Springboro Tree Farms ~ Sweet Life Science

Apple Orchard Management

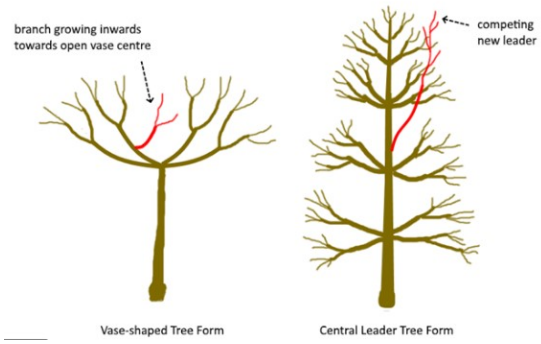
Introduction:

With the help of our County Extension Educator and the experts at companies such as Ceres Solutions and Suretech® Laboratories, we've learned a lot about growing apples. While we are certainly not experts here a quick overview of what we do, when we do it and why.

Generally our orchard management work includes:
- Pruning
- Soil fertility management
- Integrated pest management
- Apple thinning
- Timely harvest

Pruning:

Pruning is a late winter job and is important to ensuring strong branches and allowing adequate sunlight to reach the fruit. And while there is not room here to get into the details beyond the picture to the right, we'll share that we have tried both the "vase" method and the "central leader" method and found that for most varieties the "central leader" method is best. The Vase method seems to be best for dwarf varieties of when the grower wants to keep the fruit low and in reach from the ground.



Soil Fertilization

The foundation of any fertilization is proper soil Ph. For apples that's 6.5 to 6.8. To help maintain this level an annual soil test is key. We use Suretech® Laboratories (https://www.winfieldunited.com/research-and-innovation/suretech-laboratories) to conduct both soil tests and tissue analysis annually. In addition to testing the samples we send, the agronomists at Suretech Laboratories prescribe a fertilizer application program annually. Generally that plan includes:

First, After the leaves fall and before the soil freezes, we pickup and burn leaves

that may otherwise serve as an overwintering source for the next year's apple scab (fungi) cycles, as well as judicious use of non-synthetic management of fruit and leaf pathogens that can produce fungal lesions (such as downy mildew, powdery mildew and other fungi (on both fruit and leaves) if not managed.

Then we apply urea (a common fertilizer) at a rate of about 50 pounds per acre under the trees.

In the spring, we may also apply N (Nitrogen) - Broadcast granular at the rate of 30 pounds / acre as indicated by soil and tissue (leaf) analysis. Other key fertilizer applications may include: P (Phosphorus), (K) Potassium, (C) Calcium and B (Boron) Our provider of these fertilizers is Ceres Solutions https://www.ceres.coop/

Integrated Pest Management

Once is soil fertilization needs of the orchard are met, we turn our attention to pest management. Quality apple production is managed by Integrated Pest Management (IPM).

Typically, fruit tree copper and sulfur are applied through the season to manage these common orchard fungi. As weather permits, our spray schedule is typically every 10 to 15 days during the growing season.

Copper fungicide mixtures originated as Bordeaux mixtures. It is sprayed on plants as a preventive treatment; its mode of action is ineffective after a fungus has become established. It was invented in the Bordeaux region of France in the late 19th century[i]. As such, it is a non-organic form of treatment that differentiates it from synthetic or chemical fungicides produced by crop protection companies. It could be called a natural use of copper that avoids any synthetic application, for apple fungal control.

Additionally we use lime sulfur as a natural, non-synthetic control agent in the orchard. In apple trees, lime sulfur most frequently helps control apple scab. This fungal disorder first appears as spots on fruit and leaves, later thickening into "scabs." Home-use apple buyers may occasionally see some scab on apples even at the grocery shelf, if the fruit is examined closely. These blemishes are not harmful to human health and are only cosmetic in nature. That said, consumer preference is always in favor of unblemished fruit, hence the desire to minimize apple scab on fresh fruit.

Other chemicals like Seven® are applied on insects (i.e., Japanese Beatles) only when needed.

Apple Thinning

During good growing seasons trees often produce too many apples resulting in smaller fruit and broken branches. Thru lessons learned the hard way, we thin fruit early in the growing season so that apples are no less than 6 inches apart.

Timely Harvest

As apples approach maturity, they gain water and sugar content during the ripening process. “Ripeness” is determined by taste and is somewhat subjective in nature. Slightly unripe apples can be a bit tart, a bit too firm, and hold less water than ripe fruit. Overripe apples are mushy, start to naturally drop from the tree, and begin to attract sap-sucking insects such as bees and wasps that seek a food (sugar) source. Overripe apples are also easily bruised upon picking. Properly ripe apples lie midway between these 2 sides of the ripeness spectrum.

And at the end of the day…

…when we hold to these important disciplines, if the weather cooperates and if we get lucky, we then move on to either eating one right off the tree or running a batch through the cider press…or perhaps even baking an apple pie!!! Our orchard makes a really great contribution to the “sweet life” at Springboro Tree Farms.

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[i] Wikipedia. Bordeaux Mixture.

Resources:

Purdue Extension Service **https://extension.purdue.edu/**
Our local county extension educators in Lafayette and Monticello Indiana have been most helpful in providing educational resources and other information to improve the performance of our orchard.

Suretech® Laboratories (https://www.winfieldunited.com/research-and-innovation/suretech-laboratories)
Suretech® Laboratories provides soil tests, leaf analysis and then helps us by interpreting the results of those tests into a fertilizer application plan including rates of application.

Ceres Solutions **https://www.ceres.coop/**
Ceres Solutions is our source for fertilizer and orchard spray such as copper and lime.