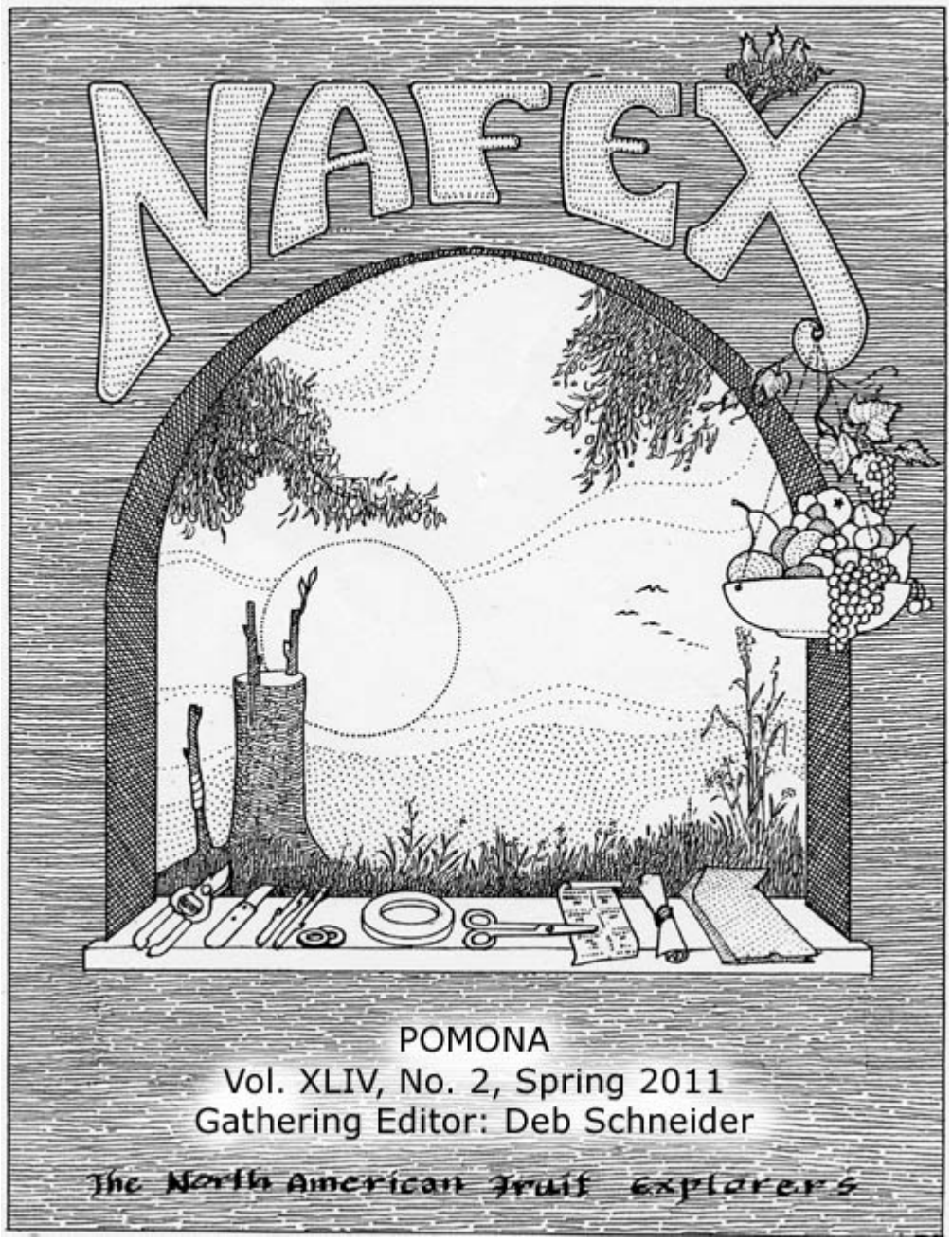

POMONA
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Gathering Editor: Deb Schneider

- Notes from Penn's Acres... Jacquelyn Kuehn
- ***Pome Fruits*** Simple Method of Grafting with Most Success ... Gordon C. Nofs
- Cox's Orange Progeny: Hauer Pippin ... Fred Holzknecht
- Acidity and pH of Apple Juice... Claude Jolicoeur
- A Forest of Apples ... Larry Rettig
- Experimenting with Jujubes ... David Lavergne
- Evaluating a New Cultivar ... Kean Anspach
- Growing Plums in Southeastern New York ... Dave Strayer
- ***Pests*** Raccoons ... W. L. Rohrer

- Make Your Own Fruit Liqueurs ... Ryan Bodanyi
- Blossoms Before Spring ... Deb Schneider
- A Short Pause Every Springtime ... Joseph M. Nixon
- Syrups, Jams and Jellies made with organically-grown fruit.(NAFEX Member Ad)
- Looking for a New Apple Interest Group Chairman ...Richard Fahey
- Photo Essay -- Jenkins' Farm, Eaton, NH ... Eleanor Jenkins
- Fruitful Tips: Quick Tips from NAFEX Members
- Book Review: Old Southern Apples ... Reviewed by Deb Schneider
- Spring 2011 **Pomona** Exchange Page: Scions, Seeds, Supplies, Study Materials
- NAFEX Iinterest Groups and NAFEX Fruit & Nut Interest Group volunteering information
- Contributing to **Pomona**

Notes from Penn's Acres

At the beginning of March, the temperature went up to 70º and I rode my bicycle the six miles home from work, something I pine for during the long cold months of winter. But as I write, in late March, the temperature has shivered back down to 17º at night, and just about 40º right now. Hmm, in like a lamb, out like a lion?

I took advantage of the almost-warm temperatures of late March, however, to graft some Radio Station apples. Twice a week this month when I drive to the station to record my radio program, I've been clipping scionwood from the totally ignored, unpruned, unsprayed, absolutely uncared-for tree that bears firm, juicy Golden Delicious-type apples each fall. Yes, that sounds like quite a lot of accrued scionwood, but in fact I just kept getting fresh twigs, hoping for the best possible chance of grafting success, since I am definitely not an expert.

I dug around in the basement for the grafting materials I knew were there: couldn't find the grafting knife, so I grabbed a decent slim pocketknife. Couldn't find any rubber budding strips; I think they all disintegrated because I've had them so long. I found a nice roll of black electrical tape, though, so stuck that in my pocket. All the old grafters improvised with what they had, right? I felt in good company.

Clippers, wire ties and cutter, and a copy of an old Gordon Nofs article on a failsafe grafting technique (reprinted in this Pomona). With my scions in the travel coffee mug of water, which was all I had handy to store them in when I cut them, I was ready.

Once out among my trees, I could have grafted all afternoon, had I had enough rootstocks or amenable older trees to topwork. The sun made the day feel much warmer than it was. Our dog Penny settled down in the warm grass nearby to soak her bones in the sun. Cardinals cheered; crows soared overhead. I slowly and methodically made my grafts, capping each one with two little bags, exactly as Mr. Nofs directed me.

In a week, I'll peek through the corner slits to see what's happening. In two weeks, I hope to have a few growing grafts.

And in a few years, I hope to enjoy my very own crop of Radio Station apples.

--JA Kuehn

*****Pome Fruits*****
Simple Method of Grafting with Most Success
First printed in Spring 1999 *Pomona*
Gordon C. Nofs 6422 E. Pierson Road, Flint Michigan 48506-2258 (313) 736-7089

This is a very simplified explanation to teach persons who have never tried grafting. This graft I am explaining is called a (simple) splice graft.

GRAFTING EQUIPMENT

1. A sharp knife, usually sharpened on one side only. Flat side is the side that is down against the scion, so select your side for right or left handed. This technique makes cuts easier to control, but is not necessary. The knife must be kept clean.
2. Rubber strips called budding strips, size .02" x 3/8" x 8" can be purchased in small quantities at cspoutdoors.com, 1-800-592-6940. An order of 4 oz. for $7.50 will give you about 112 strips. In place of the rubber strips, you can use ½"-wide strips cut from a plastic bread wrapper. CSP Outdoors [and other merchants] also has knives, and Amazon has a good Garden Way publication called Secrets of Plant Propagation which shows other types of grafts. [*This paragraph has been updated from the original article.*]
3. You will need brown paper lunch bags, and one-quart freezer bags. I prefer the long narrow type to be able to cover the whole graft. Lay lunch bags flat and make a cut on each bottom corner, to take out a ½" to 1" wedge. This will let light into the graft.
4. Also needed are twist ties or string.

Now let's gather our scionwood. If you want to practice, you can cut wood from a tree that you have, and later graft it back on to the same tree. But get scion from a favorite tree you have seen, in the yard of a friend, neighbor, or other. There are also many places from which to purchase scionwood. You will want scionwood of as close to the same diameter of the branch or rootstock that you are going to graft to. I like wood of 3/16" to 3/8" diameter, but I have grafted 1/16" in a pinch. I prefer scions about 4"-6" long, with about four buds.

A good preventative measure is to mix 1 tablespoon household bleach with 1 gallon water and dip your scions into it; lay them aside. Take a paper towel and wet it, then squeeze out most of the water, open, and wrap scions in it, put all in a plastic bag, and seal. Put bag in the refrigerator. The best temperature is around 33° F; do not keep in fridge along with apples for the gas given off will make them sprout. For short periods, however, it is okay.

Now for the graft: the point I want to stress most is the care required for the cambium layer, which is the layer just beneath the bark. The cambium is the part that has to

match or make contact as best you can accomplish. This contact allows the two cambium layers to knit together, a process sometimes called callusing, which heals the scion and stock together to continue the growth. We should strive for the best match of scion to stock, but if not possible, always hold your match to one side—do not try to centralize.

I find that the best time to start grafting is when the trees are starting to push out their buds. This is when the sap is flowing; however, dormant scionwood can be put on anytime after that, but it is best to water well a few days before the graft to push growth, which aids in callusing.

I carry my scionwood in one of those very small buckets with a few drops of bleach in the water. Take it to the tree that you want to graft it onto, along with supplies. Pick a branch to match the scion size as closely as possible.

Cut a chunk of scion approximately 1½” long, at a clean sharp angle. Make a similar cut on rootstock or branch, and trim until you get as close a match to scion as you can. After cuts match, get a budding strip or plastic strip, and match up on your scion to stock, wrap snugly with the strip, and on the top wrap hold your finger under and bring end around and under and pull to hold.

Now take a freezer bag, put in approximately 1 teaspoon water from scion container, turn upside down, and strip water from bag, leaving small amount of moisture inside which will feed the scion. Now blow the bag open and put it over the graft, tying it just below the graft, keeping in as much air in as you can. Leave room at the top for leaf buds to expand a little. Now open lunch bag, and put it over the freezer bag. Tie loosely. Step back and admire. That's enough!

