No Flowers?

Every spring and into early summer we are treated to a spectacular display of flowering shrubs beginning with the yellow forsythia in early to mid-April and more or less culminated by certain rhododendrons in June. Between the flowering periods of forsythia and the rhododendrons we have all the major fruit trees, both ornamental and edible, including the crab apples, cherries, peaches, plums, quince, etc. We have far fewer mid-summer to fall flowering trees and shrubs but their limited numbers makes them all that more important!

One thing all these beautiful flowering plants have in common is that sometimes they don't flower as well as we would like. Or, they never look quite as good in the home landscape as they did in the nursery when we bought them. Most garden center and nursery plants are bred and grown to look great in the containers and in the places where they are being sold such as the parking lot in a shopping center. They may or may not become naturalized in your home landscape. There are also some really beautiful native trees and shrubs that do not grow particularly well under nursery conditions. If they cannot be "tamed" to such an extent to allow mass production under controlled conditions, they will never be readily available in the trade. This is frustrating to those individuals who seek to plant only or mostly "native" trees and shrubs. Those native plants that have become "tamed" are what are known as "cultivars" or "cultivated varieties" which makes them not very different from exotic plants.

There are many reasons why a plant does not bloom. Many plants flower most profusely when they are growing under either optimal "reproductive" conditions, which may be hard to mimic in the typical suburban landscape, or when they are stressed to a level that makes it necessary for them to reproduce. In nature we typically see large fluctuations in flowering years. Wild oak, hickory and other nut and fruit trees typically flower every other year or sometimes every three or four or sometimes every five or six years. A plant that is growing well vegetatively need not put all that much energy into flowering if not absolutely necessary.

When I am asked why a particular plant is not flowering, I first try to determine if the plant is otherwise healthy and if the conditions it needs to flower are being met. Landscapes change over time, often more than the homeowner realizes. That beautiful forsythia or spirea hedge that bloomed so profusely five years ago is now overgrown and partially shaded by the maple tree that was just a sapling when the forsythia was planted. You may not have noticed how big the maple has grown but the forsythia has! The burning bush that does not turn as red as it did before is also now in the shade and those spectacular rhododendrons are struggling to even survive now that you cut down the hemlock that was shading them. The new septic system has changed the grade where the redbud used to be doing so well and the new blacktop on your driveway now gets so hot that your magnolia trees get cooked every summer. Next week I will continue this topic with a focus on hydrangeas, shrubs that often fail to bloom reliably when put in the ground.

Bob Beyfuss, Extension Educator
Cornell Cooperative Extension of Greene County
June 23, 2008

Pond Weeds

The recent heat wave coupled with lots of rain from thunderstorms has created an explosion of all sorts of weeds. Recently we have had a number of calls regarding pond weeds. Usually we get these calls in August or late July so this is a bit early. Most algae and many other water plants are vital components of all ponds providing food, cover and shade for many aquatic organisms, especially fish and amphibians. Unfortunately, these plants often make ponds less desirable for swimming, boating and other

human uses. Please remember that ponds are not swimming pools per se and attempts to make them into swimming pools will usually fail.

Ponds also change as they grow older with a much stronger tendency to develop blankets of algae and other water weeds over time. My friend Lester had a pond dug about 20 years ago and for many, many years his pond was virtually weed free except for some cattails around the edge. Some years ago he had the edges with the cattails dredged which has reduced that problem but more and more the pond is becoming filled with floating weeds and filamentous algae. It used to be a great pond for swimming but now it is much less appealing. The question arises, "why is my formerly beautiful pond turning into an algae filled mess these past few years?"

Well, if you dig a big hole in the ground it will eventually start to get filled up with stuff that blows in or is washed in. Most of the stuff that gets blown into or washed into ponds is organic matter, such as leaves, that eventually sink to the bottom. As this stuff begins to decompose and decay it releases nutrients into the water that fuels the growth of even more weeds, which in turn die, sink and start the cycle all over again. The point is that ponds have a life span of their own and after 20 years or more, many ponds will need to be drained, re-excavated and refilled in order to remain relatively pristine. Adding algae killing chemicals or even harmless substances like barley straw may delay this process but will never completely prevent it.

