

Orchard Maintenance Plan

January

1. Finalize ordering
2. Plan for spring work projects and work and learn days
3. Operations recruitment
4. Site check. Monitor the following: fence for holes, gates (be sure they are closed), other open doors, or unusual damage to anything.

February

1. Pruning of apples and pears early February
2. Spray dormant oil on all trees in February, mid-March the very latest (kills any overwintering insect eggs. Use Superior/all season oil)
3. Check fencing for any damage
4. Remove old leaves from around the base of the tree

March

1. Start inspections of trees for winter damage/voles/etc
2. Pruning
 - a. Prune peaches (before buds swell/don't prune when the weather is going to be really cold, especially within 10 days of pruning)
 - b. Prune Plums and Cherries after they leaf out
3. Pesticides and Fungicides
 - a. (Fire Blight) Spray trees with streptomycin once they **start blooming**
 - b. (Cedar Apple Rust) Spray trees with Kaolin clay, "Surround". Spray after trees **leaf out**, needs to be sprayed after every rain. For a more natural option, compost tea can be sprayed on the trees. Kaolin clay can also be used to deter plum curculio beetles.
<https://www.groworganicapples.com/organic-orcharding-articles/curculio-riffs.php>
 - c. (Brown rot on peaches and plums and black knot on plums) Spray sulfur before and after leafing out. mix 3 Tbsp Sulfur Plant Fungicide per gallon of water. Repeat applications at 10-14 day intervals or as necessary, up to day of harvest. Do NOT dust or spray during periods of high temperature. Do NOT apply within two weeks of using an oil spray.
4. Maintain paths.
 - a. Mow or scythe paths
 - b. Use sticks and woodchips to keep paths around trees and raised beds drained and walkable.
 - c. Good time to torch the paths with the weed torch (this was attempted and had very little impact. It was decided we would no longer do this.
 - i. Be aware there is cardboard under the mulch on the edges of the paths
 - ii. Only torch when it has rained recently
 - iii. Should have plenty of water on hand in case of fire

April

1. Finish pruning pear and apple trees
2. Planting: new trees and plants
3. After frost date- around April 15th plant white clover where desired
4. Cutback dead parts of perennials (e.g. catmint, Black-eyed Susan, Echinacea, etc)
5. Top dress with compost/fertilize with slow release flower and fruit fertilizer (Beginning of the month. Depending on the year, it can also be done at the end of March)
6. Watch for the first outbreaks of Eastern Tent Caterpillars and rub them out before they grow big. Carefully examine the branches extending from the tent to find and remove remaining egg mass.
7. Clean bird and bee houses. Add fresh paper to mason bee houses to prevent disease (We have found that the mason bees will build nests in homes that don't have papers. Bamboo tubes can also be used for the mason bee homes.)

May

1. Trim grass/weeds
2. Assess berry trellis needs
3. Weed around fruit shrubs and trees. They should have at least 1-3 feet of space around them
4. Plant any plants that are more temperature sensitive
5. Assess fire blight and cedar apple rust issues. Trim fire blight and discard affected branches and leaves in trash. Spray trees that have cedar apple rust. Use Surround and the spray pumps.
6. Encourage everyone to be on the lookout for the Eastern Tent Caterpillars and other insects that might cause harm. Tent caterpillars stop building tents and start just clinging to branches and trunks. They wave their head and tail when they feel threatened making them easier to find. Rubbing them with a gloved hand is quick or dropping them into container of water drowns them.
7. Prepare and hang red balls sticky traps. Clean with baby oil and a rag then coat with sticky solution such as Tanglefoot, hang in Apple trees, monitor them for insects. These are also used to collect apple maggots. The most effective way to use this is to put three apples in each apple tree. One can also use plastic red cups.

June

1. General maintenance (mulching, weeding, watering)
2. Start new locations for soil restoration using the sheet mulching method or continue to work on existing soil test plots. Till and plant buckwheat.
3. Assess any pest management needs and continue to keep an eye out for and treat fire blight, brown rot, black knot, and cedar apple rust.
4. Divide strawberries once they have finished fruiting. We divide them to thin them as well as to keep them out of the paths. We want about one plant/foot. Pot and give away extra plants or start a new strawberry patch.
5. Pick up June drop and check trees to see if fruit needs to be thinned. Stone fruits should

be thinned so they do not touch each other. Apples and pears should be thinned so there is 4-8 inches between each piece of fruit.

