

Horticultural Strategies for Home Fruit Orchards

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Organic Growers School 2013

Useful references:

Books

The Holistic Orchard: Tree Fruits and Berries the Biological Way and *The Apple Grower*, Michael Phillips
Grow Fruit Naturally, *Landscaping with Fruit*, *Uncommon Fruits for Every Yard*, and *The Pruning Book*, Lee Reich
The Backyard Berry Book, Stella Otto
Teaming with Microbes, Lowenfels and Lewis
The Soul of Soil, Grace Gershuny
Gaia's Garden, Toby Hemmenway

Websites

Useful Plants Nursery, www.usefulplants.org - plant information, planting instructions, technical information, videos
Living Systems Design, www.livingsystemdesign.net - Permaculture design information
Barkslip's Fruit School, www.barkslip.com/fs_home.html - classes to learn plant care
Plants for a Future, www.pfaf.org - information about many obscure and useful plants
Buncombe Fruit and Nut Club, buncombefruitnuts.blogspot.com - connection to the local fruit nuts
Josephine Porter Institute, www.jpibiodynamics.org - source of biodynamic preparations

Soil tests: NCSU Cooperative Extension

Holistic spray components

Pure cold-pressed neem oil - fatty acids protect plant surfaces and nourish beneficial soil microbes, nutrients especially aid leaf health to overwhelm fungal hyphae. Usually sold as a leaf polish.

Biodegradable liquid soap - mix with neem oil as an emulsifier.

Liquid fish - made from the first pressing of whole fish and not pasteurized. (NOT fish emulsion) Neptune's Harvest is available locally. Fatty acids, foliar nitrogen to prolong pollen viability, help hold fruit set, and ensure bloom the next year.

Effective Microorganisms (EMs) - culture of photosynthetic bacteria, lactic acid bacteria, yeasts, and other beneficial microorganisms. These will colonize the leaves and provide food for the soil microorganisms. Could also use compost tea.

Unsulfured blackstrap molasses - nutrients and complex sugars to support beneficial fungi and bacteria, including EMs.

Whey - provides calcium to inhibit fungal spore generation and strengthen leaf cell walls.

Fermented herbal teas - Contain silica to strengthen the cuticle defense of the tree and calcium for strong fruit. Horsetail, stinging nettle, and comfrey are the stars. Garlic scapes in the tea carry the silica and other nutrients through cell walls. Teas from dried herbs also work, but might not have been harvested at the optimal time.

Cold-pressed liquid kelp - provides a megavitamin for healthy growth with higher concentrations of chlorophyll, enhancing photosynthesis.

Example Holistic Sprays through the Season

When	Leaves 1/4"	First sign of blossoms	Petal fall	7-10 days after petal fall	During summer, every 10-14 days	Autumn, after half of the leaves have fallen
1 gal recipe	1/4 c neem 1/2 t liquid soap 1/2 c liquid fish 1 T EM culture 1 T molasses 4 t liquid kelp	1/8 c neem 1/4 t liquid soap 1/4 c liquid fish 1 T EM culture 1 T molasses 4 t liquid kelp	1/8 c neem 1/4 t liquid soap 1/4 c liquid fish 1 T EM culture 1 T molasses 4 t liquid kelp	1/8 c neem 1/4 t liquid soap 1/4 c liquid fish 1 T EM culture 1 T molasses 4 t liquid kelp	1/8 c neem 1/4 t liquid soap 1 T EM culture 1 T molasses 4 t liquid kelp Whey 1 qt herbal tea	1/8 c neem 1/4 t liquid soap 3-5 oz liquid fish 1 T EM culture 1 T molasses 4 t liquid kelp
4 gal recipe	2/3 c neem 2.5 t liquid soap 2.5 c liquid fish 3 T EM culture 3-4 T molasses 5 T liquid kelp	1/3 c neem 1.25 t liquid soap 1.25 c liquid fish 3 T EM culture 3-4 T molasses 5 T liquid kelp	1/3 c neem 1.25 t liquid soap 1.25 c liquid fish 3 T EM culture 3-4 T molasses 5 T liquid kelp	1/3 c neem 1.25 t liquid soap 1.25 c liquid fish 3 T EM culture 3-4 T molasses 5 T liquid kelp	1/3 c neem 1.25 t liquid soap 3 T EM culture 3-4 T molasses 5 T liquid kelp Whey 3 qt herbal tea	1/3 c neem 1.25 t liquid soap 1.25 c liquid fish 3 T EM culture 3-4 T molasses 5 T liquid kelp
Target	Trunk & branches Ground Fallen leaf piles	Trunk, branches, leaves. Ground, leaf piles	Leaves & fruit to the point of runoff.	Leaves & fruit to the point of runoff.	Leaves & fruit to the point of runoff.	Trunk & branches Ground under trees Fallen leaf piles

Mixing the spray

1. Gently warm the neem oil to above 60 degrees and mix with soap.
2. Mix in the thicker liquid ingredients.
3. Mix in the thinner liquid ingredients.
4. Pour into sprayer.
5. Top off with water and mix well.

Making fermented herbal tea

1. Fill a bucket with fresh herbs, lightly packed.
2. Boil a pot of water to pour over the leaves. (Don't boil the leaves.)
3. Fill the bucket with unchlorinated water.
4. Let sit 7-10 days outside, loosely covered to minimize evaporation.
5. Strain before using.