Now leave like this for one week, then peek in through one of the holes and see if there is new growth. If you can't see too well, make the opening bigger on the northeast side. When sprouting looks good, after approximately two weeks, open both bags and leave one with bottom tied to stay open for few days. It is best to remove late in the evening, or better yet on a cloudy and rainy day. I use a waterproof marking pen to write on a piece of 1”-wide masking tape long enough to go around and lap over at the ends where the information is written. I put the date, type graft, and the variety on the tape. These tags last long into fall for me so that I have time to put permanent tag on the successfully- growing grafts.

The pit-type fruits grafts seem to mold easily, so don't add moisture to them. They are a problem I am working with now, with some successes. Nut trees you will not want to bother for four to six weeks, but have patience—some pecans have taken six to eight weeks. Apples are the easiest, and I would recommend they be your first try.

In place of the plastic and paper bags, there is a product called &'Farwell's grafting seal," sold by Farwell Products, Inc., PO Box 3347, Wenatchee, WA 98801 *[Available online from several sources, check Google]*. I buy half pint bottles. To use this: after you have made your graft, paint the entire graft from tip to beyond the graft with this yellow product. That is all you will have to do; it protects and seals, and buds will expand and grow right through. Make sure to watch that grafting rubber does not girdle the graft, however; they will usually disintegrate, but if painted may not!

Do not use tar-based grafting seal sold in garden centers etc. It is not good for trees at all. Your tree trimming experts will also tell you this if they know what there doing. Last year I put on 30 grafts in a hurry, hitting all the little branches on a 6-foot rootstock, and every one of them is growing to this day (I painted each graft with grafting seal).

Now for smaller scions and larger branches, you can do another simple graft called a bark graft. Cut off branch at half inch and up in diameter. Using scion as prepared before, insert into cut that you will make on the cut-off branch and slide in under bark at the slit until you get all the way in to end of bevel cut--it is best to scrape the scion along the sides to the cambium to make better contact.

Tie snugly and put on the freezer bag and the paper bag. You can sometimes put more than one scion per cut branch by spacing them around branch. If your scionwood is of the previous year's growth, it usually takes best, but any age can be used. Two year-growth may produce quicker, but you must remember that you have a cut branch inside and only new and future growth is what is going to support this branch. So don't allow too many fruit on in the early years.

[NOTE: I try to make my slanting cuts opposite a bud, on both scion and stock, for the sap is going to reach the bud and force new growth. Keep all other buds from beneath the graft to force all growth to scion. The splice and bark graft is what I now mainly use. A stronger graft is an improved splice call a whip graft, but is not necessary.]

My version of Mr. Nofs' grafts: one singly wrapped, one doubly wrapped. --JA Kuehn

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Cox's Orange Progeny: Hauer Pippin

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Recent discussion on the progeny of Cox's Orange Pippin (*Pomona* Fall 2010 and Winter 2011) has prompted me to add a piece about the Hauer Pippin, a very late maturing apple that also stores very well.

Photo courtesy of Trees of Antiquity
http://treesofantiquity.com/

The Hauer Pippin originated as a seedling in a valley behind Aptos, California (Zone 9). In 1890, it was found by Peter Hauer, a Santa Cruz County apple grower who called it "Moonglow" The apple became a popular variety because of its disease and insect resistance. Hauer regularly shipped the apples to England where they arrived in March and were sold as premium apples. The Hauer Pippin lost its market place when apple storage methods improved, extending the season of earlier ripening varieties. The need for a long, warm growing season was also a commercial disadvantage.

The original seedling was found growing between a Cox's Orange Pippin and a Yellow Bellflower, and Hauer believed it was descended from these two trees. The Hauer Pippin does resemble a Cox's Orange, though it has very little orange on it and is somewhat flatter in shape. The skin is mostly a deep red over green and is thicker. The flesh is cream-colored, firm, juicy, sweet-tart and spicy. It ripens very late and seems to keep forever.

These are the last apples I take off the tree. I used to pick them at the end of November, but now I leave them on the tree until Christmas. Either way, they are not ready to eat until the last week of December. For this reason, the Hauer Pippin also used to be called the "Christmas apple." The rich red color of the skin is enhanced by the numerous white dots like stars all over, giving it a festive appearance.

The doubt about the Hauer Pippin parentage is really about the other parent. While there are clearly recognizable Cox qualities, there are none that can be ascribed to the Yellow Bellflower, so it is unlikely that this was the pollenizing tree. Black Twig has been suggested as the original pollenizer, but I reckon that the other parent was a Winesap, which among other things accounts for its color and its long-keeping qualities.

Sources for Hauer Pippin

Trees of Antiquity
http://www.treesofantiquity.com
1-805-467-9909

Greenmantle Nursery
http://www.greenmantlenursery.com
1-707-986-7504

Nature Hills Nursery
http://www.naturehills.com
1-888-864-7663

Acidity and pH of Apple Juice

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Acidity is an important property of apple juices, and is also easily measured. Whether for cidermaking or for blending fresh juice, it is always a good idea to have a measurement of acidity. Most notably, the acidity of the juice has an influence on:

- The perceived acidity in the taste of the fresh juice and of the finished cider: if the acidity is too low, the juice or cider will lack freshness. On the other hand, too much acidity may render the juice or cider too sharp and unpleasant to drink. We need to seek the right equilibrium.
- The type of acidity responsible for the tasting sensation is called total acidity (or TA) and is easily measured by titration.
- The protection of cider from spoiling microorganisms: a cider which has a low acidity level will be much more susceptible to be spoiled by such organisms.
- The type of acidity that governs this protection is the pH (potential Hydrogen) that measures the concentration of H+ ions in a solution. The pH is related with the biochemical reactions that occur in the fermenting cider. It is easily measured with a pHmeter or with indicator strips.

So we can see that the total acidity is a property which is most useful for blending of fresh juice and cider, while pH is a property mostly useful in cider biochemistry. These two scales are very different: the pH scale is an inverse logarithmic scale where when the pH is reduced by one unity, the concentration of hydrogen ions is multiplied by ten. The total acidity is a linear scale where if the value is twice as large, the perceived acidity will also double.

Most apple juices have a pH between 3.0 for the more acidic juices and up to about 4.5 for the juices that contain very little acidity. On the TA scale, the acidity is often expressed as grams per litre (g/l of malic acid. The values measured may range from 1 g/l for the least acidic juices to about 15 g/l. The total acidity may also be expressed as a percentage: 1% total acidity being equal to 10 g/l. In North America, another scale is also often used, which is the total acidity in tartaric acid equivalent. This is because most acidity titration kits sold in winemaking supply stores are calibrated for tartaric acid (TA) which is the main acid in grapes. But since in apples the main acid present is the malic acid, it makes more sense to use the malic acid scale. To convert the total acidity number from tartaric acid equivalent to malic acid we need to multiply the grams per litre of tartaric acid by 0.89.

In cidermaking, we usually try to maintain the TA of the blend between 4.5 and 7.5 g/l of malic acid, with the lower figure more typical of English cider made with bittersweet apples, while the higher figure would be more typical of North American sparkling cider. For fresh juice or for sweet ciders and ice ciders, the acidity may be higher as the sugar will balance the acidity. As it was mentioned earlier, the pH is related with the biochemistry of the fermentation.

Research work was done, most notably by the Long Ashton research station in

England during the years 1960 to about 1980, to study those aspects. From this research work, we may retain, for practical cidermaking purposes, the following important guidelines:

- When the pH is lower or equal to 3.0, the acidity is normally sufficient to protect the cider from the spoilage due to unwanted microorganisms.
- If the pH is between 3.0 and 3.8, the acidity alone would not be enough for protection and the addition of sulfite (SO2) is recommended to complete the protection. The recommended dosage of SO2 varies from 50 ppm when the pH is closer to 3.0, and up to 180 ppm when the pH reaches 3.8.
- If the pH of the juice is higher than 3.8, it is recommended to lower the pH to 3.8 by blending or by adding some malic acid, and then to add the recommended SO2 dosage for a pH of 3.8.

There has been considerable discussion in the cidermaking community as to whether we could substitute one of the measurements for the other. In other words, can we use the result of a total acidity titration to assess the level of protection of a cider? Or, can we use the pH measurements in blending different varieties when seeking a certain level of acidity in the juice or in the finished cider?

Before we go further, I need to explain a few basic things about acid solutions. What is called a *strong acid* is a substance that, when in solution in water, will release one H+ ion for each molecule of the acid. We then say it is fully dissociated. And if we know the dilution, we can compute the number of molecules and thus the mass of acid and the TA; and we can also compute the number of H+ ions and the pH. So there will be a predictable and exact relationship between pH and TA for a particular strong acid, and this relationship will be such that when the TA is multiplied by ten, the pH will be reduced by one unit as this is how the pH scale is defined. Apple juice, however, is quite different: we are dealing with mostly malic acid, mixed with a few other acids present in lower concentrations. These acids are organic weak acids that can release either zero, one or two H+ ions per molecule depending on the conditions and thus they are only partly dissociated. The difficulty is that we can't predict the extent of dissociation, which depends on many factors (and I will skip these as it would become too complex). So, even if we know how many molecules of acid we have, we don't know how many H+ ions they will have released.

Hence we can't compute the pH from the TA. Then, the original question now becomes: although we can't theoretically obtain a predictable and exact relationship between pH and TA for apple juice, maybe there could be some sort of empirical relationship, meaning that the extent of dissociation of the acids would be fairly constant from a sample of juice to another.

As there were no definitive answer to this, I started gathering some data points to either confirm or infirm this possibility. Each data point had to give both measurements (i.e. ,TA and pH) from the same sample of juice. I found some in the literature from the following references:

> Smock, R. M. and Neubert, A. M. (1950), *Apples and Apple Products*, Interscience Publishers, New York, 486 pages. In Table 38, page 338, there are 4 data points of commercial table apple varieties from USA, unspecified

origin and date.

Moyer, J. C. and Aitken, H. C. (1980), *Apple juice*, in Nelson and Tressler, *Fruit and Vegetable Juice Processing Technology*, 3rd edition, AVI Publishing, pp 212-267. In table 6.3 there are 9 data points from table apples grown in British Columbia in the years 1934-45, from Atkinson & Strachan, 1949. And in Table 6.5 there are 8 data points from tests done in New England, from Clague & Fellers, 1936.

Lea, A., *The Wittenham Hill Cider Pages* (http://www.cider.org.uk/) The page *Cider Apple Data* contains a table of 40 data points from the Geneva Station in New York, originally published by D. Downing in Processed Apple Products, AVI Van Nostrand, 1989. The measurements would probably have been done by the end of the 1970's from the apples grown in the Geneva Station. These include cider apples and standard eating apples.

In addition to these 61 published data points, I was able to gather quite a number of points from cidermakers in England and North America after making requests through the Cider Workshop and the Cider Digest internet discussion forums, which I added to some data points I had taken myself. This gave me a total of 156 points, taken from different areas in North America and England, with time frame ranging from the 1930's to 2010, and from a diversified range of apples varieties and types.