In New York State a permit to apply any type of algae killing substance must be obtained from the DEC in order to even buy the chemicals and it is not likely a permit will be issued for any pond that drains onto someone else's land or into a stream. Sometimes a few hours of work skimming off the surface algae with a skimming net such as is used in swimming pools can help a great deal. Sometimes installing an aeration fountain will help a great deal also. Reducing any nutrients that enter the pond such as lawn fertilizer of any sort of manure will surely help. A permit is also required to stock any type of algae eating carp and they only eat certain types of algae which often create a different algae issue.

In general, the smaller the pond, the older and the shallower it is, the more likely it will develop weed problems. Improperly sited ponds are doomed at the outset in some cases. I have seen brand new ponds turn into pea soup the first year after construction because they were sited where a cow pasture drains into them or into a ditch that feeds the pond.

If you are considering digging a pond make sure it is designed in such a manner that draining it is possible. A well planned pond that can be drained easily can last indefinitely with proper maintenance.

Bob Beyfuss, Extension Educator
Cornell Cooperative Extension of Greene County
July 7, 2008

Getting Your Yard and Gardens Ready for Spring, Part 1

First and foremost, survey your property for deer ticks by very slowly dragging a three foot square piece of white colored sheet over shrubs, tall grass, wood piles and edges of property where woods begin. Stop every minute or so to inspect for ticks. If many ticks are found, consider spraying the area with an over the counter insecticide. If you would like a fact sheet describing this procedure in more detail, call us at (518) 622-9820. Repeat this process every two weeks until July. Check pets and children for ticks often.

Next, sign up for the following, Basic Gardening and Soil Clinic on Saturday, April 12, registration deadline is April 11, from 10:00 a.m. to 12:00 p.m. at a cost of $10.00 per person. This gardening class will deal with the basics to get you started on the right track as we begin the growing season. Topics covered include: soil building, composting, site selection, bed preparation, fertilization, and Integrated Pest Management (IPM). Bring a dry soil sample or two so we can test for pH and discuss what soil amendments are appropriate for your chosen crop. Healthy soil is the solution to many garden

problems. We will also discuss weeds, disease, mulch, water and garden planning. It's time to dust off your shovel and plan for your best garden ever.

Ok, now here are some tips! Lawns: Stay off semi frozen grass! Avoid traffic and even walking on very wet soil because of compaction, especially with clay soil. Rake up debris and leaves. Generally there is no need to fertilize lawns before Memorial Day. Crabgrass preventing chemicals should be applied when the yellow flowered forsythia is in bloom in mid-April. Survey for grubs by removing one square foot of sod and examining the soil and roots for presence of white grubs. If you find 10 or more grubs in the sample, consider applying grub killing chemicals. Get your lawn mower serviced and sharpen the blade. Begin mowing when grass is three inches long and try to maintain grass at two and half inch height. Rake down mysterious mounds of soil deposited on your lawn by star nosed moles (not UFOs!) Stomp down mole runways and see which ones are repaired. The only effective way to kill moles is to place harpoon type mole skewers over active runways. Generally moles will leave an area after they eat all the earthworms or grubs present and control is not warranted except in very high value turf areas. Re-seed bare lawn areas, cover with clean straw but postpone major lawn renovations until September. Next week I will discuss garden preparation for flowers and vegetables as well as fruit.

Bob Beyfuss, Extension Educator
Cornell Cooperative Extension of Greene County
April 7, 2008

Seeds

This is the time of year when we begin to play with our garden seeds. As we sort and handle them visions of beautiful flowers or tasty and equally beautiful vegetables appear in our mind's eye. Few things in life can elicit such images and pleasant anticipation. Seeds have the capability to suspend life almost indefinitely. Lotus seeds recovered from ancient Egyptian pyramids have been grown to produce lotus flowers thousands of years after they were formed. What other entity can seemingly make life stand still? Most of us would consider this as "impossible."

