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Tree Planting Tips

Every year, farmers all across the world express their optimism when they plant new seeds, seedling plants, and trees in hopes of reaping a bountiful harvest. It is no different here in the great Central Valley of California, where we continue to see growers plant tree crops with the expectation that new markets will be established and crop prices will remain at profitable levels. There is a law that states that we will reap proportional to how we sow. In the case of planting new orchards, sowing abundantly is synonymous with exercising due diligence in the planting process. Implementing and practicing the following tips will help ensure the success of new orchards.

Bare-Root Trees

- 1) **Always ensure tree roots are kept moist (not wet) and cool prior to planting.** Allowing roots to dehydrate or become too wet will often result in failure of trees to push after planting. If roots have been kept too wet and saprophytic molds are visible on the roots, growers should consider dipping the roots in a mild solution of bleach or a 1% solution of Oxidate 2.0. (See label for details.) Any broken or infected roots should be pruned off prior to treatment.
- 2) **Do not allow tree roots to be exposed to dry air any longer than necessary before planting them.** Root dehydration is again the concern. Don't allow crews laying out trees to get too far ahead of the planting crew. This is more critical on warmer, sunny days and less critical on cool, foggy days.
- 3) **The size of the tree roots should always determine the size of the tree hole (or depth & width of furrow opening if mechanically planting).** Forcing large roots into a hole or furrow of insufficient size is a recipe for poor root establishment, growth, and tree anchorage.
- 4) **Never plant when your soil is wet.** If you notice "soil glazing" when digging tree holes or pulling furrows for mechanical planting, the soil is too wet to plant. Wet soil lacks oxygen needed for active root growth, and it creates an anaerobic environment that favors growth of pathogenic fungi like *Phytophthora*. Be patient and allow the soil to dry. Once it dries enough to work, lightly chiseling or pulling a spring-tooth implement through the soil will promote soil aeration and create a more favorable environment for planting.
- 5) **Always ensure the graft union is planted at least 3 to 5 inches above the soil line to compensate for natural soil settling that will occur after planting.** When graft unions are planted at or below the soil line, the risks of those trees being infected with *Phytophthora Crown Rot* is significantly greater.

- 6) **Ensure soil is adequately tamped down around the roots but not compacted.** The goal is to remove any air pockets that may remain around roots. When planting in heavier textured soils or in drier soils, it may be necessary to tank-in trees with 3 - 5 gallons of water to ensure soil air pockets around roots are removed.
- 7) **Slightly lean the protruding side of the graft union towards the prevailing wind.** This can reduce the possibility of trees breaking off near the graft union in strong winds.
- 8) **For extra large diameter almond trees (3/4”), wait to prune off lateral branches until after buds begin to swell.** This allows one to observe whether there are a sufficient number of axillary buds on the trunks for scaffold development, or whether scaffold buds need to be taken from the first bud position on lateral branches. If there are insufficient axillary bud positions on the trunks, it may be necessary to make “dirty” cuts when removing the lateral branches, ensuring the first bud on these laterals is preserved.
- 9) **When weather conditions during planting favor potential fungal canker development (rain, fog, humidity), delay pruning trees until conditions are more favorable, or treat pruning cuts with a fungicide (Oxidate, Rally, Topsin) the same day pruning occurs.**
- 10) **When planting trees late in the year (April – June), always paint trees with white interior latex paint to reduce sunburn potential and environment transplant shock.**

Potted Trees

- 1) **Install your irrigation system (preferably drip) before planting.** The soil media of potted trees has the potential to dry out very quickly, so it is essential to have the ability to apply irrigation water soon after planting.
- 2) **Hydrate the rooting media before planting.**
- 3) **Physically fracture the smooth sides of the potting media before planting.** This allows better movement of soil moisture from the soil media to the potting media after planting.
- 4) **Ensure graft unions are 3 – 5 inches above the soil line to prevent *Phytophthora Crown Rot*.** While doing this, it is also important to ensure that there are a couple inches of soil over the top of the potting media. This will create a soil barrier to help prevent pre-emergent herbicides from being pushed into the potting media where root injury could occur.
- 5) **Tank-in trees by hand or run drip irrigation water as soon as trees are planted.** In the coming weeks after planting, periodically excavate soil along the side of the rooting media and physically check the moisture of the potting media. Adjust irrigation accordingly. Take note that it is often possible for soil around the potting media to be saturated, yet the media is dry.
- 6) **Install tree stakes for tree support.** Do not rely on the bamboo stakes that comes with potted trees to adequately support them as they grow. Potted trees have a much smaller diameter root system than bare root trees, so this can make them more susceptible to leaning or blowing over once they put on significant shoot growth and spring winds begin to blow.

- 7) **Pruning** – For trees planted from August through February, it is best to delay pruning until buds begin to swell in the spring. Where swelling axillary or lateral buds exist on the trunk, you may completely remove associated lateral branches and allow the axillary buds to push and form the new scaffolds. Where they do not exist, “dirty” prune the lateral branches just beyond their first bud and allow that bud to form the scaffold. For potted trees planted in the spring or summer, your scaffold choices are limited to the lateral branches present on the trees. Some thinning of these branches is often necessary, especially where a “crow’s nest” effect exists in the top of the tree. Repeated thinning and/or branch tipping may be needed every 3 – 4 weeks for a couple months to achieve the desired scaffold structure.
- 8) **Trees with small trunk diameters should have their trunks painted with white, interior latex paint to prevent sunburn damage.** Be aware that trunk protectors that are both white or black on the inside can lead to trunk damage from either sunlight reflection or heat absorption.
- 9) **Don’t over-apply fertilizer from the onset, but focus on root establishment.** These trees are small and do not have a large nutrient demand. Focus on developing the root system by supplying adequate calcium, phosphorus, and zinc. Additional rooting stimulators that can enhance root establishment include kelp and carboxylic acid-based bio-stimulants and various biological inoculants which include Plant Growth Promoting Rhizobacteria (PGPRs) and beneficial Arbuscular Mycorrhizae. Most of these materials can be fertigated and applied right into the root zone.
- 10) **Keep a close eye on insect pests.** Given the small size of potted trees, it doesn’t take much feeding injury to cause a lot of damage to them real fast. Insects to closely monitor for include Pavement Ants (feeding on the cambium of the crown), Spider Mites, Cucumber Beetles, and False Chinch Bugs.