These data points have then been plotted on a semi-log graph. The semi-log was chosen because the pH is a logarithmic scale and thus the resulting graph was linear. I was then able to draw a best fit straight line through these points with the slope adjusted so the pH would decrease by one unit when the total acidity is multiplied by 10 as per the theory of pH. This is the blue line on the graph. Its equation is:

$$pH = 4.3 - Ln(TA) / Ln(10)$$

which can also be written:

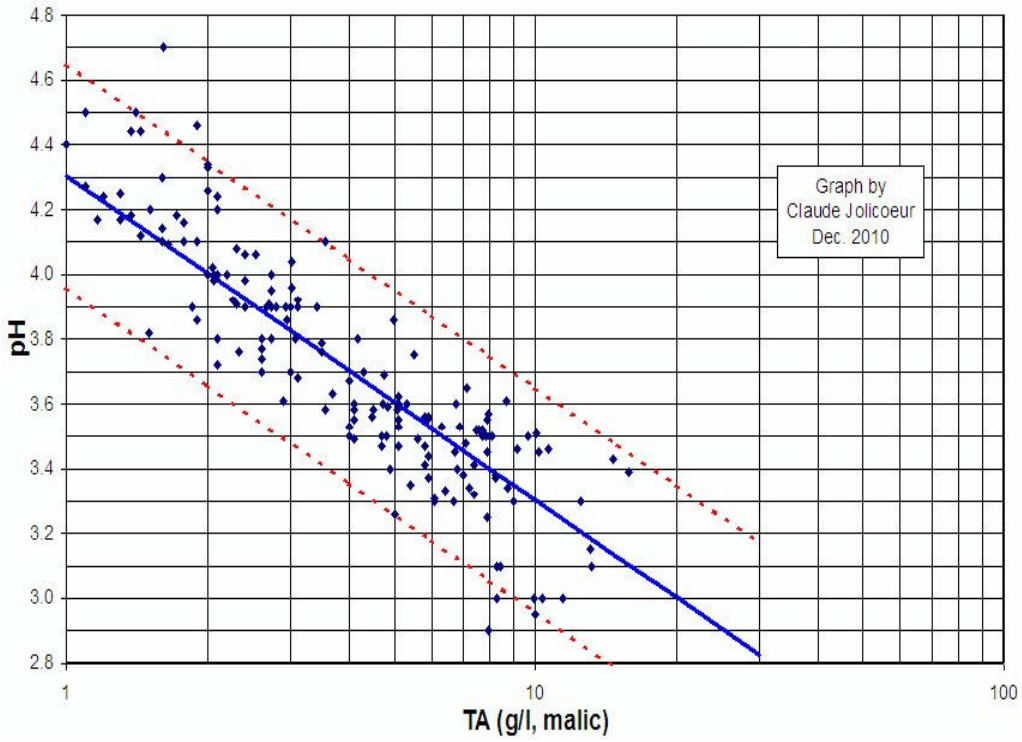
$$pH = 4.3 - 0.4343\ Ln(TA)$$

Now, it can easily be seen that there is a lot of scatter of the data points around this mean line. To evaluate the amount of scatter, we compute the standard deviation of the data in relation to the mean line, which turns out to be 0.17 in pH units. Then, if this data follows a normal distribution curve, we may be able to say that 95% of the data points should be within 2 times the standard deviation from the mean line. The 2 red broken lines represent the mean plus or minus two times the standard deviation. Their equations are:

$$pHMIN = 3.96 - Ln(TA) / Ln(10)\ ;\quad pHMAX = 4.64 - Ln(TA) / Ln(10)$$

and the area between pHMIN and pHMAX is called the 95% confidence interval. And in effect, we can see that there are only a few data points outside this interval.

Graph of pH function of titrable acidity for 156 data points



So, what this tells us is, if this data sample is truly representative, when we measure TA we could say that there is a probability of 95% that the pH would be between pHMIN and pHMAX, and there will be a difference of 0.68 in pH units between the 2 values. For example, with a TA of 7 g/l (or 0.7% as malic), this will tell that the pH should be between 3.11 and 3.79, with a probability of 95%.

Unfortunately, in practice, this is not very useful because it could not help us in the dosage of the SO2 required to protect this cider. With our example and a pH of 3.11 (the MIN value), a very small dose of SO2 is required, while at a pH of 3.79, a dose near the maximum is required. The standard deviation is too large and in consequence the graph and equations cannot be used to dose the sulfite and skip the pH measurement.

Now, if we look at it the other way around, let's say we have a juice sample for which we have measured a pH of 3.6. Could this be any help in blending this cider? If we turn the equation around or if we look at the graph, we find that for this pH of 3.6, the 95% confidence interval would go from a TA of 2.3 and up to 11 grams per litre. Again this is way too wide to be of any practical use, as a TA of 2.3 g/l is very low acidity and 11 g/l is very high acidity. It cannot help us figuring the best blend for this juice.

On a more positive note, this graph may be helpful to double-check the acidity measurements. If we take both measurements (pH and TA) and plot this point on the graph, and see that the point is quite far from the mean line, we might make the measurements a second time to be sure it was done right.

In conclusion, this work confirms that both a pH and a TA measurement of acidity are necessary in cidermaking. These two measures each have their own use and one cannot be substituted for the other.

Many thanks to the cidermakers of the Cider Workshop and of the Cider Digest who provided a good part of the data points shown here.

A Forest of Apples
by Larry Rettig (LarryR)
February 3, 2011
Reprinted with permission.

Close your eyes for a moment. It's a beautiful, sunny, warm day in May. You're standing in the midst of a vast forest of apple trees in bloom. You drink in the intoxicating fragrance of the blossoms and listen to the pulsing hum of busy bees as they go about the business of gathering pollen.

If we were to return to the apple forest in fall, when the promise of those blossoms materializes in the form of fruit, we would be in for another fragrant treat. The ripening apples would have an amazing diversity of smells and tastes. Aside from the "normal" apple taste, some would taste and smell like roses, some like anise, some like coconuts, some like orange and lemon peels, some like strawberries, some like pineapples, some like green bananas, some like pears, some like potatoes, and some even like popcorn. Other apples would be "spitters," tasting sour or bitter.

Your presence in the forest is, of course, make believe. But it may surprise you to know that the forest is not. Before Carl Frederich von Ledebour happened upon this incredible apple forest in the early 1830s, it was unknown to the Western world. It lies deep within a mountain range in what is now Kazakhstan (see map below). In the midst of the forest is the bustling city of Almaty (meaning "fatherland of apples" in Kazakh). The location has both its good points and bad points as far as the fate of the forest is concerned: good, because the proximity of the growing city has allowed scientists to access to the forest, which in the past was remote and almost inaccessible; bad, because the city is encroaching on the forest as land is cleared for high-rises and vacation homes. The apple forest region on the map is circled in green.

The genetic diversity of apples in this forest is astounding. I've already mentioned the range of flavors and fragrances. The apples also come in a variety of sizes and colors. In size, they range from that of marbles to that of large dessert apples. There are solid reds, yellows, mottled russets, bicolors, and solid greens. Some wear a shiny coat, others are dull and rough-skinned. Amazingly, none of these varieties is subject to damage by disease or insects. Many varieties look as if they had come right off a grocer's shelf.

All of these variations occur within the same species, Malus sieversii. Scientists have cataloged 56 wild forms of this species, 26 of which are considered the basic, wild ecotypes. The rest are considered semi-domesticated. "Semi-domesticated" is the term selected to describe the types that are suspected of being manipulated in some way in the past by dwellers in the forest. Bears, for example, are suspected of selecting only the best-tasting varieties when they forage. These have an advantage, in that their seeds are not only disseminated widely in the bear's scat, but fertilized by it as well. Another suspected manipulation of Malus sieversii is that of prehistoric humans. Like the bears, it is assumed that these humans favored the best-tasting apples and then disseminated them in the same way bears did.

Apple forest apples as they appeared when picked

Aerial view of apple forest.

And here is the most amazing thing yet: These apple trees are the source of all apples in the world! The results of a genetic sequencing of the trees by researchers* show that the apple forests of Kazakhstan are without a doubt the birthplace of the apple. In fact, at this point, it looks like 90% of the world's apples are descendants of just two trees. Kazakhs were absolutely right when they named their city Almaty, the fatherland of apples. One of the recurring themes when sequencing genes—in order to find the source of a particular fruit or vegetable--is that at the geographical location of their origin the diversity of the particular plant or tree is the greatest. As we have seen, that certainly is the case for the apple.

While in Kazakhstan on one of his field trips, Philip Forsline found 300-year-old apple trees 50 feet tall, looking more like oaks than apple trees. So prolific are apples in the region, that he saw apple trees coming up in the cracks of the sidewalks in towns near the forests.

The entire gene pool for apples, no matter what variety, is contained in the Kazakh apple trees. This rich diversit came about because of their isolation, which lasted about 6,000 years. Below are three researchers/scientists we can thank for making us aware of this critically important gene pool.

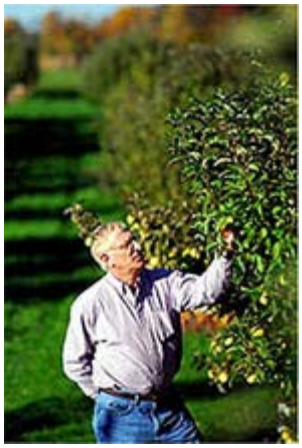
Nikolai Ivanovich Vavilov

An eminent Soviet biologist and geneticist, Nikolai Vavilov was the first to theorize that centers of origin for certain crops were generally located where their genetic diversity was the greatest. Vavilov organized a series expeditions to collect seeds from every part of the world and created the largest collection of plant seeds in existence at that time. This seed bank contained apple seeds from his visit to the Kazakh apple forests.

Aimak Dzangaliev

Ninety-three-year-old conservationist, Aimak Dzangaliev, a citizen of Almaty, has, since 1929, devoted his life to the apple forest. Even at his advanced age, he is still working actively in his quest to study and conserve the diversity of apples and other wild fruits in his beloved forests. His long life, he says, is due to his wife, Tatiana's, insisting that he eat several kinds of wild apples daily f(when in season) every year since they were married.

Philip Forsline



Philip Forsline has been curator of the apple collection at the USDA- ARS Plant Genetic Resources Unit at the New York State Agricultural Experiment Station since 1984. Every few years he visits the apple forests of Kazakhstan and brings back with him seeds from every new type of Malus sieversii he finds growing there. He currently has about 2,500 varieties of apples growing in his collection in Geneva, New York, and has tasted every single one.