Most seeds are comprised of several different and distinct parts including the embryo, the endosperm, the cotyledon(s) and the seed coat, or testa, as it is referred to in botanical jargon. The embryo is the actual baby plant that may or may not be mature when the seed is formed. Seeds from some plants, such as ginseng, contain an immature embryo even after the berry that houses it is completely ripe. The embryo must grow substantially within the seed before the seed can sprout. This requires a period of warm temperatures in the fall and often may need another period of warm temperatures the following spring. Ginseng and many other seeds contain chemical inhibitors preventing growth that must be broken down before the seed will grow. In many cases cold temperatures are required to cause these chemicals to break down. Parsley seeds often sprout quicker if subjected to a few weeks in the freezer. Some seeds have a very hard seed coat that must be physically altered before the seed can imbibe water and grow. Some plants, such as morning glories, will germinate quicker if the seed coat is scratched with a metal file.

There are very good evolutionary reasons for these dormancy mechanisms. If seeds that form in late summer only needed moisture and warmth to sprout, germination might occur in the fall and the tender seedlings might not survive the winter. Seeds with immature embryos might have their embryos fully develop in years with prolonged warm fall weather, allowing them to sprout the following spring or they might not sprout until the second year after they were formed in years when fall weather was colder. Some may not grow for three or more years after they form. It makes evolutionary sense to have a staggered germination sequence in case adverse conditions prevail for a year or two. Seeds with tough, impervious seed coats may need to pass through the digestive tracts of animals which eat the fruit. Acids

secreted by the digestive system may soften the seed coats. Some horticulturalists use sulfuric acid to enhance certain seed germination.

In order for any seed to produce a healthy plant it needs to have storage tissue within the seed to nurture the baby plant before it is capable of absorbing nutrients from the soil and photosynthesizing its own food. Seeds of grass plants, such as corn, have a starchy endosperm tissue that provides this food as well as a single leaf within the seed all surrounding the tiny embryo. Broad leafed plants, like beans, have two large "seed leaves" or cotyledons that serve as storage tissue and food for the developing embryo. They are the first things we see when a bean seed or cabbage seed sprouts and they soon wither away only to be replaced by new "true" leaves.

When we munch on kidney beans in chili most of what we are eating are cotyledons. When we eat corn, it is mostly endosperm tissue. When we eat bean sprouts it is the baby plant itself we taste.

Bob Beyfuss, Extension Educator
Cornell Cooperative Extension of Greene County
March 31, 2008

Maple Syrup Part 2

Last week I wrote about tapping sugar maple trees, this week I continue with the process of converting the maple sap into maple syrup. Each tap will usually yield between 10 and 20 gallons of sap per season. Trees with large crowns, growing along the roadside or in clearings will generally produce more sap and sweeter sap per tap than forest trees. It will take on average 40 gallons or more of sugar maple sap to produce one gallon of maple syrup but some "super sweet" trees may only require half that much.

Sugar content will vary from tree to tree and from season to season. Sap sweetness will often reflect directly upon the conditions that existed during the previous growing season. Genetics and environmental factors, such as weather and site conditions, may affect sap sweetness as well. You can tap red, silver and Norway maples, but it is the sugar maples that have the highest sap sugar content and will produce the best tasting syrup.

Researchers at the Uihlein Maple Sugar Extension Field Station in Lake Placid conducted a two-year study on spout size and now recommend using 5/16 inch spouts over the traditional 7/16 inch spouts. These smaller spouts have been shown to decrease the length, width and depth of tap hole discoloration by more than 50%, while also decreasing the amount of time needed for tap hole closure. This is great research but I don't know if 5/16 inch spiles are yet readily available to purchase.

Use a drill bit that is the appropriate size for the spout you will be using which is about one eighth inch smaller than the spout. At a height of about four feet, drill a hole about one and a half to two inches deep into the trunk at a slight upward angle. Avoid any areas with dead bark and avoid tapping within six inches or more directly above or below any previous tap holes you can see. Gently pound the tap into the hole. Hang your pail or jug on the spout and cover it to keep out snow, rain and debris.

