

Home Orchard Weed Control

By Paul Vossen

As I visit home orchardist's back yard trees one of the most frequent problems I see is excessive weed competition. I see many trees that do not have adequate weed control to a point where the weeds have hindered the growth of the young trees. We have extensive data that shows how weed competition reduces the growth of fruit trees, especially in the first few years up to full size and the beginning of fruit bearing. Remember that in the first few years of the tree's growth you are just growing branches and leaves. The faster the trees fill their allotted space the quicker they will provide fruit. Tree growth rate depends on climate, irrigation, fertility, and weed control.

In one study comparing different weed control methods on fruit tree growth, the trees with the best weed control grew more, a lot more. The trial compared mulched trees (wood chips), herbicide treated area below trees (bare ground), cultivation below trees, annual clover growing right up to the base of the trees, and annual grasses growing up to the base of the trees. The most growth occurred with the mulched trees followed by the herbicide treated trees and thirdly by the cultivated trees, but all had similar growth rates. The trees, however, with clover weeds grew about one-half the rate of the mulched trees and the trees with the grassy weeds grew about one-fourth the rate of the trees with good weed control.

Tree growth in this experiment was measured in both shoot length and trunk diameters and the moisture content of the soils was maintained evenly. Translating the growth rates of this experiment over to a poorly weeded back yard fruit tree means that it may take 2-4 more years to get full sized trees instead of what would be considered normal. Weed competition that reduces shoot growth in bearing trees can also reduce fruit production as well as fruit size. In other words weed control is very important.

Weeds compete with trees in several ways - primarily through competition for moisture, but also for nutrients, and for physical space in the soil. One of the best ways to stunt young fruit trees is to allow a grass cover crop to dry the soil out around the trees in the spring of the year. Many home orchardists have good intentions of removing the winter weeds in the spring, but get to it too late. New growth in trees can begin as early as April, but root growth starts sooner. I therefore recommend that no weed competition be allowed within three feet of the tree trunks - ever.

There are 4 main ways to accomplish this:

1. Organic Mulches: This is the best option. I recommend using at least 3 to 4 inches of fresh wood chips spread in an area surrounding the tree in a six-foot diameter circle. In many cases chips can be purchased locally from counties and municipalities trying to reduce landfill inputs. Organic mulch is really the ultimate in weed control because as it breaks down slowly, it creates a loose tilth to the soil, and it releases nutrients. Water absorption and retention is also aided. It can be expensive and labor intensive to spread, but well worth it.

2. Fabric Mulches: One product that I have tested, called Lumite 994G6, is a black weed control fabric that allows water to pass through, but no weeds grow through it. You probably have seen it at container nurseries where they use it in their growing grounds to control weeds. In my trials it has lasted ten years, the manufacturer guarantees it for five. This method effectively controls the weed headache for many years at a minimal cost. There are several other products on the market that are paper or plastic based materials with varying costs and longevity. Some people, however, don't like how the fabric mulches look. Covering them with organic mulch defeats the purpose since weeds will then germinate in the mulch.
3. Cultivation: The old method of hand hoeing or digging around trees with small motorized tilling devices works as well as it ever did. The success of cultivation is directly proportional to the frequency at which it is done. Most home fruit tree growers do not do it well enough or frequently enough to completely eliminate tree stress. It is the least expensive method, but requires more labor and constant attention. Cultivation needs to occur when the soil is moist prior to the weeds stealing all the water away from the fruit tree. Sprinkler irrigations about every 2-3 weeks will also require weeding about every 2-3 weeks. Daily drip irrigation or irrigating twice per week with mini-sprinklers requires weeding about every 2-3 weeks also since it is much easier to kill the weeds before they get too big and stress the trees.
4. Flamers: Propane powered weed burning torches can be used in home orchards for weed control. These devices consist of a hand held wand about three feet long attached by a hose to a small propane tank. Most propane weed burners shoot out a flame about six inches long and 3-4 inches in diameter. They are used to "cook" the young weeds within 3' of the tree. The heat sometimes injure young trees and only very small weeds are easily controlled. Many grasses with their low growing point are much harder to kill with the flamer. Care must also be taken not to start a wild fire or to melt drip irrigation tubing.

One thing for sure is that you will always have weeds, so be prepared to deal with them right from the start.