What makes Dr. Forsline's work so important:

- Knowing the exact location and origin of food sources is of great importance to food security.
- Gathering and saving seeds is critical in protecting our food supply from crop diseases, insect pests, and catastrophic weather.
- It is estimated that 16,000 apple varieties existed four centuries ago. By 1907, that number was whittled down to 7,098. Today, just 15 varieties compose 90% of all apples sold in grocery stores.
- The apples now on the market are subject to apple scab, cedar apple rust, fire blight, powdery mildew, and the exit wounds of coddling moths.
- Consumers are put off by the slightest imperfection, so growers spray their apples an average of 10 times a year.
- The native apples of Kazakhstan have an incredible amount of disease resistance.

Apple Facts

- We eat about 19 pounds of apples per person per year.
- Apples are our second-favorite fruit--the banana is number one.
- Red Delicious and Golden Delicious apples are the parents of about 90% of the apple hybrids people eat in this country.
- The annual American apple crop is worth about $1.8 billion.

By narrowing the commercial apple gene pool to 15 varieties, we have set ourselves up for a catastrophic event on a scale much larger than the Irish potato famine. Our modern apples have almost no disease resistance left. That is one of the reasons why the apples in Kazakhstan are so important. Dr. Forsline will develop hybrid crosses between our current favorites and those Kazakh varieties he has collected, imparting super disease resistance to apples currently on the market, not to mention developing delicious new flavors. Wouldn't that be a great boon to the environment? No more spraying apples 10 times a year. And a deep gene pool to draw from when we need to. The discovery of the Kazakh apple forest is truly a gift.

* Barrie Juniper at Oxford University is the author of **The Story of the Apple**. The book describes how he and other researchers used gene sequencing to trace the family of the common or garden apple to Kazakhstan.

Endnotes: Because the apple originated in Kazakhstan, some have jumped to the conclusion that this area must then be the biblical Garden of Eden. Finding oneself in an apple forest in bloom, one might think so, but I am, at this point, not inclined to take such a leap of faith.

At the urging of scientists and conservationists, the Kazakh government now protects some of the apple forests. Unfortunately, 70-80% of them have been destroyed.

About Larry Rettig

An enthusiastic gardener for over 50 years, my first plant was a potted Ponderosa Lemon tree ordered from a comic book ad at age 15. I still have it, and it's still bearing lemons! My wife and I garden on ¾ of an acre, both flowers and vegetables. Although our garden is private, it's listed with the Smithsonian Institution as a national heritage garden and is on the National Register of Historic Places. We garden organically and no-till. Our vegetable garden contains a seed bank of vegetables brought to this country from Germany in the mid-1800s. For more info:
http://davesgarden.com/community/blogs/m/LarryR/
http://cubits.org/articlesongardening/
http://cubits.org/gardenphotos/

Photos that appear in my articles without credit are my own. The photo of Philip

Forsline is courtesy of the USDA. All other photos are courtesy of Wikipedia.

Experimenting With Jujubes

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USDA Climate Zone 8-B

Jujube photo courtesy of Papaya Tree Nursery papayatreenursery.com

With all the uncertainties of weather along with diseases and insects, it helps to experiment with new fruit crops. Jujubes are a crop that most people are only vaguely familiar with if at all. However, they are a crop to consider. For those with larger orchards, it can pay to diversify with something new.

Jujubes make smaller trees in comparison to nut crops, mulberries, and American persimmons. Trees may grow between 20 to 30 feet high. The tree is well adapted to USDA. climate zones 6 to 9. Varietal choice depends on climate, rainfall, and humidity. Some jujube varieties fruit heavily in drier areas while others fruit better in areas of higher humidity.

When grafting jujubes, my own preference is to use bark grafts in the springtime. My grafts are onto the root sprouts of a rooted cutting of a **Sherwood** jujube. When grafting onto root sprouts, it may be better to transplant these later in the following winter.

If you haven't tasted jujubes, try going to an Asian market where seeded, dried jujubes are sold. I find these dried fruits sweet and chewy.

To grow jujubes, select an area with good surface drainage and full sunlight. Water should drain away within 24 hours after rain. Jujubes usually leaf out later in the spring than many other crops and flower over a longer period of time. Jujube roots may send out numerous sprouts, which are best controlled by mowing out or cutting.

I can't say whether or not some jujube varieties require pollination from other varieties. My orchard includes several varieties. Pollinators may include wasps and other insects.

There has never been an occasion where my jujube trees have needed to be sprayed with pesticides for insects or disease. The only readily noticeable pest problems have been with birds and larger animals.

My orchard includes several jujube varieties as I am experimenting with some of the better ones. Jujubes have thorns, the density of which depends on variety. Jujube trees have roots that grow laterally for a long ways. This makes them more drought resistant than many other fruit crops.

My usual practice is to fertilize younger trees to jump start growth. Too much nitrogen fertilization later in the tree's life can cause excessive growth and no fruit crop. It may be best to sacrifice the fruit crop of young jujube trees and withhold fertilizer for older, producing trees to ensure the best production over time.

Common varieties include **Li** and **Lang**. There are several other varieties that may be better suited for your locale. **Li** is a variety that is better for fresh eating of large fruit. **Lang** is better suited for drying. **Li** is not among my favorite jujube varieties. Fruit are large and pretty, but have air pockets inside. Eating **Li** fruit is like eating unflavored rice cakes.

It takes practice to determine the optimum stage of ripeness by observing changes in fruit color. When harvesting fruit to eat fresh, it is best to harvest after a rain or early in the day by mid- morning.

Some of the better selections for warm, humid areas include **Honey Jar** and **Tiger Tooth**. **Tiger Tooth** has an elongated fruit of good quality for fresh eating. **Honey Jar** is a favorite of mine with its tender skin and juicy fruits that ripen early.

Shanxi Li has been another productive variety for me as well. This one is good for eating fresh.

Last summer, I tasted fruit from an unnamed jujube seedling from St. Martin Parish. Fruit were small but had a good texture and a sweet/tart taste similar to an apple. This one would be a good choice to graft and grow here in south Louisiana.

Sherwood is a variety often offered for sale. It yields better and more consistently in drier areas and perhaps locations farther north than mine. Fruit are of high quality and store well when refrigerated. Keep in mind, that if these **Sherwood** trees are ungrafted root cuttings, they may take twelve or more years to start bearing.

My orchard includes a tree of **Jin** or **Chang** jujube. Fruit are elongated but production has been low so far. If harvest remains poor, I may cull this plant in 2011.

For those wishing to grow an ornamental jujube, there is a variety called **So**, the contorted jujube. It is a dwarf tree with smaller fruit, but can be quite productive and precocious along with being one of the first to ripen each year.

Growers wishing to dry fruit should try **Shui Men** and **Lang**. Fruit dries well indoors over a screen which allows air circulation from beneath. Fruit are dried with seeds. Dried fruit should be frozen for two days then sealed in a container to store at room temperature.

Jujubes may be substituted in recipes calling for apples. The finished product may be firmer when using jujube fruit.

Fruit growers selling Oriental persimmons to Asian markets, should consider growing jujubes. More fruit growers should consider trying jujubes. Remember, "Variety is the spice of life."

Jujube Fruit Sources

Sources are provided as a courtesy and do not imply the recommendation of NAFEX.

Papaya Tree Nursery
http://papayatreenursery.com/
1-818-363-3680
(Chang)

Englands's Orchard & Nursery
http://www.nuttrees.net
1-606-965-2228
(Trees -- Li, Tiger Tooth, R3T1, Xu Zhou, Tsao, R7T2, R3T4, Lang,Sherwood, GA866, Sugar Cane. Scionwood -- GI 7-62 Chico, GI 8-66, Ant Admire, So, Lang, Li, Korean #1, Sherwood, Sept. Late, Tigers Tooth, Taso = Zhou, Silver Hill, Si Hong, Honey Jar, Priest , Shumen, Globe, Sugar Cane, Shan Xi Li, R1T4, R3T1, R4T3, R2T2, R2T4, Red lands #4, Li_2, Jin, Don Polanski, Yu, Mu, Sweet meaty, Russian #1, Russian #2, Russian #3, Russian #4, Russian #5, Russian #6)

Raintree Nursery
http://www.raintreenursery.com
1-800-391-8892
(Contorted, Lang, Li, Sherwood)

Ison's Nursery & Vineyards
http://www.isons.com
1-800-733-0324
(Li, Sherwood)

Bay Flora
http://bayflora.com
1-888-549-2969
(Sugar Cane, Li, Lang, Sherwood, Contorted, GA866)

Almost Eden
http://almostedenplants.com
1-337-375-2114
(Tsao, So)

Burnt Ridge Nursery & Orchards
http://www.burntridgenursery.com
1-360-985-2873
(GA866, Honey Jar, Lang, Li, Contorted, Sugar Cane)

Edible Landscaping
http://www.ediblelandscaping.com
1-800-524-4156
(Contorted, Li, Lang, Tigertooth)

Just Fruits & Exotics

http://www.justfruitsandexotics.com
1-850-926-5644
(Autumn Beauty, GA866, Sherwood, SO, Tigertooth)

Willis Orchards Co.
http://www.willisorchards.com
1-866-586-6283
(GA866, Lang, Li, Sherwood)

For More Information

Uncommon Fruits for Every Garden by Lee Reich, Timber Press, 2004.
http://leereich.com/books.html

Jujube Fruit Facts
http://www.crfg.org/pubs/ff/jujube.html

JuJubes
George Ray McEachern, Extension Horticulturist
Texas A & M University
http://aggie-horticulture.tamu.edu/extension/fruit/jujube/jujube.html

Morton, J. 1987. *Indian Jujube.* p. 272–275. In: **Fruits of warm climates**. Julia F. Morton, Miami, FL.
http://www.hort.purdue.edu/newcrop/morton/indian_jujube.html

Evaluating a New Apple Cultivar

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This research project is about a new apple cultivar that I am evaluating. The cultivar, which I call Gwaii, is believed to be a cross of Lodi and Cortland. I have been planting and grafting selected seedlings for evaluation over the last several years. I have done other projects of this nature, including planting Granny Smith seeds and selecting seedlings with red leaves for further evaluation. In this project, the subject cultivar was selected from cider mash seedlings in 2004 and grafted for evaluation. After bearing fruit of interest, I have proceeded to a formal evaluation by grafting 5 each of Gwaii, Lodi, and Cortland onto G11 rootstock.

For those not familiar with the presumed parent cultivars, Lodi is very early (July) apple that makes excellent applesauce. Notable negatives are biennial bearing, poor keeping quality, and fire blight susceptibility. Cortland ripens in September here. It is well known for browning resistance, is a regular bearer, a good keeper, and I have not observed fireblight on this cultivar. Could this cross provide an early apple for applesauce that is a dependable bearer and resistant to fireblight?

The presumption of parentage is a speculation based on observations listed below. It could be incorrect and has not been verified.

