Mulch Options for Tree Fruit Plantings

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Mulch provides organic matter for stabilization of nutrients, erosion control, nutrients. The right kind of mulch can help to suppress weed growth. Mulch can have the negative effect of encouraging rodent populations in the fruit plantings by providing a habitat.

Mulch can help to hold moisture in the topsoil layer, which helps to stabilize root temperatures.

Mulch has the most beneficial effect on sandy soils. Mulch can have a negative effect on heavier soils, especially fine textured, moisture-laden, plastic, or cardboard mulch that do not allow the soil underneath to breathe.

When low nitrogen type mulches are used it may be necessary to increase nitrogen applications for the first few years to compensate for increased nitrogen tie-up by soil microbes.

Types of Mulch

Wood chips—for finely shredded mulch, use a thinner layer (2 to 3 inches), for coarse mulch (5 to 6 inches). Wood chips are most valuable for the organic matter and weed suppression, and less for nutrient contributions. Wood chips from municipal tree chipper operations may be a low-cost option in some locations. Side delivery mulch equipment can make applications to larger plantings more practical.

Straw mulch—up to 6 inches deep for wintertime protection of sensitive plants. Straw should be free of noxious weed seeds. Straw mulch breaks down quickly, providing a relatively short time of weed suppression. Adding a half to a full bale of straw per tree after planting is a common practice on sandy sites where erosion could be a problem.

Hay (grass) and deciduous leaves have a tendency to pack, thus not allowing adequate water penetration. Hay and grass mulch can be beneficial in small quantities under trees to slowly increase organic matter. Spoiled hay (or straw) from horse/livestock operations may sometimes be found at low costs. Mechanical shredders/blowers can make mulch application easier.

Manure—Manure comes in many forms with all sorts of nutrient properties, depending on the animal source and feed diet. Manure may be less useful as a weed suppressant—depending on the diet of the livestock, mulch can contain many weed seeds.

Fresh manure can contribute too much potassium and/or phosphorus, and sometimes nitrogen at one time. In general, chicken manure tends to have more nutrients than horse manure, which in turn is generally richer than

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dairy cow manure. Poultry manure tends to be higher in potassium and horse manure higher in phosphorus. It is best to age manure a year or two to allow time and rainfall to dissipate/leach excess nutrients away.

Sawdust—fresh sawdust can tie up nitrogen if incorporated into soil. It is best to compost and age sawdust before applying or use lesser amounts at one time.

Cardboard—not practical for commercial operations. Don't overdo this for backyard plantings because of the air barrier properties mentioned earlier.

Killed sod—This is a technique championed by USDA workers in West Virginia. A stand of grass is allowed develop in the orchard site. Glyphosate is applied in the fall to kill grass in the planting sites. Trees are planted, usually with a tree auger in the killed sod. The disadvantage is that furrow-type tree planters do not work well.

Plastic mulch—Not recommended. Can provide weed suppression but requires use of trickle lines under the mulch to replace rainfall. Encourages rodent damage and can encourage crown rot problems.

Time of Mulch Applications

Mulch applications to existing plantings are often done in the off season when schedules are less frantic.

Mulch applications to young plantings are often done shortly after tree establishment to take advantage of weed suppression benefits. The warning about nitrogen suppression should be considered, especially in young plantings.

Do not apply nutrient-rich mulches to plantings in the late summer as this may encourage continued plant growth at the time that they should be settling down for the winter.