July

1. All fertilizing must be done before the end of July
2. General maintenance (mulching, weeding, watering)

August

1. Trees for fall planting should be ordered by the middle of August
2. August is generally very dry, may need to increase watering of trees/plants
3. Many plants begin to get a little crispy this time of year and may need to be cutback. This is only necessary from an aesthetic standpoint
4. General maintenance (mulching, weeding, watering)
5. Tissue testing and soil testing can be done this month.
6. Review the Operation Team's Strategic Plan and determine priority projects and submit to the Board of Directors.

September

1. Review the Operation Team's budget and estimate next year's budget. Submit to the Board of Directors
2. As the berry bushes (raspberries and blackberries) finish producing, prune them back to desired height (some bushes prefer to be cut to the ground. Most prefer to be cut to about 1 1/2 to 3 feet tall
3. cut back elderberry, rugosa rose, and sea buckthorn bushes so they don't crowd the fence or spread.
4. Begin to prep trees for winter
 1. weed the mulch ring
 2. expand mulch ring outward to the new drip line
 3. sprinkle compost around the drip line under the mulch
 4. add mulch to thicken it to 3-6 inches deep. Be sure to **not** create a puddling area around the trunk though
 5. be sure there is a 12 inch radius around the trunk that is mulch, sucker, and weed **free**.
5. Most plants do not need to be cutback until spring. However, there are some plants that should be cutback towards the end of September or beginning of October. These include:
 1. Lambs Quarter- cut down to the ground
 2. Sunflowers- cut off heads and place around the orchard for birds then cut the stalk down to the ground.
 3. Clover- cutback to the ground

October:

1. Planting

- a. Plant trees and bushes in the first week of October
 - b. It is ideal to plant container trees in the fall and bare root in the spring
 - c. If planning to cover crop, begin preparations
 - d. Plant winter rye around the middle of October
2. Prep the bees for winter around the middle to end of the month
 - a. Feed
 - b. Close off entrance
 - c. Place hives close together to help keep the bees warm
3. Cutback fig tree towards the end of the month
 - a. You can simply cut some of the branches off at a reasonable place--so that you can wrap the thing up. When you prune it, cut above a bud (you'll see the buds, the little bumps where the future branches are going to come from). And then (the kicker!) for the pieces that you cut off, those are can be used to propagate, so they need to be stuck in some moist sand or moist leaves and kept cool.
4. Soil restoration
 - a. Remove Sod: If removing by hand, try to preserve as much of the topsoil as possible.
 - b. If plans for soil restoration sites are determined in advance, the weed removal can be done by covering the designated area with cardboard.
 - c. Amend with nutrients: Use gypsum, rock phosphate, green sand, and compost. In terms of quantity, follow instruction on the packaging

November

1. Prepare the fig trees for winter: Wrap fig tree in the beginning of November. Create an insulated barrier, but one that allows the fig tree to still breathe.
 - a. Fill up some plastic bags with leaves and stack them all around the tree. The next thing to do would be to make sure the tree won't get wet (and freeze real hard), so a tarp can be useful, or a big enough plastic bag can work too. We have also used straw bales for insulation.
 - b. You could also pack leaves (or straw, see video) all in the branches of the trees (the tied up ones especially), then wrap it up with something warm, then cover it with a tarp or plastic bags.
 - c. <http://www.youtube.com/watch?v=nV7ecRXeUr8>
 - d. <http://www.youtube.com/watch?v=bWIEAjPMvY8&feature=related>
2. Protect the tree trunks
 - a. Put guards or cages around tree trunks to prevent rabbits, voles and other animals from chewing on the bark as well as protect them from sun damage.
 - b. Make sure the guards or cages are not rubbing against the bark as this will expose the tree to disease and make it more susceptible to insect infestations.
 - c. Paint the tree trunks (This has been put on hold due to controversial information)
 - i. Painting tree trunks (can be done any time of year) often done in fall

because trees lose their leaves which exposes the trees more, and it's good for preventing sunburn and bore damage

- ii. Paint the trunks of the fruit trees with white latex paint. Always use an indoor latex paint because outdoor latex paint contains a fungicide.
- iii. Portions- ½ water, ½ paint
- iv. If you already have sunburned tree trunks, still paint them in order to prevent more sunburn as well as bores getting under the bark.
- v. Paint the whole trunk, but make sure there is a solid coat on the south and southwest side of the trees as this is where most of the sun damage comes from.