- The cider mash only contained a few cultivars, one of which was Cortland.
- The Gwaii apple is a green, early (July) apple.
- The core of the Gwaii apple bears a resemblance to a Cortland core.
- The Cortland tree is adjacent to the Lodi tree.

The fifteen trees were benchgrafted and planted on 3/20/10. I used a whip graft wrapped with parafilm. All grafts grew, and all but one thrived. One of the Cortlands did not thrive, probably due to the poor-quality scionwood available on my mature Cortland tree. If the scion growth appears dead by spring, I plan to regraft that tree with Cortland. The trees were planted in a block of three rows of five trees each in the following pattern:

Row 1 . C, L, G, C, L
Row 2 . G, C, L, G, C
Row 3 . L, G, C, L, G

The only measures I have to report now are the heights and diameters of the fifteen trees. I measured the height of the tallest shoot, measured from the point of emergence from scion, and I measured the diameter of that shoot 3"h above the scion. I believe that much of the Cortland data was affected by scion quality. The Lodi and Gwaii scion quality was equally good.

Variety	Height average (inches)	Diameter average (inches)
Cortland	16	0.14
Lodi	27	0.19
Gwaii	31	0.23

Going forward, the quality characteristics to be evaluated and compared include growth characteristics, precocity of bearing, scab resistance, fire blight resistance, taste for fresh eating, cooking quality, and keeping quality. I'll be issuing a yearly report.

*****Stone Fruit*****

Growing Plums in Southeastern New York

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Source: USDA Pomological Watercolor Collection

I didn't even know that I liked plums until I toured the plum collection at Geneva in 1989 and found out what a tree-ripened plum tasted like, and what a wide range of flavors are available.

Since then, I've tried growing some of the best-flavored plums in our garden, with varying degrees of success. Our garden is in southeastern New York, on the boundary between zones 5 and 6. We didn't have any winter lows below -10°F during the period I'm writing about, so I can't say anything useful about the hardiness of the plums I've tried. The soil is a deep, well-drained silt loam, and because we are near the top of a hill, we don't have too much trouble with frosts. We get only about a half-day of sun because of tall trees in the neighbors' yards. Both brown rot and black knot occur regularly, but neither causes serious trouble in most years. Typically, I spray the trees just once with insecticide at petal fall for curculio, which is a serious problem. The only other serious problem I have is squirrels, which take some plums most years, and eat most of the plums about one year in five.

First, I tried planting two dwarf European plums on Nanking cherry rootstock -- both abruptly collapsed and died after 3-4 years. Since then, I've fruited 13 plum varieties on three trees. I started some wild plums (*Prunus americana* from local seeds, then chose one of the best-formed seedlings for a rootstock on which to top-work hybrid Japanese-American plums. These hybrids sounded interesting, and their fruit is entirely unavailable in the local marketplace. These plums flowered regularly and profusely, making a very showy tree in the spring. They bloomed between apricots and sweet cherries, with **Methley** blooming 2-3 days earlier than the other varieties. Despite the fact the five varieties (as well as the wild plum stock) flowered side-by-side on the same tree, and the tree was frosted out just once, fruit set was never heavy, and in 9 years of observation, the tree never carried what could be called a full crop. The tree was vigorous to the point of being rampant, producing up to 10-15 feet of new growth, even though I progressively cut the fertilizer down to zero. In addition, the ripening fruit was prone to sunscald, so these plums definitely had some frustrating traits. Nevertheless, the tree was interesting to grow, and some of the fruit was really excellent, although to my taste not as good as the best of the Europeans. If you are an adventurous gardener in a cold region (the hybrids are supposed to be very winter-hardy), these plums certainly are worth trying.

Here are a few notes on the varieties that I grew:

Methley (ripened 26 July, on average) -- a small-medium (20/qt), juicy, red-fleshed plum, apparently self-fertile (it set very heavily and needed thinning); too insipid for my taste, but my wife really liked these; a favorite of the squirrels as well.

Purple Heart (3 Aug) -- another small-medium (15-20/qt), red-fleshed plum, but far

superior to **Methley**; flesh dense, rich, sweet, well-flavored; set pretty well and sometimes needed thinning; overall, probably the best of the hybrids that we tried.

Toka (15 Aug)-- we fruited this only one year; fruit smallish (18/qt), bright red, with tender, very juicy, orange-yellow flesh, mild, ok to eat, but not nearly as good as the next two.

Waneta (25 Aug)-- medium-large (15/qt), dark red plum with tender, very juicy, sweet, orangish flesh and pleasantly tart skin; a delicious plum to eat, but excessively vigorous, bloomed profusely but set poorly, prone to scald.

Gracious (27 Aug)-- similar to **Waneta**, with the same strengths and weaknesses, but perhaps a little larger and a little better-flavored, and even shyer to bear.

I have two European plums on St. Julien rootstock, which are 10-12 feet in height and breadth at age 13-14. I've grafted multiple varieties onto each tree. These plums have been very regular bearers (missing only 1 year in the last 10). They bloom about 4 days later on average than the hybrids, so ought to be less subject to frost damage. They also set much more heavily than the hybrids, and need heavy thinning most years. Also, I like the fruit better than the hybrids, so overall these have been much better than the hybrids for me, in my relatively mild climate. Tree-ripened European plums are so delicious, and so hard to find in the market, that they are well worth trying in your garden.

Here are a few notes on the varieties I've grown:

Early Laxton (5 Aug)--(probably this variety, anyway -- it was sold to me under another name) small-medium (18-25/qt), pinkish-purple fruit, pleasant to eat and good for cooking, although not nearly as good as the best Europeans; a very regular, heavy bearer, needing very heavy thinning; tree not very vigorous. This variety often is damned with faint praise, but I really like it. It has been very dependable and easy to grow, a nd although the later plums are better, it is good to eat and is weeks ahead of most other Europeans.

Alabaster (23 Aug)--(probably **Alabaster**, again this one was supplied under another name). The most beautiful plum I've seen; medium-size (16-20/qt), cylindrical, clear yellow fruit with a translucent skin, red freckles, and a heavy bloom; flesh yellow, dense, melting, not very juicy, pleasant, mild, not as rich-flavored as the best plums; bears well, but prone to brown rot in bad years.

Geneva Mirabelle (NY 858) (26 Aug)-- a small (50-60/qt), greenish-yellow plum with a few red dots; bears very heavily (like clusters of grapes), which makes it prone to brown rot some years; sweet, with a distinctive aromatic flavor, pleasant to eat or cook with, but to my taste not as good as the best of the Europeans. Count Althann's Gage (27 Aug) . a large (12-16/qt), oblate plum, pale purple skin with juicy, sweet, rich, yellow-green flesh; doesn't set too heavily (so doesn't need much thinning); seems prone to black knot; one of my favorites for flavor.

Seneca (29 Aug)-- a huge (8-12/qt), flattened purple plum with thick, juicy, melting, sweet flesh and thin, slightly tart skin; one of the best plums I've tasted; doesn't set

heavily, and seems prone to black knot. This is one that both we and the squirrels eagerly await every year.

Imperial Epineuse (7 Sept)--large (15/qt), red-purple prune with juicy flesh, very sweet and rich; possibly my favorite.

Prune d'Agen (15 Sept)-- a small, purple prune with sweet greenish flesh. I agree with Lom Rombaugh's recent comment that this is a really excellent plum. It sets well, but unfortunately splits badly if it rains in the last few weeks before ripening (which it always does), and squirrels really like this one. As a result, we get a crop only about every other year.

General Hand (?) (15 Sept) (supplied to me under another name, but probably Hand)-- a large (15/qt) gage, yellow with red freckles, oblate, with coarse, juicy flesh. A shy bearer, and not as good as some of the other gages.

*****Pests*****
Raccoons

W. L. Rohrer
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Raccoons can be a problem in some areas. I've had people complain about night crawlers making holes in manicured lawns when in fact the holes are caused by raccoons digging out night crawlers. The problem being created by the property owner is watering the lawn in the evening, causing night crawlers to move to the soil surface. The night crawlers are a major food for the raccoons. To avoid the holes, one needs to schedule watering in the morning, thereby allowing the soil to dry out during the day.

When gooseberry bushes carry an abundance of ripening fruit, a raccoon can strip the bush in one night. I've discovered there are educated and uneducated coons. An educated coon will sit under the gooseberry bush and pick individual berries, bite through the skin, swallow the pulp and discard the skin. The next morning, one finds naught but empty skins littering the ground around the bush. The greedy, uneducated coon strips the berries from the bush and swallows the berries whole. The coon cannot digest the skin, so the next morning reveals piles of scat containing whole berries.

When plums are ripe, a hungry coon can strip a small tree in one night. I found a raccoon can eat 38 plums in one night. No, I didn't count the missing plums. It happens there is an 18" retaining wall around a terraced area, and a large watering pan for our cats sits next to the wall. The evidence showed the coon, after eating its fill of plums, came to the watering pan, had a lengthy drink, climbed upon the wall and defecated into the pan. There were 38 plum seeds in the water! The cats were given fresh water. *[see Spring 2009 and Fall 2009* ***Pomonas*** *for Mr. Rohrer's comments on his useful cat.]*

Should a cherry tree or grapevine not be picked promptly when the fruits are ripe, the raccoons will do it for you. It may take a night or two for them to find the plant, but

their noses know when fruits are eatable. I don't need to mention how much raccoons like ripe sweet corn. One coon can do some damage, but a family can wreak havoc.

For the past twenty years, I have been trying to maintain some control over the local raccoon population. It is an unending task. I use a live trap and usually catch six to eight coons from April through October. Should you also have this pest, the particular trap used is Model 36, produced by Tru-Catch Traps, whose contact information is:

300 Industrial St.
Belle Fourche, SD 57717
(605) 892-2717 or (800) 247-6132
trucatchtraps.com

After about twenty years of use, my Model 36 was damaged by a couple of large coons, on different nights. Tru-Catch did a magnificent job of repair, and there was no charge. I'm sure there are other companies that produce live traps, but I do not know of them. In addition to coons, the trap has also caught skunks, feral cats, and squirrels.

*****Using the Harvest*****
Make Your Own Fruit Liqueurs

Ryan Bodanyi spartacus@ryanbodanyi.org

Fruit decays. It may not be the most prominent fact of life, but it is, nevertheless, certain.

Oddly enough, it wasn't something that I worried about growing up. Fruit appeared .

mostly from the trees my father planted . and disappeared as we ate it. I never worried about what happened to the remainder.

My dad did, though. The sheer volume of fruit produced by all his trees . which included varieties my classmates had never heard of . became too much to eat, and then too much to give away. Letting it moulder in our compost heap must have seemed like such a waste.

I don't know exactly when my dad first started turning his fruit into cordials, but he has so many bottles now that he may have to start giving *those* away. Or drinking faster.

