Propagating Grapes and Other Small Fruits for Fun and Profit: Currants, Gooseberries and Jostaberries

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In the Northeast, there is increasing interest by commercial and hobby growers to cultivate rare heritage and other cool climate hybrid grapes and other small fruits, such as currants, gooseberries, or jostaberries. This is because such fruits are: of historical interest; cold-hardy, productive, & fungus disease resistant; can be grown in a more 'sustainable' manner; and produce unique fruits that make wine or juices that possess wild and fun flavor profiles and colors. There is a growing demand for these varieties, especially by craft beer and cider makers who use such fruits in their co-fermented products.

Many of these heritage small fruits and grapes can 'roll with the punches' and accept the punishment that comes with our changing climate. With climate change, we are experiencing more frequent and catastrophic hurricanes, floods, mid-winter heat waves, and ice storms, that bring with them more violent weather patterns, rain, hotter and wider swings in temperatures, and more variable spring and fall frost dates.

There are many scores of suitable heritage grape and other small fruit varieties that can be propagated to provide our local fruit growers with the tools needed to combat these more violent weather patterns. Unfortunately, many of these heritage varieties are not readily made available by commercial nurseries, so the grower needs to secure their own source of cuttings and propagate them on their own.

This article outlines how to propagate grape cuttings. While this article concentrates on heritage and other cool climate grape varieties, the same principles in propagation apply to other small fruits such as currants, gooseberries, or jostaberries. This article outlines propagating techniques that are not labor or capital intensive for those growers who want to propagate their own plant material.

There are more labor- and capital-intensive ways to propagate woody fruit plants during the long winter months in heated greenhouses. This subject may be covered by a later article that details how to propagate woody plants in less time in a heated greenhouse, so that such cuttings can be set out in just a few months.

While information on propagation techniques can be found on the internet, I find that referring to books written by authoritative horticulturalists provides easy access to accurate and practical information. Two great books include, *A Wine-Grower's Guide* by Philip M. Wagner (Alfred A. Knopf, 1985) and *Manual of American Grape Growing,* by Ulysses P. Hedrick, (The Macmillan Company, 1919). While out of print, both are available on-line. These are terrific reference books that should be part of any horticultural library because they are written in a manner that is easy for a grower to understand. Also, I refer to *Success with Small Fruits,* by E.P. Roe, (Dodd, Mead, & Company, 1881), which while it does not cover grapes *per se,* has very good sections on how to propagate currants, gooseberries, and raspberries which is similar to how to propagate grapes. It has a section on propagating cuttings in the "South", so I wanted to share this with my friends south of the Mason-Dixon Line.

How do you gather cuttings for propagation? When selecting cane wood, use only first year wood, and if possible, the joint that is at the juncture of second year wood to increase rooting capacity. Ideally, start

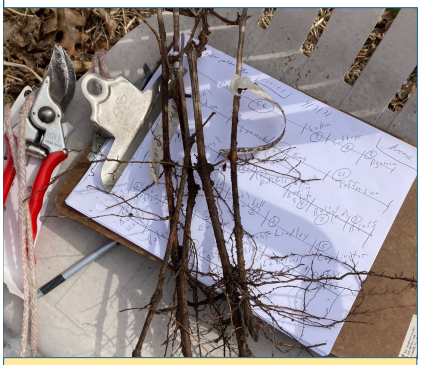
to gather your wood just after Christmas, when the canes are dormant. Gathering cuttings in late January to March is fine, but the collector runs the risk of collecting winter damaged cuttings. This is because with our changing climate, our winters are on average warmer, but accented by polar vortex artic blasts and other fridged weather events. These occurrences of alternatively seasonally very warm and then severely cold winter temperatures accompanied by high winds can damage propagating wood. Hence, I now collect most of my propagating wood as early in the winter as possible. Cuttings can be gathered as late as March or April before the sap starts to run. Limited amounts of propagating wood of rare heritage varieties are available from the USDA Germplasm Repository at Geneva, NY and U.C. Davis, CA.

Before propagating wood is collected, the propagator should evaluate the overall health of the vine throughout the previous growing season from which the propagating wood is to be collected. First, mark those vines you plan to collect propagating wood from. Be absolutely sure that the intended vine to be used is in fact the correct variety that you hope to propagate. What is critically important, notice how the vine grows throughout the year before propagating wood is collected. Select only vines that are strong and healthy, which have NO evidence of any systemic virus or disease.