The collected sap will need to be stored in large pails or containers and kept cold or refrigerated until you are ready to boil it down. Sap, like milk, can turn sour if it is not kept cold.

After three or four days or as soon as you have collected ten gallons of sap, whichever comes first, you are ready to boil. On a good day you will collect a gallon of sap per tap. As large quantities of sticky steam will result, boiling sap indoors on your cook stove or your wood stove is not recommended. Boil outdoors over a raging wood fire. Avoid windy spots and keep in mind that you will need lots of fuel.

Begin by pouring some of the sap through a strainer, into a large, clean roasting pan, canning pot or kettle (nothing containing lead solder!) that has been positioned over the flame. Bring the sap to a boil, stirring it occasionally. As the level of liquid in the pan lowers, add more sap. Be careful not to allow the sap to get so low as to produce burned spots. Burned syrup tastes as bad or worse then "buddy" syrup. Skim off the froth that forms on the surface. Continue to add sap to the kettle until you have reduced ten

gallons of sap to about two or three gallons. Finish the syrup indoors by boiling it on your stove until it reaches a temperate of approximately 219 degrees Fahrenheit. Be extremely careful not to burn or overheat your syrup. The hot, finished syrup should be filtered through flannel or purchased filtering cloth, as it is poured into clean, sterile jars. Fill the jars almost completely so as to leave very little air in the jars and lay the jars on their side while the syrup is cooling to create a tighter seal. Finished maple syrup should last for years!

Bob Beyfuss, Extension Educator
Cornell Cooperative Extension of Greene County
March 24, 2008

Making Maple Syrup Part One

March is the "mud and maple" month in upstate New York. This year it has been sleet, ice, mud and thunderstorms! (But I am not complaining, the early switch to daylight saving time is a pleasure to me!) Most commercial maple syrup producers have already begun to tap their trees. It is always a guessing game as to when is the best time to tap. Tapping too early may allow for the taps to freeze solid or for the tap holes to begin to close. Tapping too late may result in a very short season should weather turn warm early and the trees begin to bud out. Syrup made from trees that have already started to open their buds is referred to as "buddy" syrup and it tastes pretty awful! Last year many maple producers did not tap at all because their sugar maples were defoliated by forest tent caterpillars in 2006 or 2005. Fortunately, last year we got a reprieve from those leaf eating pests and most sugarbushes have recovered. I have heard that the term "sugarbush" comes to us from Canada where any vegetation growing on a prairie was referred to as "bushes." Most of us familiar with bushes would not consider mature maple trees as any type of bush at all!

The ideal conditions for maple sap to run are bright sunny days and cold (but not too cold) frosty nights. My personal experience is that sap runs when it feels like it regardless of weather. I have had excellent sap runs on some rainy days and no runs at all when weather seemed ideal. "Run" is also jargon for the process by which sap rises from the roots. A more accurate term would be for the sap to "rise." Trees convert the sugars produced by photosynthesis during the summer into starch which is stored in the root system all winter. In the springtime, the starch is reconverted into sugar and moves both upward and downward to fuel the new growth which will commence shortly. The last two seasons have not been good for our local maple makers due to weather conditions or caterpillars but hope springs eternal for farmers and others who rely on the whims of nature. As much as we like to think that we humans have refined agriculture to a "science" due to technological advances, we are still and always will be completely dependent upon conditions that science has no control over at all.

Backyard maple syrup production is a fun and educational outdoor activity at a time of the year when there are not too many outdoor diversions. To get started you will need a drill with a seven-sixteenths of an inch bit, metal or plastic spiles which are available at farm and home stores, buckets or some other collecting containers, (I have used recycled, plastic one gallon milk jugs) something to boil the sap in such as a large stainless steel kettle, (I have used a new washtub but anything with lead solder in it is not recommended) fuel for boiling, a candy thermometer and containers (I use canning jars) to hold the finished syrup. Of course, you also need access to and permission to tap sugar maple trees!