I'm old enough now to make cordials of my own. Dad's are still the best . homegrown fruit trumps store-bought every time . but it's still enough to make me a celebrity among my circle of friends. "Let's go hang out at Ryan's; *he* has the liqueur." Maybe it's a grad student thing.

You can also turn your fruit into liqueur and you may be surprised by how easy and inexpensive it is. The only limitation is time.

Steeping fruit in liquor -- usually vodka -- is the essence of making any kind of cordial, and the longer you can leave the fruit to steep, the better. I've usually waited 8-12 weeks, but the longer you wait, the smoother and more refined your liqueur is likely to taste. And it'll continue to get better, maturing over time in the bottle.

The quality of the ingredients makes a difference; I have friends who swear that potato vodka is better than vodka distilled from grain, and my father uses gin as his base. Homegrown fruit is the best, but no matter what kind of fruit you use it should be at the peak of its flavor . just before becoming over-ripe. Sometimes the best way to make sure is to wait until it does start to go bad, and then cut out the bad parts, using the very ripe fruit.

Sugar is the last ingredient, though how much depends on how sweet a liqueur is desired. Some people -- like my father -- add the sugar directly, while others add a sugar syrup produced by dissolving sugar in water and then boiling it. In all this, experimentation is your friend. Making a bad liqueur is hard to do, and the more you experiment, the better you're likely to get.

A Google search for "liqueur" or "gcordial" plus the name of your favorite fruit is sure to turn up one or two recipes that you can try, but the general rule of thumb is:

1. Fill a jar with fruit.
2. Add enough liquor to drown the fruit, and sugar to taste.
3. Seal and store in a dark place for a long time.
4. Strain through a cheesecloth and, voila.

The fruit that remains can be thrown away, or, if you feel like a kick, added to your

breakfast cereal, served over ice cream, or the like.

However, every fruit is different, and if you really want to perfect your art, it may be worth following a recipe before experimenting too boldly. This is my favorite recipe -- the secret behind the sweetest, smoothest liqueur I've ever made.

Polish Blueberry Cordial

Ingredients:

- 2.5 pounds of blueberries, washed and stemmed
- 1 quart of quality vodka or gin
- 2 cups of sugar

Preparation:

- Combine the blueberries and vodka in a large glass container; seal and set aside for a week in a cool, dark place.
- Pour through a sieve. Put the blueberry-infused vodka into another glass container and seal. The blueberries go back in the original container; add your sugar, mix well, and seal. Put them both in a cool, dark place for a month.
- What you'll notice is that the blueberries -- over-plump and filled with liquor the last time you saw them -- have now shriveled up, and you have more blueberry-infused vodka in the bottom of the jar. Remove the blueberries with a sieve and combine the vodka from the two jars after passing it through cheesecloth. This is your cordial: you could drink it immediately, but it'll be better if you let it age and mature for another few months in -- you guessed it -- a cool, dark place.

This recipe makes about 1 quart.

If you're ambitious and have enough jars and bottles, there's nothing to stop you from making several liqueurs at the same time, though you should have a good labeling system if you do. With the right-sized bottles, liqueur makes wonderful homemade gifts. Or you can enjoy it all yourself, chilled over ice or mixed in a cocktail. Either way, the longer you wait, the better it'll taste -- all the more reason to get started now.

*****Spring*****
Blooms Before Spring

Deb Schneider
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As I write this, it is late February and everything is grey and brown. We are inching into mud season here in southeastern Ohio, as snow changes to sleet and rain. For once, I am pruning at the right time; though it pains me to see the pile of fruiting wood on the ground, I know it is for the best.

Cherry Blossoms
Photo by Idell Weydemeyer

If you're like me, you are craving spring. So I thought I'd get a jump on the season by forcing blooms from my fruit tree prunings. Here's how to do it:

Hank Parker's Orchard, NH

- Prune while trees are dormant.
- Select small branches with lots of flower buds (flower buds are usually rounder than leaf buds.)
- Angle cut the base end of your branches to facilitate water uptake.
- Place cut ends in water. If it's been very cold, move the cuttings gradually into the warmth of the house, perhaps starting them in water in a garage or cool basement. The key is not to shock the branches by going from 20º to 70º right away.
- Once acclimated, the cuttings may be moved into the house.
- It may take two or three weeks for the buds to begin to open. Once they do, trim a bit off the base of the branch and arrange in fresh water in a vase for display.

A Short Pause Every Springtime

Joseph M. Nixon, Anthropologist
Hemet, California

As fate dictated, I lived on their Reservation and worked with the Navajo People for several years. In that capacity, I had the opportunity to interact with medicine men and women on an everyday basis. Much like our professors nowadays, each one specializes in a certain aspect of their knowledge. Some understand their rituals and ceremonies; others their methods of traditional healing; others their religion; and others their stories, mythology, and songs. But the ones that interested me the most were those that specialized in the use of native plants.

Each winter when snow and ice visit the Midwest, the part of western desert where I live experiences a rainy season of sorts. This year brought more than normal precipitation that enticed crocus and daffodils and their friends into leaf and then to bloom. It also brought a dandelion sprouting and then flowering as though it were another welcome springtime guest. I recognized it immediately as the forward spotter that would send the 'all clear' signal for an entire battalion of its kin waiting at

their HQ somewhere nearby. Almost instinctively, I reached for my trowel.

The early green leaves of this intruder remained inconspicuous, blending its chlorophyll into what grass there is, and maneuvering like the camouflaged landscape insurgent I consider it to be. Its slender, slightly hairy, light green stalk and pale bud coat also escaped my attention until the flower opened like a salvo with a brilliant yellow unmatched by any other color in my lawn.

Living in a semi desert where dull, flat colors are the rule, much like in the high desert world of the medicine men and women, such sharp contrast always attracts attention and – as they would note – has some utility. To them every plant has its purpose: some help heal, some set the mood for solemn worship, some represent aspects of their universe, some are tasty in mutton stew, some make your truck smell good, and some are just pretty and you pick for your girlfriend.

Pondering those thoughts, I began to wonder about that yellow invader. What might its use be? How did it figure in our history? How did our elders (read ancestors) relate to them? Its fragile stem containing a white milky fluid and its water filled leaves certainly are not desert adaptations and are not characteristic of the types of plants found around here. What evolutionary stamina, I thought, to have existed for millennia and now to take root, grow, and bloom in my xerophytic garden. Yet there it grew, and there I stood, my trowel – a. k. a. dandelion digger - at port arms.

The common name of the dandelion is an Anglicized version of a borrowed phrase. Some credit it to Old French – dens leonis. Others note it in Middle English – dent de lion - both refer to the tooth of a lion. All agree that the reference describes its deeply serrated leaf structure. It is easy to extrapolate either of those early phrases into modern English pronunciation.

Although you may never take the time to look – or even care – the Latin name for the dandelion is Taraxacum officinale. Other than a reference to an Australian soft drink manufacturer, I did not find tarax in consulted Latin vocabularies. Perhaps it is a proper name (like “Smith’s warbler”). Another (non-Latin) source suggests the word derived from Arabic or Persian meaning ‘bitter herb’, but I could not verify this.

Officinale means obliging, courteous, attentive, dutiful (also maybe medicinal). So loosely its scientific designation might be translated as Tarax’s regular medicinal(?) plant. Perhaps its name refers to its dutifully predictable springtime bivouac on your lawn.

The genus Taraxacum belongs to the Family Asteracea whose members are native to Eurasia and North America. They produce asexually meaning that the offspring are genetically identical to their parent. They are perennial and characteristically send down a taproot. Some relatives of the dandelion include cats-ears, coneflowers, and maybe chickory.

The dandelion is an ancient species, by some estimates, originating nearly 32 million years ago. It shares evolutionary ascendency with its self-declared natural enemy – Man. Its species has survived this enemy despite modern policies of outright herbal genocide expressed in our annual attempts to eradicate it from our lawns and

gardens. But the dandelion remained an unpretentious plant with a bright smile that has been part of the natural order of things for a very long time. It is a tenacious species and if our relationship with it is any indicator, it thrives on adversity. "What's a dandelion digger for?" one dandelion asked. "It’s a human invention to help us reproduce," another replied.

In its growing phase, the dandelion is nearly invisible, appearing to be just another green spot among many. Its coloring is either an accident of genetic expression or a shrewd articulation of mimicry. In its bloom phase the dandelion looks as if it drank itself over-full with glorious sunshine and to show its appreciation, bloomed a crown of gold to reflect the bounty of its nurturing star. Weed or not, it has a beauty clothed in the simplicity of an uncomplicated, sunshine yellow.

In its seed phase, it is light and airy, sometimes described as a parachute waiting to open and ride the breezes. Generation after generation these airborne genetic missives have caused allergic reactions in Mammal, Amphibian, and Primate. I have seen children pluck these small troop transports, make a wish, and blow away the individual genetically locked and loaded forward spotters intent on securing yet another battalion HQ. It is a clever genetic adaptation that this small, obscure, plant has learned to propagate itself on the wishes and dreams of the children of its natural enemy. I wonder if Neanderthal kids blew the seeds and made wishes, too?

Given its sunshine pump smile, I also wondered how the various sun worshipping cultures in human history related to the dandelion (or whatever they called it). Certainly the Mayans lived in a sun rich environment amenable to these flowers: a wet, understory biosphere in the tropics. I have never seen a dandelion on any Mayan stelae, but then I never thought to look. Its hardiness in my lawn made me wonder whether the Egyptians - also desert brethren - had dandelion friends. If they grow in our desert maybe they grew in theirs as well. But I have not looked at their hieroglyphs either.

Our folklore is rife in dandelion wisdom. We all have seen children pluck the mature, fluffy, seed head, making a wish right before they blew on it, and unwittingly dispersing the DNA missiles (40–100 per flower). Some believe the dandelion has the ability to grant their wish while others believe that the number of seeds remaining after a good blow indicate how many years you have left to live. Perhaps originating during Victorian times, children also plucked the hollow stems and wove them into chains as necklaces. Some still do; my sister and I did.

Historically, dandelions have been credited with health influencing properties. Rubbing the juice of the dandelion onto your skin is believed to help remove warts and in some circles is thought to speed healing. When taken internally, some credit it with providing an energizing "spring tonic". Picking the flowers some also believe to cause bed wetting hence its other – less charming – names: 'peebed' or 'pissabed'. This may be related to its diuretic properties when taken as a tea.

On the emotional health side, a young woman wondering if she were really in love could smell a dandelion and if love be hers, the tip of her nose would turn yellow. If not, the psychic dandelion left no mark on the lonely lady. Those girls successful in love, and headed for the altar, also might weave a few dandelions into their wedding

bouquets to insure health, wealth, and a large family.