3. Pruning

- a. Prune any dead or diseased trees
 - b. If branches are diseased, remove them from the site to prevent further contamination
 - c. Only prune once the tree has lost its leaves and is dormant
 - d. Continue to prune berry bushes as stated in the October Maintenance Plan
4. Mulch: the existing mulch around the trees and bushes should be sufficient for winter. However, an assessment of the site should still be done in case any further mulching is needed.
5. Put utilized/filled bamboo/mason bee homes in the shed to protect the bees from the winter.
6. Clean the tool shed
- a. Clean all tools and place in the proper location
 - b. Remove any liquids that may freeze. Store at someone's insulated home or bring to the recycling center/trading post.
 - c. Organize shelves
 - d. Remove any food: **FOOD SHOULD NOT BE STORED IN THE SHED EVER. IT ATTRACTS MICE.**
 - e. Empty garbage

December

1. Make plans for spring. Depending on the year and stage of the orchard, this may include:
 - a. Take stock of what we have in the shed and at people's homes.
 - b. Ordering new trees, bushes, and seeds.
 - c. Plans for covering cropping
 - d. Determine the pest management needs
 - e. Order pesticides
 - f. Order sticky traps
 - g. Order fungicides
2. Review the Strategic Plan and make preparations for completing
3. Review the budget

Year Round General Information

1. Mulching

- a. When mulching with woodchips, make sure mulch is not more than 4-6 inches, as it will prevent oxygen from getting to the trees roots. If mulching with straw, it can be up to 10 inches
- b. The trees should only be mulched up to 2 feet from the trunk. For the more mature trees- the large ones that are at least 3 years old, we should pull the mulch rings out wider until they are under the outer 1/3 of the canopy and end around the drip line. We should also move the comfrey from the mulch rings so that the comfrey does not crowd the tree trunks. We can plant white clover around the base of the tree and within the mulch ring.
- c. Cardboard should not be within the mulch ring as it prevents water from getting to the tree roots, especially during drier months.

2. Fencing

- a. Frequently check fencing for holes and repair when needed
- b. Deer proof fencing should be between 8 and 10 feet tall.
- c. Fencing should have a tension wire at least on the top of the fence. It can also have one mid-height and at the base.
- d. Fencing should also have rabbit proofing at the base of the fence.

3. Watering

- a. Trees need 1-½ inches of water per week. This may need to increase during times of drought, especially with younger trees.
- b. If the rain gauge does not show 1-2 inches of rain, then hand watering will need to be done. Some more mature trees can survive a couple weeks without water, but the trees under 3 years old should be watered if it hasn't rained that week.
- c. Each tree should receive 1 five-gallon bucket of water per week. When watering, make sure to water the outer area of the mulch ring to encourage the roots to head away from directly under the trunk. Wherever the ring is we should water near that and just outside of that. This will encourage the roots to move outward.
- d. At the beginning of the spring season, we can water near the base of the tree and out. As the season continues, we should start watering only around the outer third of the canopy and up to 2 feet further out of the canopy.
- e. As fall approaches, trees should get 1-1/2" of water every week until most of their leaves have turned. As long as the leaves are green, they still need water.
- f. Berry bushes should get 2.5-5 gallons of water once per week
- g. DO NOT use a sprinkler on the berry bushes, this will cause them to rot.

4. Clean the shed

- a. Clean tools and put away properly
- b. Most items other than tools need to be kept in a bin that is closed securely
- c. Do not leave books, food, paper, seeds or other tempting material in the shed unless it is in a plastic bin with a secure lid. NEVER LEAVE FOOD IN THE

SHED> NOT EVEN IN A BIN.

- d. If you notice something is broken or has run out, please notify one of the operations team chairs.
- 5. Look for insects and other animals
 - a. Scales- even though the scale is dead, there are live eggs beneath. Either remove the branch completely, or gently scrape off the scales and crush the eggs.
 - b. Yellow jacket nests: these are found in the ground. If you see a cluster of buzzing insects near the ground. Walk away.
 - i. Put caution tape up to keep people away from the area
 - ii. Put a sign up to warn and explain to people
 - iii. To get rid of the yellow jacket nest, mix one cup peppermint Dr. Bronner's soap with 1 cup of water. Bring 1 gallon of water to boil. After dark, quickly pour the water/soap mixture into the nest hole. Then immediately pour the boiling water into the nest. Check the nest for activity the next day and for the next few weeks.
 - iv. If there is no activity, remove the caution tape and sign
 - c. Hornets nests in the kiosks: after dark, spray with an eco mint spray
 - d. Birds nests in the shed: monitor and attempt to keep them undisturbed
 - e. Mice nests in the shed: remove
 - f. If there appears to be deer damage (tree branches and leaves have been eaten), check the fence for holes and be sure all gates are closed.