



Jerry Faulring

The Art and Science of Summer Digging

Summer digging of field grown plants provides significant advantages for landscape contractors and wholesale distribution yards. ‘Just-in-time’ material sourcing provides freshly dug material delivered on the exact day needed, often right to the job site. There is no need to receive material in advance, maintain it and then transport it to the job site. Wholesale distribution yards can source material as needed for their customers and keep fresh materials coming just as with containers. Since 2008 this has become almost standard operating procedure for wholesale distribution yards as they want to take less risk buying and holding large quantities of material that may not sell. Although summer harvest adds to the cost of plants, it is less costly than buying in the spring and not selling it later.

This matter of digging actively growing plants needs to be researched at the academic level to gain a fuller understanding of the plant’s physiological response to what appears to be harsh treatment. Searching the internet turns up mostly anecdotal information such as I present here. The above title may be somewhat overstated given the science is murky (see photo below).

Way back when, the notion that nursery operations

could harvest field grown material out of dormancy, on a routine basis, was considered wrong. There have always been those who would go to extreme efforts to harvest individual specimen plants during the growing season but production nurseries discouraged this activity. There are stories of transplanting during the growing season decades ago when the plant canopy would be reduced by one third or more to reduce stress. Modern methods reduce or eliminate the heavy pruning although large tree moving may still require canopy reduction in some cases.

There are growers who ‘close the gate’ after spring digging is complete. Some will say “summer digging is an interruption to what I need to get done”. Others have had bad experiences and simply refuse to suffer bad outcomes. Further, some landscape contractors have had bad experiences and refuse to ask for summer dug material.

The practice of summer digging has become more commonplace in recent years as growers want to extend the digging season and improve summer cash flow derived from the practice, plus provide a service to their customers.

There are apparently some soil types that are not entirely conducive to summer harvesting practices. I don’t know exactly what soil conditions prevent summer harvest but have heard stories of failure. Anyone who does not currently summer dig should experiment before committing to insure successful outcomes.

In the late 1990’s we realized sales and service opportunities were being sacrificed for lack of understanding. We set out to learn how to provide freshly dug material without risk to us or our customers. I know many growers summer dig and most have found a system they are comfortable with. What I describe below works for us but is not the only way to get the job done. I do not intend to endorse the products mentioned below.

We have experimented extensively with summer digging systems over the past 15 years and continue to gain confidence. We have successfully dug almost every plant in production, even during hot droughty weather.



This Viburnum ‘Shasta’ looks pretty ‘soft’ but can be easily dug.

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Our system is simple with just several key steps that ensure success. First, we inject a solution of water and Bio Plex into the root zone of each plant prior to digging. Bio Plex is seen as a stimulant that essentially reduces stress symptoms, improves moisture retention, and speeds fibrous root formation according to the Bio Plex web site discussion. We have adjusted dilution rates over time and find very low rates are required at this location.

We have tried water without Bio Plex and know that with some plants Bio Plex might not be needed. I suspect failure and success will vary with date. When I worked in sod production we learned sod was susceptible to failure based on flowering time. The problem was we could not determine which day or days the excess stress caused the failure. Similar physiological factors probably bear on woody plants and may impact digging success.

When trialing the various hydrating opportunities we found that Bio Plex gave us a slight edge most of the time. Rather than risk failure on any given day we simply standardize and use the same method universally. For deciduous harvest the summer digging date begins when we feel the spring flush is mostly complete and ends late September or early October. An understanding of the degree days in this matter may be useful. The window for treatment varies a little each year based on weather. We always discuss the dates each year and err on the side of safety; that's where the art comes in. The dilution of Bio Plex we apply is .2% which is far below the label rate. This suggests to me that water is the most important

factor, at least with our soil conditions and growing system of compost amended soils. I have read that one grower uses as little 2-3 gallons of 6% solution on a 2 inch caliper tree. The amount of fluid is important; we apply at the rate of 25 gallons per caliper inch for trees and basically create mud around shrubs. The soil firms up before harvest. It is critical that ample water and Bio Plex reach all growing parts of the plant prior to harvest which requires up to 48 hours. During most periods we follow the Bio Plex treatment with 24-48 hours of drip irrigation. I believe complete plant hydration is the most important factor (see photo below).

In the second phase, we make a thorough application of 1-2% Vapor Gard to the plant. Vapor Gard is a water emulsifiable organic concentrate used to reduce water transpiration. The soft, flexible film formed after the spray application dries will reduce moisture loss from plant foliage without interfering with normal transpiration. The active ingredient is di-1-p-Menthene, a pinolene based compound. Vapor Gard can not be applied to plants such as blue spruce. The bluish color is due to the presence of epicuticular waxes on the needles that reflect specific wavelengths of light. This wax will be diminished by Vapor Gard and yield an interesting discussion with the buyer. The application should occur at least one hour before rain and should not be applied after dark as the it is said the sun interacts to form the 'shield'; here again, the science is unclear (see photo top, page 17).

We often find ourselves digging large quantities of Buxus and Ilex in the spring during the 'flush'. It appears

this would be difficult but with Vapor Gard applied the harvest is successful. To accomplish the larger area of application efficiently we apply it with a tractor drawn sprayer. It results in spraying more plants than necessary and wasting Vapor Gard but at a very low labor cost when labor is scarce (see photo bottom, page 17).

After a 24-48 hour wait we usually dig a somewhat larger ball than typical of dormant harvest. The ball will be from 0 to 15% larger depending on the specific plant. Some plants such as Buxus and Ilex do fine with a standard size root ball while deciduous plants generally appear



A staff person injects a solution of water and Bio Plex into the root zone.



Spraying large quantities of Ilex 'Blue Maid' with Vapor Gard prior to digging.

began amending soils. Summer digging of Prunus, Cercis, and certain Quercus, Carpinus, and Fagus cultivars is discouraged; results have been variable for us.

Although summer digging can be inefficient because the orders tend to be scattered about the farm, we enjoy the additional receipts and it allows our customers to receive fresh material and the ability source plants that may not otherwise be

available.

Summer digging incurs additional expense for labor and materials which is passed on to customers. Our charge varies with quantity. 🌱

*Jerry Faulring
Waverly Farm*

to perform better with a larger root ball. We then move the material from the field to our holding yard and aggressively irrigate it until picked up or loaded for delivery.

We have drip irrigation on every plant from the day it is planted until harvested. Each tube is controlled by a valve allowing us to irrigate just those rows where plants will be dug saving on irrigation expense. The buyer of summer dug plant material must be strongly reminded to maintain high moisture levels of the root ball during transportation, holding, and after planting.

We amend our soils with 250 cubic yards of compost per acre while preparing each planting cycle. Our in-ground soil moisture monitoring system has shown that amended soils hold 26% more water compared to a control soil. We believe this provides another measure of safety and success for the plants dug during the growing season although this is only a logical theory as we were summer digging before we



A staff person sprays an individual plant with Vapor Gard.