Others wondering about their love have substituted the dandelion for the traditional daisy, invoking the familiar: "Loves me, Loves me not" refrain. Others blow off the dandelion seeds and if successful on the first try, believe passionate love to be theirs. Failure on the first try, though, signals an uncommitted love, or, if pessimistic, none at all. Others believe that the seeds of the plant can carry messages, each individual courier charged with a single dream or thought transmitted when blown in the direction of your loved one. A remaining seed following a second blow is proof positive that your love is thinking of you in return. Some also believe that when used properly the dandelion can locate your lost love using an “east, west, north, south” incantation. Others, more deeply believing in the psychic powers of the dandelion, trust it to tell you whether your love is coming to you or not. All this emotional rigmarole, note, resulting in the physical dispersal of the dandelion seeds. No doubt the dandelion commander-in-chief loves you, regardless of the intentions of your would be lover.

Still others believe that a young lady who spends time making and then wearing a chain of dandelion stems will have good luck, in love or in life. However, no luck – good or bad – will surely ensue were she to wear a chain made by someone else. One further source of bad luck is the picking of dandelions from a graveyard - they belong to the occupants, not to you.

The dandelion, or 'rustic oracle' also has been used as a clock, its flowers opening around 5 AM and closing at 8 PM. Further, if you count the number of blows required to clear an entire dandelion head (‘tock’), then you will know the time of day – useful, one author notes, to the (pre-Timex) shepherd stuck in the field with his flock. Some also believe in a longer clock, asserting that the number of blows it takes to clear the seeds being equal the number of years before marriage.

Tired of the TV weatherman always being wrong - consult your dandelions. When the yellow flower head stays open all night, expect rain the next day. Other sources rely on the fluffy head of the mature flower, asserting that when the ball extends to its fullest dimension, fine weather is coming. But when rain looms, the balls shrink "like an umbrella". To hedge the weather, however, bury some dandelions near the northwest corner of your house, a tactic that insures good weather despite the TV weatherman.

Having imbued dandelions with all these predictive powers implies their prophetic use as well. Woven into a wedding bouquet, as above, they are sure to bring good luck for the newlyweds and if they appear in dreams, they signal a happy union. Some also believe them to symbolize “hope, summer, and childhood” which, if you think about it, they do. Some also believe that the tallest dandelion stalk a child finds in the spring will indicate the amount of growth he or she will experience in the coming year (English or metric, I wondered). Sachets of dandelions also have been credited with bringing psychic dreaming and good luck.

Beyond the dandelion’s role in superstition, we have drafted the flowers, the leaves, and even the roots to meet our needs. Oddly enough, one account described intentionally planting dandelions in a garden patch and being happily pleased at their "quite stunning [appearance] when they bloomed en mass". I can only imagine that a

patch of daffodil like gold might add pleasant color to my own bland desert landscape.

Dandelion Wine is more than just a catchy title used by Ray Bradbury in his autobiography(?) about growing up in Illinois. This singular beverage is an actual product most often brewed from the yellow petals of the flower. In a summary of recipes, one dandelion wine connoisseur notes that using only the petals yields a product described as "typically a light wine lacking body." To rectify this, brewers have added various flavoring ingredients into their brews including raisins, grape juice, figs, dates, rhubarb, lemons, oranges, and lots of sugar to feed the yeast that secretes the alcohol.

In its non-fermented state, humans have used the tough, deep growing dandelion root to steep a healthy tea. It is said to have positive effects on glandular activity. Different sources also claim capabilities including maintaining proper liver cleansing, acting as a diuretic (bed wetting), aiding in digestion or serving as a laxative, helping maintain low blood pressure, relieving the pain of rheumatism, acting as a skin cleanser, helping cure colds, providing beneficial minerals like potassium and calcium, stimulating general metabolism, and kicking the coffee habit – a real 'Snake Oil'. The authors caution, however, that when gathering dandelions to make tea, one should take care not to harvest from areas where people walk their dogs.

Dandelion greens are bitter and, like acorns, require leaching before consumption, unless you are partial to bitter tastes. They can be harvested from spring to fall and are better if gathered from immature plants before they bloom. They can be added raw to salads to impart a distinct flavor, they can be sautéed like greens (butter, onions, parsley, garlic, to your taste), or they can be steamed like spinach. Several ideas and recipes are available on line. I do not have first hand information but I would wager that dandelion greens enjoyed a culinary heyday during the Great Depression.

Humans also use dandelion flowers to make a yellow dye and use the roots to impart a pink to red color. Lacking natural mordants (fixatives) you would do well to consult a recipe before using dandelions to color anything or your dyes might quickly fade.

And so when I see that first rain emboldened dandelion every springtime and prepare to execute order arms to eradicate it by its roots, I pause to think about its long history of living with both prehistoric (?) and modern Primate. Invariably, though, my thoughts turn to its medicinal uses, its culinary appeal, its meaning to us in symbol and in folklore, its beauty, and then its uncommonly fecund propagation capabilities and then, after a short pause, I dig it out.

Pequot Lakes, MN
56472
Jim Fruth
jimfruth@charter.net

SYRUPS (15.2 oz.)

Sumac
Aronia
Chokecherry
Red Raspberry
Blackberry

Elderberry
Wild Black Cherry
Fruit of the Forest
(Highbush Cranberry
& Wild Black Cherry)

Sugar Free Syrups:

Red Raspberry

Blackberry

Jalapeño Jams

(Medium hot):
Aronia
Hot Pepper
Red Raspberry
Blueberry

(Mild):
Red Raspberry

Jams & Jellies (8 oz.)

Chokecherry
Highbush Cranberry
Wild Black Cherry
Strawberry Rhubarb

Red Raspberry
Black Currant
Blackberry
Pumpkin Butter

Sugar-Free Jams:

Raspberry Hot Pepper
Chokecherry
Pumpkin Butter

Sumac Tea (12 bags)
$4.95

All jams, jellies and
syrups are $4.95 each.
Shipping: $12.00 for up
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*****NAFEXing*****
Looking for a New Apple Interest Group Chairman

Richard Fahey
The Catholic Homesteading Movement
Oxford, NY 13830

Richard Fahey has served faithfully as NAFEX's Apple Interest Group chairman for many, many years. I personally will miss him very much, but I also look forward to the contributions of the next chairman. –JA Kuehn

"I was shocked to see you are no longer NAFEX Apple Interest chairman," wrote a long-time grafter to me recently. Yes, I stepped down. But I am fine. I am seventy and still in good health. I love to climb and prune trees.

However, in recent years I haven't heard from many NAFEX members. When I looked over the list of NAFEX chairmen I saw they all have computers and telephones. I have concluded that people aren't communicating with me because I don't have electric devices and they would need to write. I don't want to be in the way of someone who could do the job more effectively.

There is a lot to be said for armchair exploring, whether it be reading a book or magazine, writing a letter, looking at a computer or telephoning. It establishes a base of what has been developed and discovered, and what might need to be developed and discovered. But this is also only an intellectual exercise and produces nothing.

The danger of too much reading is to cause inaction and to live only in the mind. Certainly books, and even more so computers, can often prevent a person from getting out into the thickets and old orchards, from talking to gardeners and farmers, and from even getting out to do one's own experiments.

I credit a lot of my success with exploring fruits and nuts to not having machinery and electricity. My focus is strongly on the outside world of trees, weather, birds, insects and the other things of nature. It saddens me to see the American people so isolated from the things right outside their doors because they view the world from a screen—whether it be a TV screen, a computer screen or a car windshield screen.

Grafting has made you different. In making a union of scion to rootstock, you have also made a union of yourself with an individual tree. You have given it a name. You know the intimacy of being with a specific tree, seeing its individuality and nurturing it like a child. How the heart enlarges, the mind expands and the eyes begin to see! This

simple skill brings union and communion.

You may want to be the next Apple Interest Chairman as another step in the process. Consider it. And thanks for being what you are, I will still welcome your questions on apples.

May the Lord grant you success.

If you are interested in volunteering to be the Apple Interest Group Chair, please see the Interest Group Volunteer page and contact Interest Group Chair Lon Rombough at lonrom@hevanet.com.

Photo Essay -- Jenkins' Farm, Eaton, NH

Farish and Eleanor Jenkins
381 Towle Hill Road
Freedom, NH 03836
ebtjenkins@earthlink.net

Cider Barn. Photo courtesty of Dick Pollock of Moat Mountain Photography (moatphoto.com)

My husband and I purchased an old farm in 1972 and shortly after, started planting heirloom varieties, standard root stock when possible (we would plant below the graft when semi-dwarf were offered), for the purpose of making a sparkling hard cider. I warned my husband of the perils of geometric growth, but we were hooked. Now some 35 years later, with 60 different varieties, we have turned our orchard into somewhat more than a conversation piece. It is becoming a place to educate the neighboring region on the delights of these apples. And we also count on our neighbors and friends to come help pick, take some home and put some in the barn. By the end of the season, on the last Saturday of October, everyone returns to help make the cider, and yes, take it away! Most folks want to offer some money and so we have a collection box for two or three local charities or food banks to contribute to. It is a great system!

My husband is a paleontologist and professor of zoology at Harvard, so as you can see, this is not a business. And a hard one it would be. But we are totally into our family of trees.

Fruitful Tips: Quick Tips from NAFEX Members

Compiled for this issue by Deb Schneider

"Fruitful Tips" is a Pomona article featuring your short tips on anything related to fruit or fruit growing. Rules for submission are:

1. Must be about growing or using homegrown fruit.
2. Must be short--no more than a paragraph.
3. Tip must be something you have used successfully that is worth sharing with others.
4. You must be a NAFEX member to participate.

The editors (Jackie Kuehn and the guest editor for the issue) will select the best 8-10 tips for publication and the member submitting the very best tip (as determined by the editors) will win $20. Please email your tips to with "POMONA FRUIT TIPS" in the subject. Send to Jackie Kuehn at jakuehn@verizon.net (or the designated editor for the next **Pomona** issue.)

Plant buckwheat as a cover crop in early fall around your fruit trees, it grows quickly and being a legume adds nitrogen to the soil, its dense growth will eliminate weeds for the spring. Winter cold kills it leaving a nice mulch cover, it has dense roots that rot over winter allowing for better drainage and nutrient passage. Let it remain as mulch in spring or turn-it in for organic matter.
--Charles Coles chaswnpcoles@netscape.net (Charles' tip is this issue's winner!)