You should tap only healthy trees. A healthy sugar maple can remain productive for 100 years or longer. Keep in mind that over-tapping can weaken even the healthiest trees. A tree should be at least 12 inches dbh (diameter at breast height or 4 ½ feet above the ground), before it is tapped. Never put more than one tap on a tree that is less than 17 inches in diameter or 53 inches in circumference. It is good practice to use no more than two taps in larger trees. Next week I will go into more detail on the boiling and processing of maple syrup.

Bob Beyfuss, Extension Educator
Cornell Cooperative Extension of Greene County

Shamrocks and St Patrick's Day

It is time for the annual Saint Patrick's Day column. When it comes to national holidays, March is a pretty dismal month for winter weary northerners. If it were not for St. Patrick's Day one of the few notable events that occurred this month would be the murder of Julius Caesar on the Ides of March (March 15). Nobody celebrates murders but we all celebrate St. Patrick's Day regardless of our nationality.

Few holidays are as intimately associated with plants as is St. Patrick's Day and the Irish shamrock. There is really no such thing as a "shamrock plant." The word shamrock comes from the Irish word "seamrog" which means "little clover." Since there are hundreds of varieties of clover, which one is the legitimate Irish shamrock? According to the Academic American Encyclopedia, Vol. 17, 1990 "White clover," (*Trifolium repens)* in the sub family Papilionoideae, family Fabaceae, (formerly Leguminosae) was the original shamrock of Ireland. Several other authorities including The World Book Encyclopedia and Collier's Encyclopedia also credit white clover as being the true shamrock. Before Christianity came to Ireland the white clover was held in high esteem by the early Celts of Wales as a charm against evil spirits. According to Evans (1957), early Christian leaders continued this pagan tradition. St. Patrick used the plant to illustrate the Holy Trinity. One leaf represented the Father, one the Son and one for the Holy Spirit. When a four-leaf clover was found the fourth leaf represented God's Grace. According to Microsoft Encarta Online Encyclopedia 2001 however, "The hop clover is widely accepted as the original shamrock picked by St. Patrick." Hop clover, (*Medicago lupulina)* is in the same family as white clover. This is the only reference I found that does not acknowledge white clover as the true Irish shamrock.

White clover seed, sometimes called Dutch white clover, is readily available in most garden centers and is sometimes incorporated into a lawn seed blend. The tiny seeds germinate readily when pressed lightly into moist soil and kept warm for a week or so. The major disadvantage to its use in a lawn or an athletic field is the fact that the white flowers attract honeybees, which might sting children or barefooted strollers who happen to step on them. White clover is also notorious for staining the sneakers and clothing of people who fall on it a deep shade of green that is hard to remove.

Potted plants of clover or a clover look-alike plant called "oxalis" are often sold in garden centers around St. Patrick's Day. This year when you celebrate the "wearin' of the green" you will know a little more where the custom comes from.

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Cornell Cooperative Extension of Greene County
March 10, 2008

Pruning Fruit Trees Part 2

Happy March! This month has 31 days but sometimes seems like it has 100 days! Last week I wrote about pruning fruit trees which is an annual chore that is usually performed at this time of the year. As I mentioned last week, stone fruit (cherry, peach and plum) trees are usually pruned after they set fruit in late May or early June but pome fruit, i.e. apples and pears are pruned now and in much the same manner.

If you are considering growing apples or pears or already have these types of fruit trees growing on your property, this is a good time to evaluate them. We often receive inquiries on how to rejuvenate old, overgrown fruit trees that many properties already have growing on site. These old trees rarely produce the high quality fruit we are accustomed to purchasing especially if they are woodland trees that have

grown up from seeds deposited by our local wildlife. Almost all apple trees are cross pollinated which means that the seeds from a MacIntosh or any other named apple variety will not produce the same trees as the parent. All apple trees sold in the nursery trade are the result of grafting buds from the desired variety onto a suitable rootstock.