Based on *The Holistic Orchard*, by Michael Phillips

Ease of plant maintenance (assuming the plant has enough sun and water, good drainage, appropriate soil, good establishment processes, and proper mulching)

Low Maintenance	Medium Maintenance	High Maintenance
American persimmon	Apples (disease resistant)	Almond
Aronia berry	Asian pear	Apple (most varieties)
Beach plum	Asian persimmon	Apricot
Blackberry with pruning	Highbush and lowbush blueberry	Lingonberry
Chestnut	Cranberry	Peach
Chickasaw plum	Fall-ripening bush cherry	Plum
Comfrey	Grape (disease resistant)	Quince
Cornelian cherry	Hardy citrus	Schisandra
Elderberry	Hardy kiwi	Sweet cherry
Fig, with good placement	Highbush cranberry	Table & wine grape (most varieties)
Goumi	Korean bush cherry	
Hazelnut	Mazzard cherry	
Honeyberry	Pawpaw	
Horseradish	Pear	
Mulberry	Pie cherry	
Muscadine grape	Rhubarb	
Nanking cherry	Seaberry	
Rabbiteye blueberry	Strawberry	
Raspberries	Tea camellia	
Rosa rugosa	Ume plum	
Serviceberry	Wineberry	
Willow		

Need for annual pruning once established

Low	Medium	High
American persimmon	Apple	Blackberry
Asian persimmon	Cherry trees	Grape
Blueberries, rabbiteyes	Elderberry	Kiwi
Cherry trees	Fig (if kept small)	Mulberry shrub
Chestnut	Hazelnut	Muscadine grape
Cornelian cherry	Peach	Raspberry
Fig tree	Pear	Strawberry
Mulberry trees		
Nanking cherry		
Pawpaw		
Serviceberry		

Especially pretty plants that are good for landscaping too

Aronia berry, Asian pear, Asian persimmon, blueberry, cherry tree, Cornelian cherry, fig, goumi, hardy citrus, hazelnut, Nanking cherry, pomegranate, serviceberry, and tea camellia.

Chuck and Debbie's favorite plants for the backyard orchard

Blueberries - Chuck likes rabbiteyes for their hardiness and Debbie likes highbush blueberries for their varied berry flavors. All are beautiful plants with highly nutritious berries. There's a blueberry variety for every garden and taste!

Raspberries - Yummo! And they're so much better and more affordable from the garden. Everbearing varieties produce a crop in mid-summer and then again in fall!

Goldrush apples - A disease-resistant gold apple for fresh eating, cooking, and cider. Debbie makes Goldrush applebutter and pies each year and Chuck always gets a bushel to store for winter eating.

Nanking cherries - Cherries on a shrub, what can be better than that? They have fuzzy leaves, fruit early in the spring, and even produce fruit under canopy trees that leaf out later!

Strawberries - Everyone can grow strawberries, even in a pot or vegetable garden. Kids love them, they're high in instant gratification, and don't require a long-term commitment.

Elderberries - Elderberries are very easy to grow and are a great immune system tonic. We use them in syrups, meads, and mixed with other berries.

What the cool kids are growing - more obscure plants with a bright future

Seaberries - Orange berries that are very nutritious. Popular in Eastern Europe, the juice and preserves are very tasty. The plant is a large shrub and nitrogen fixer.

Azarole - A member of the hawthorn family, azaroles taste like apples.

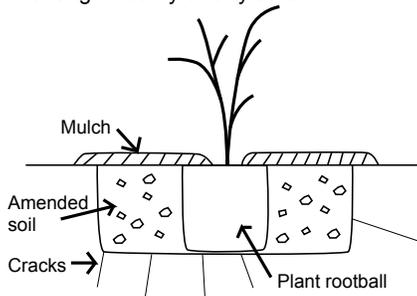
Aronia berries - Another highly nutritious berry growing on a beautiful plant. One of the few plants that tolerates standing water. The taste is neither sweet nor tart - it has an umami taste - one of the basic tastes that is earthy and savory.

Serviceberries - Native trees and shrubs masquerading as street and parking lot trees, these beautiful plants produce very tasty berries that can be used like blueberries

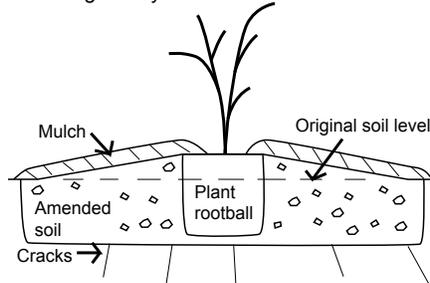
Muscadine grape - A native grape that is smart enough not to leaf out or flower until well after any late frosts. The fruits are very high in anti-oxidants and tasty too!

Planting for your soil conditions

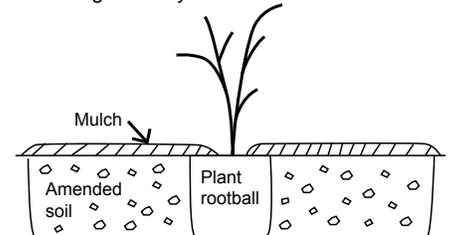
Planting in loamy or silty soils



Planting in clay soils



Planting in sandy soils



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