When removing suckers from vines, keep an eye towards possible uses of any of them. In cold climates, crown suckers, from the base of the vine, could be developed as second and third trunks. If there are any missing vines nearby, a sucker from the trunk of an own-rooted vine could be left to grow and, when dormant, layered into the empty spot by burying the whole length of the sucker, with the tip out of the ground at the empty site. Such a buried layer never has to be cut loose from the old vine and the two vines will support each other.
--Lon J. Rombough lonrom@hevanet.com

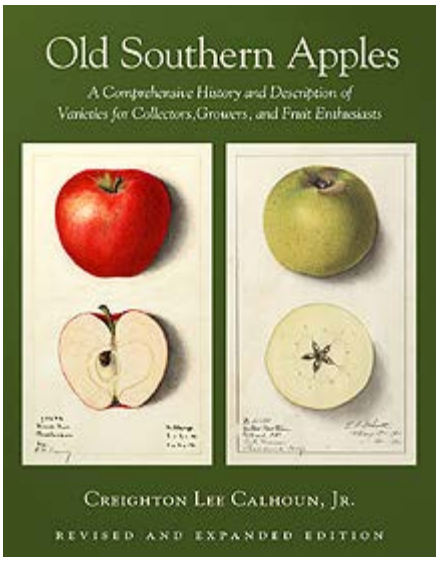
To minimize bird and insect (wasp, hornet, etc.) damage to ripening grape clusters, encase the clusters in stretchy nylon mesh "Maggot Barriers" which can be obtained from North Olympic Fruit Club. At first sign of ripening, slip mesh bags over the entire cluster and secure around the stem at the top. If difficult to secure, use "twisty-ties". Bags are easy to remove when the ripe clusters are clipped off of the vine. Bags can be washed and reused for many seasons.
--Norman F. Deffner, M.D. JanSD@Frontier.com

Everyone is talking about SURROUND for control of insects in fruit trees. It's suppose to be 98% effective with all fruit tree pest. I could not find it in any of my local suppliers, it is readily available on the Internet but with shipping very expensive. Best supplier I found was COUNTRYSIDE NATURAL PRODUCTS online store. Very interesting site in general.
--Charles Coles chaswnpcoles@netscape.net

Crandall currants are terrific mixed 1 part currant to 2 parts apple in a pie.
--Ginda Fisher list@ginda.us

Book Review: *Old Southern Apples*
by Creighton Lee Calhoun, Jr.
Source: Chelsea Green Publishing
www.chelseagreen.com

Review by: Deb Schneider, debs913@gmail.com



Like most NAFEX members, I am utterly fascinated by the huge variety of apple cultivars. I pore over catalogs and do Internet searches, reading about old varieties and their unique characteristics.

Author and NAFEX member, Creighton Lee Calhoun, Jr. and his wife Edith, offer another 16 years of research and writing about old Southern apple varieties, in this second edition of his 1995 classic.

In **Old Southern Apples**, Mr. Calhoun has simplified the hunt, pulling together 134 pages of available apple varieties (as well as 130 pages of extinct varieties). These apples were found on farms across the South and on dusty library shelves filled with old nursery catalogs.

Like the best nursery catalogs, the cultivar descriptions are personal and quirky (and unlike nursery catalogs, if a variety is identical to another, Calhoun points this out):

> GLASS APPLE: Forest Covington, Jr. of Orange County, North Carolina, contacted me in 1990 about this apple that has been grown by his family for at least a hundred years. Family lore ascribes its origin to a great-grandfather named Glass, who died in 1910, but the apples are identical to Fall Orange. Mr. Covington bottles a delicious apple wine made from Glass Apples. See Fall Orange. p. 78

The entertaining and educational descriptions are enhanced with gorgeous color plates from the USDA's Pomological Watercolor Collection. Starting in 1886, the Division of Pomology began collecting, identifying, and having artists paint fruit from across the USA. (More from this collection is available at the USDA website.)

In addition to the varietal descriptions and illustrations, Mr. Calhoun provides historical information about apples in the South, cultivation practices, and uses. I particularly enjoyed Mr. Calhoun's description of how he chooses cooking apples: firm, dry, flavorful, acidic apples for pie; juicy, soft, milder apples for stewing. I can just imagine him wandering through his extensive orchard of old apples, squeezing, smelling and tasting for a perfect basketful of cooking apples—while Edith waits in the kitchen wondering if he'll ever come back!

Being a Northerner (only just, as West Virginia is just across the river), I wondered if this book would hold any interest for me. I was pleasantly surprised to find many varieties that originated "up North" which had found their way to success in Southern orchards, as well. I also thoroughly enjoyed learning the history of apples in this

region and their uses. I was left wishing Mr. Calhoun would write a second volume "Old Apples of the North", so I could learn more about some of the varieties that did not thrive below zone 6.

This book is a must-have for apple lovers in the South and is also an excellent resource for those of us in other parts of the United States. It is a beautiful book that would make a wonderful gift and should hold pride of place in your pomological bookshelves.

Exchange Page: Scions, Seeds, Supplies, Study Materials

One exchange page notice of approximately fifty words will be accepted per member per quarter. These ads are accepted as a service to our members without charge and NAFEX accepts no responsibility for the authenticity of information given. Please assume the responsibility of answering all inquiries when a SASE is included, even if you are out of the material offered. Please try several sources for readily available material before submitting a "wanted" ad. When asking for seed of fruit trees, do not expect the seedling to be identical to its parent. Ads cannot be taken by telephone, but email is great. Do not ask for or offer scions of patented cultivars. A general fee of $1 per stick of scionwood, postpaid, has been set, unless otherwise stated. Send your offering or request to the Editor-in-Chief, Jackie Kuehn, jakuehn@verizon.net or mail to Jackie Kuehn, PO Box 29, Lucernemines, PA 15754.

Please let me know how many times you want an ad to appear. I am happy to reprint ads in perpetuity, and have begun putting "[P]" next to those ads I believe should be permanent. If I am wrong, please tell me. Ads I believe are shorter-term will also be marked as such. Again, let me know if that was not your intention.

NAFEX Classified Ads: Classified advertisements on the NAFEX website are available to members only. If you'd like to place an ad, email nafexmember@gmail.com and provide your ad copy, contact information (email preferred), website address, if any, and length of time you would like your ad to run. If you would like to advertise and are not a member, please join NAFEX now! Classified ads will be run on the publicly accessible pages of the NAFEX website. If you would like to exchange plant material or advertise to MEMBERS only, please see the NAFEX Member Exchange page for instructions.

Ads are also available in the annual printed edition of Pomona. Print ads offering fruit-related plant material, horticultural supplies, and publications are accepted from members and non-members. Paid ads are approximately one- half page (3½" x 5") for $50 or a full page (7" x 5") for $85. Contact the Pomona Editor-in-Chief to place your advertisement in the annual printed edition by August 1, 2011. Payment is accepted by check, Paypal, or Google Checkout. Email nafexmember@gmail.com for assistance.

NOTE: THE MOST CURRENT LISTINGS ARE ON THE AD AND MEMBER EXCHANGE WEB PAGES. This **Pomona** version is current only at the date of publication and is not updated.

WANTED

Cox Orange Sibling Scionwood. I have Holstein and Elstar. Seeking Karmijn, Fiesta, Ellison Orange, Kidd's Orange. Will swap varieties. Contact Scott Peterson, 83 Gunning Pt., Falmouth, MA 02540 (508) 540-2135.

Quetta Nectarine: I would like to locate Quetta, an old variety of nectarine. I am looking for budwood, grafting wood, or a couple of trees. Thank you for any help you can give. Gregory Merciadis, (209) 345-7500. ggrreegg@sbcglobal.net

Scionwood of old Southeastern Indian seedling apples, including any that may still exist from the western territories. Dave Clark, 1378 Union Point Rd., Stephens, GA 30667. (706) 743-3738.

Looking for grape wood of the following cultivars: Chilcott, Desert Flame, Fiesta, Gagarin Blue, Muscat de Saumer, Noir Hatif de Marseille, Super Beijing, and Tereshkova. Will purchase or trade for some of my 150 table grape collection. Richard Jeske, PO Box 1015, Willits, CA 95490. easthill@instawave.net

AVAILABLE

Scionwood or summer budwood of apples, apricots, cherries, pears, and plums hardy in Zones 2-7. Will also graft whips of apricot or other fruit cultivars per your request for fall 2010 or spring 2011 delivery. Send SASE for list of available cultivars to Bob, 1568 Hill Road; Homedale ID 83628. Phone: (208) 337-3782, or e-mail at purvisrc@msn.com.

persimmonpudding.com is a website dedicated to growing, education, and use of Diospyros virginiana L., the common, or American, persimmon. Visit the site for history, recipes, sources, and more!!! Do you have persimmon information to share? Please drop me a line. CULTIVATION NOTES, OLD FAMILY RECIPES, & PERSIMMON MEMORIES WANTED. Barry Nichols, P.O. Box 21182, Louisville, KY USA 40221. Email: webmaster@persimmonpudding.com, or please visit the site at www.persimmonpudding.com.

Scionwood of 400 apples, also pears, plums, etc. Send a long SASE for a listing to The Catholic Homesteading Movement, Oxford, NY 13830A [P]

Historic and disease resistant, and cider apples for Canada, excluding B.C. Visit www.siloamorchards.com for listing and fruit tree grower information. Or contact Eric Hambly, Siloam Orchards, RR#1 Uxbridge Ontario Canada L9P- 1R1. Email at mail@siloamorchards.com (905) 852-9418. [P]

Apple bench grafts available at theapplebranch.com or email to applebranch@sbcglobal.net or send SASE to Apple Branch, P.O. Box 281, Portland, MI 48875 for a listing of available varieties. [P]

Pawpaw, jujube: pawpaw seed from seedling trees of named pawpaws 20/$4.00. Jujube seed from seedling trees growing in zone 6b crossed with named trees 25/$4.00. Seeds stratified and sent early spring. Contact Frank Henny, 229 Reaville

Rd., Flemington, NJ 08822. [P]

Pastor Chuck Orchards: Beginning in 1985, I started a modest apple orchard in Cushing, on the midcoast of Maine. What to name the orchard? I am an Episcopal Priest who was in private practice as a psychotherapist for 29 years. I am now full time in this wonderful new business. I go by my middle name, Waite, but am named after my great grandfather, Charles Waite. Some time ago my cousin, Gail Weber, as a lark gave me the name, "Pastor Chuck." What a perfect name for the orchard, "Pastor Chuck Orchards!" Go to pastorchuckorchards.com for products and information.

Fruitipedia, the online encyclopedia on edible fruits, containing information about 200 fruits, can now be seen at www.fruitipedia.com Contribute articles to Fruitipedia and let your knowledge benefit others. Dr. Chiranjit Parmar.

Kitchen Letter: Join us for spring fun and good cooking in Penn's Acres Kitchen, one of my favorite places to be. To subscribe, send a check for $15 for a year's subscription (10 issues) or $12 for an emailed subscription (print your own.) Would you like a single sample issue? Just ask, and I'll send you one.

For subscriptions, make checks payable to Penn's Acres Kitchen and mail to:

Penn's Acres Kitchen
c/o Jacquelyn A. Kuehn
PO Box 29
Lucernemines, PA 15754

Questions? Email me at pennsacreskitchenmail@verizon.net Looking forward to cooking with you!

NAFEX Iinterest Groups and NAFEX Fruit & Nut Interest Group volunteering information

Contributing to **Pomona**