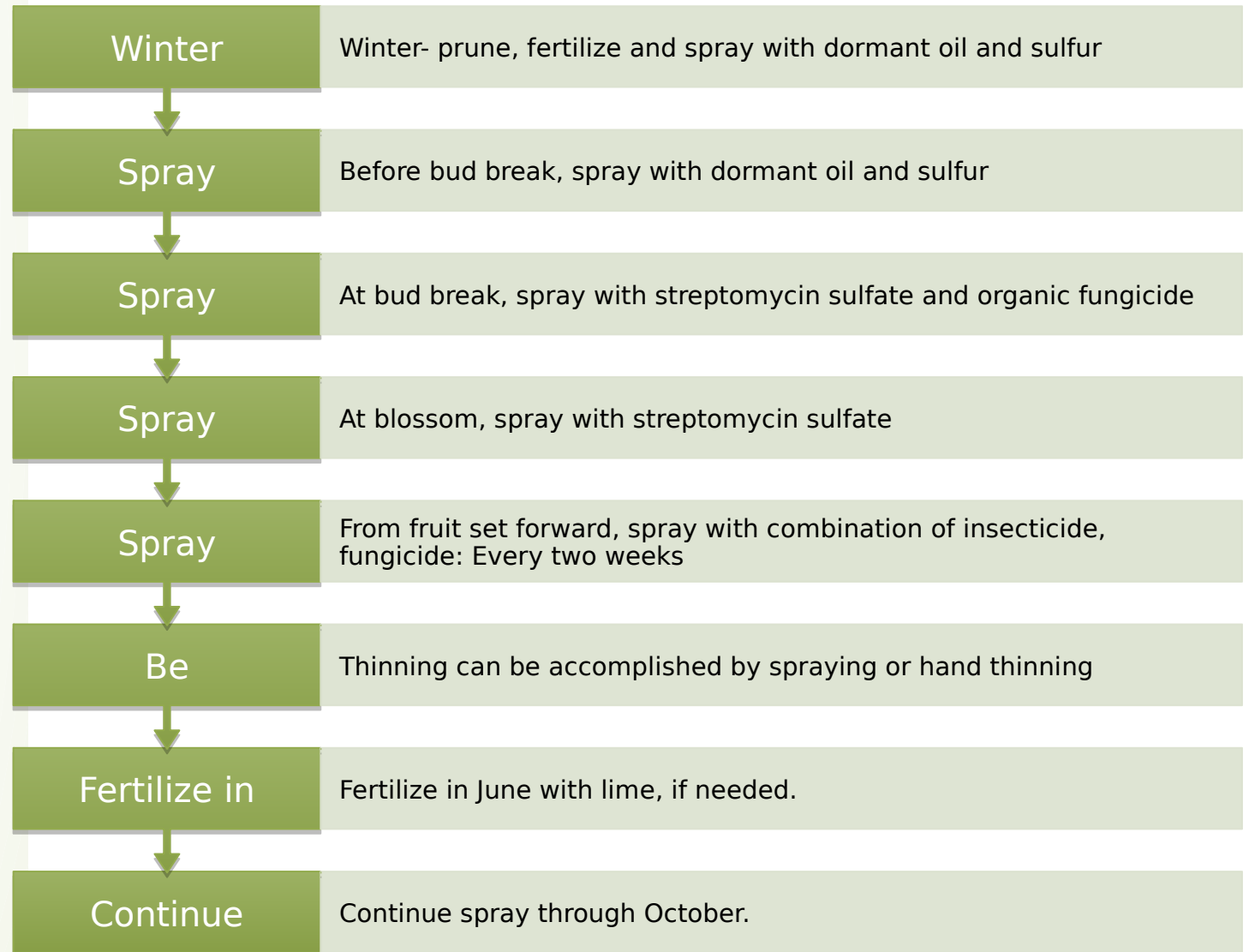


Rootstocks, Varieties and Care

- ❑ Rootstocks determine the size and somewhat the growing characteristic of the tree
- ❑ Two types are generally available: Dwarf and Semi-Dwarf
- ❑ Many varieties are available with both rootstocks: for example, Honey Crisp (variety) is available in dwarf and semi-dwarf sizes (rootstock)
- ❑ The variety drives most of the blooming and fruiting characteristics
- ❑ Beginning in early March, apples must be sprayed every two weeks.
- ❑ For more than 5-10 trees, you need a blast sprayer.
- ❑ You need irrigation and moderate soil fertility



Annual steps in apple production



Moore Farm history with apples

▢ **15 years ago-**

- ▢ Devised a strategy for growing antique heritage apples and some modern hybrids to produce apples from June to October
- ▢ Began with dwarfing rootstock grown on trellis, with irrigation, using mostly ORMI (organic) chemical sprays and fertilizers..

▢ **After 10 growing years-**

- ▢ Discovered that frost and freezes, heat, disease, and insects, make raising dwarf apples difficult, even with irrigation.
- ▢ Made a full crop only one year in three.
- ▢ ORMI chemicals are not very effective against insects (codling moth and June Bugs), fire blight, and fungal diseases.
- ▢ Removed some trees, replanted with semi-dwarf root stocks.
- ▢ Quit using ORMI sprays and began using more traditional chemistries for pest control.
- ▢ Begin to see that growing apples might be OK for homesteading, however, it is a difficult business proposition



What Varieties Succeeded?

Heritage Apples-

- Carolina Red June- Early summer apple
- Bevin's Favorite - Early summer apple
- Tennessee Smokehouse- Late summer apple
- WineSap- Later summer apple
- Dixie Red Delight- Mid summer apple

Modern Varieties-

- Liberty - Late summer apple
- Arkansas Black- Fall apple
- Zestar - Mid summer apple



What Varieties Where Not Successful?

Heritage Apples-

- Early Strawberry- Early summer apple

Modern Varieties-

- Golden Delicious - Late summer apple
- Pristine- Summer apple
- Jona Gold - Mid summer apple



Why Success or Failure?

- The greatest stress for apples in the Piedmont comes at bloom (Fireblight) and late June-July (Fungal disease and insects).
- If one can find a apple that is Fireblight resistant, and fruits early in the summer or later in the fall, these apples do better.
- Irrigation and regular spraying are absolutely necessary with dwarf trees and semi dwarf trees.



Lessons from years 15+

Blueberries and Muscadine grapes are much less trouble and sell well in our area.

People love apples and will buy them, even with a few blemishes.

If you can irrigate and spray every two weeks, you can successfully grow apple trees in the piedmont of NC, but the cost cannot be easily recovered.

If you cannot irrigate and spray regularly, grow semi-dwarf trees, as they are more tolerant, but you will not make a regular crop and the trees will die young.

Frost during bloom will damage your crop 40% of the time.

Codling moth and fire blight are the evil nasties most likely to effect crops.



Final Thoughts...

- ▢ How apple trees perform in the Piedmont are influenced by soil fertility, placement, variety, rootstock and stewardship.
- ▢ Since the founding of America, farmers in the southeast have been conducting a 300 year experiment on growing apples.
- ▢ While there is a great romance with the idea of growing apples here, the environmental conditions are far from ideal for commercial orchards.
- ▢ My experience has been that it takes some luck on the frost and a lot of spraying and stewardship to make an apple crop here, and no matter what we do, we cannot grow apples like NY State or the NW USA.
- ▢ For a homesteader however, 5-10 apple trees can provide a great deal of food but one must be strategic on variety and rootstock selection.