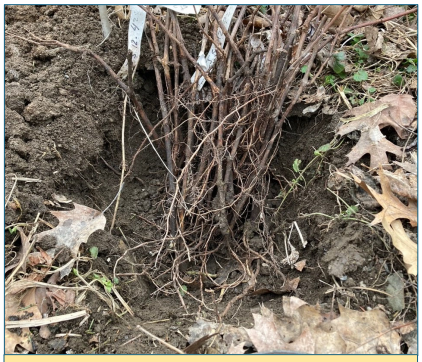
If a vine has discolored leaves of red, purple, maroon, yellow, or red/green/yellow veins, that vine most probably has a systemic virus or disease. If the leaves are curled, it has leaf roll disease. If the vine produces noticeably fewer grapes than it should, it may be diseased. If any of these three conditions exist, do not propagate from that diseased vine because that will spread diseased plant material. Further, to maintain the health of the vineyard, remove the diseased vine from that vineyard to stop the spread of such virus or disease. For more information on how to identify systemic grape vine diseases or viruses, check with your local or state Cooperative Extension Service or website. See https://ag.umass.edu/umass-extension-your-community, https://njaes.rutgers.edu/extension/ .

The most suitable cuttings for propagation are pencil size in width, or a little wider, with the space between the nodes (i.e., buds) close to average for the variety in question. Do not collect "bull canes" which are big and thick, with long-running canes. With bull canes, the distance between the nodes is very-long as they grew very rapidly, are less developed, and less hardy; hence, their success rate in the nursery is far less than those canes of average size. After selecting the right sized cane, prune them to have five to six buds on each cutting. The sticks should be about 10 to 14 inches long. To identify which end goes "up" when planting them in your nursery, leave about one inch of the cane above the top bud and cut the "bottom" of the cutting at an angle close to the base bud so that you know that is the part of the cutting that should go down into the ground. If the cutting is planted upside down, it will not live. Since I prepare thousands of cuttings each year, it is a system that works.

If you gather your propagating wood in the early spring, they can be placed directly in your nursery bed. However, if cuttings are gathered during the winter months, you will need to properly store these cut-



A closer look at what the grape cuttings look like after one year in the nursery. Note that roots often come from the bud sites that are placed under ground.



What the cuttings placed in the nursey in the spring of 2023 looked like in the spring of 2024 when dug up.

A new grape nursery established in the spring that will produce viable vines for placement in the vineyard the following spring.

tings until the spring, when they can then be laid out in the nursery. Since it is too early to set out your cuttings in winter, to preserve them, they need to be placed in a consistently cool (34-40 degrees Fahrenheit) environment that is damp/moist, but not wet. This will keep your cuttings dormant and create an environment so that the ends can callus, which increases the success rate of your cuttings.

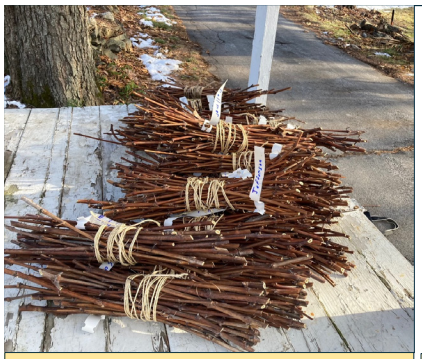
Some may have refrigerators to keep bundles cool and moist (never a freezer). For those who have access to a refrigerator, wrap the cutting bundles in a plastic bag, and add paper towels that are moist/slightly wet so that your cuttings stay damp while in storage -- never wet. The plastic bag should be wrapped tightly so that the moisture does not escape over time. Monitor your cuttings throughout the winter to make sure that they remain damp, not wet, and do not develop any mold/fungus that can damage your cuttings. Never store your cuttings with fruit, the ethylene generated can damage the buds.

For propagators who have a vegetable garden, dig a hole that is about 2 feet deep and lay the tied bundle or bundles of sticks in the hole horizontally. Then, cover the hole with soil and heap more soil over the cuttings. This way, the cuttings are in a moist environment that is cool, but not freezing, so that they remain dormant. Mark the site where you buried the cuttings so that you can find them in the Spring.

The question arises 'how many cuttings do I need' ? It is important to collect and set-out more cuttings than you need to compensate for some not surviving. As Joel Fry of the Bartram's Garden in Philadelphia used to say to me "plant two of everything, one will die". How many cuttings to collect and plant is the question. Different grape cultivars successfully propagate at different rates. For example, Baco Noir, which is a part *riparia* variety, tends to have a high success rate because of its *riparia* heritage. Even with *riparias,* plan for a 20 percent non-success rate. For varieties such as Delaware, which is a *bourquiniana* hybrid, they do not root as readily; so expect only a 60 percent survival rate. I recommend propagating as many cuttings as possible to satisfy your anticipated needs and sell or give away the remaining vines.

The ideal time to set out your nursery is early spring when the ground can be easily worked. In preparing your nursery ground, prepare it the same way you would a vegetable garden. Ideally, use ground that has been cultivated before so that there are no sod clumps and the ground can be easily worked up to be loose and friable.

In setting out your cuttings, think of it as if you are planting a vegetable garden. Which means clearly label each row. For safety, prepare a map to record where varieties were planted and keep notes on when they were planted and pulled up. Cuttings should be placed in rows that are at least ten to twelve inches apart. The space between each cutting in the row should be about two and one-half to three inches. To do this, dig a trench, lay your cuttings out and fill in the trench and pat down the soil so that it is snug. Since each cutting has five to six buds, put the cutting -- in the right direction -- with four buds below the ground and two buds above. Generally, place four buds completely under



A collection of 19 bundles of cuttings that can produce up to 900 vines for the next growing season.

Sets of sorted and bundled grape cuttings ready for winter storage.

A hole dug in a vegetable garden in the early winter to place grape cuttings for winter storage and placement in the nursery the following spring.

the ground, with the two top buds -- one way above the soil line and the other bud at the soil-line but exposed to the sunlight.

The challenge in establishing viable grape cutting/vines is to get them to root, so having far more buds below ground increases your success rate. As far as using a rooting hormone, some swear by it. I tend to be more holistic about my growing practices, so I do not use it. Rooting hormones can easily be found in gardening catalogs such as A. M. Leonard's or your local garden center or nursery.

The rows in your nursery should be about as long as you would have them for any vegetable garden row of peas, carrots, or lettuce. I place my nursery in a fenced vegetable garden to keep out rabbits, woodchucks, and deer. They all love the nice tender shoots of grape cuttings. A few browsing episodes by these animals, will doom your nursery. A wildlife proof fence is very important.

Once your nursery is set out, treat it like you would any other sensitive vegetable crop. I spread out well-rotted compost, mulch, or degraded bark in the rows and in between each cutting to minimize weed growth and retain soil moisture. With that said, still weed your nursery often to keep out weeds. I weed in the evening when it is cool, with a hearty glass of wine to remined me why we toil for new young grape vines. To help your cuttings along, water the nursery at least once every week with a long soak. This is especially important to do during the hot and dry summer months.

As the summer progresses, from the buds that are above ground, small leaves and then shoots will appear and grow. Each bud does not bring forth a single leaf, but a small tender cane with a series of leaves. Some varieties are vigorous, have long canes with many leaves, and root easily such as *riparia* varieties Baco Noir or Bacchus or *labrusca* varieties such as Concord or Jefferson. Other varieties such as Delaware, which are an *aestivalis* or *var. aestivalis/bourquiniana* variety, are harder to root because of their genetic make-up. Each variety will root at its own success rate. As the small canes grow, some varieties will throw out flower clusters. When this occurs, pick off those flowers as their formation will draw energy away from the cutting that is simultaneously trying to push out roots and leaves to become self-sustaining.

In the Fall, as the mother vine will do, these young plants will harden off. For planning purposes, count the number of strong vines in the nursery. Ascertaining the number of young vines will help you to plan the layout of your vineyard in the Spring. The following Spring, young vines should be ready to be dug up and laid out in your vineyard. See the books mentioned earlier for tips on how to trim and prepare your new plants to be set out on the farm or offered for sale. Some of your young vines may still be pretty-tender and weak. For these young vines, you may wish to keep them in the nursery for another year so that they can get stronger before they are set out in the vineyard.

Growing your own vines or other fruit plants from cuttings is a rewarding venture both financially and for a sense of personal accomplishment. With the adverse effects of climate change being documented on our fruit farms in the Northeast and the increased number of adverse weather events plaguing our growers; one answer to securing a consistent and economically sustainable fruit crop may lie in the past -- with heritage grape varieties, older cool climate hybrids, and new hybrids that are now being developed. Growing such hardy fruits that have been adapted to survive many weather-related challenges over time could be crucial to the future viability of our fruit farms, wineries, breweries, and cideries.

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