Occasionally we come upon a "wild" apple or pear tree that does produce tasty, relatively blemish free fruit. These trees are a treasure and should be preserved! Even "wild" trees that produce less than great tasting or great looking fruit can be used as a stock for more desirable varieties to be grafted onto. Begin by "freeing" the wild tree from competition by cutting down all other trees that are shading it and getting rid of competing trees and brush nearby. Next remove all dead branches in the crown and most of the watersprouts that grow upward vertically. The third step is to thin out the crown far more severely than you might think is called for. A former Cornell professor of mine, who is now deceased, suggested that a properly pruned apple tree could have a cat thrown through its crown which would land unscathed on the other side of the tree. As a certified cat lover I do not suggest that anyone would ever do such a terrible deed, but I think you get the picture in terms of how open the crown should be! Finally, spread about ten pounds of garden fertilizer such as 10-10-10 beneath the crown. Really old, overgrown trees can be brought back to production over three or more years using this technique. A general rule of thumb is to remove no more than one-third of the total branches in any given year.

Newly purchased, smaller trees should be pruned back to single stem and trained as outlined below, unless they already have a dominant central stem (leader) with three or four lateral branches that are at right angles to the central leader. The idea is to have two or three whorls (tiers) of lateral branches each separated by about three feet from each other surrounding a central leader. To visualize the ideal shape, picture an eight foot tall four-inch by four-inch piece of lumber stuck straight in the ground. Four feet up that four by four, nail two, four foot long, two by four's at right angles to the central stem so that each two by four extends outward about two feet from the "trunk" facing north, east, west and south. Three feet above that level, repeat the two by four step and you end up with a two tiered, perfectly formed apple or pear tree!

Bob Beyfuss, Extension Educator
Cornell Cooperative Extension of Greene County
March 3, 2008

Pruning Fruit Trees, Part 1

Late February to mid-March is generally the time when most fruit trees are pruned. Any pruning that is performed when a tree is completely dormant will result in a growth response in most cases. In this sense winter pruning stimulates new growth whereas mid to late summer may reduce growth. Orchardists generally wait until late winter to prune since the wounds created by pruning will begin to heal as soon as spring arrives and wounded tissue is subject to more winter damage if performed too early. The purposes of fruit tree pruning are as follows:

1. To train a tree into a form that will be most productive in the future.
2. To remove dead or diseased wood or wood that is likely to become dead or diseased such as branches that cross and rub each other.
3. To correct structural defects such as narrow crotch angles. Trunks or stems that fork into a "Y' shape should have very wide angles between the top legs of the "Y." Narrow crotch angles will grow into each other as they thicken and may cause the crotch to split.
4. To remove root suckers (these are shoots arising from the roots near the base of the tree and are not of the desired fruit variety) or watersprouts that will reduce the tree's vigor (these are vigorous branches that grow straight upward at right angles from lateral branches throughout the crown of the tree or off the main trunk).
5. To allow sunlight to penetrate into the interior of the tree, thus stimulating flower bud development.

6. To insure annual fruit production since in nature some fruit trees, apples and pears in particular, tend to bear fruit only every other year.
7. To reduce the amount of potential flowers and subsequent fruit that will form which may weaken or even kill a tree.

In this region we can successfully grow both stone fruit (peaches, cherries and plums) and pome fruit (apples and pears). Pome fruit are usually pruned right now whereas pruning stone fruit is often postponed until after they flower and set fruit. This delayed pruning is to avoid certain diseases that may attack open wounds on stone fruit branches. These diseases are most infectious in early spring. Stone fruit also tend to have more winter damaged branches which should be removed, but might not be apparent in late winter. Stone fruit also tend to overproduce fruit which need more thinning after they have begun to form.

It is much easier to train a small tree (whip) that has a single stem to the desired form then to try to correct structural defects such as bad crotch angles etc. that are already established on larger trees. Next week I will go more into the "nuts and bolts" of fruit tree pruning.

Bob Beyfuss, Extension Educator
Cornell Cooperative Extension of Greene County
February 28, 2008

Think Spring

I realize that we have quite a bit of winter ahead of us still and I promised not to complain about the weather anymore this winter but by mid-February many of us begin to suffer from cabin fever. Cabin fever is known by several names including "seasonal affected disorder," "winter blahs" and just the simple "blues." Despite being the shortest month of the year in calendar days, February can seem like the longest month when we are stuck indoors. I once defined cabin fever as "the anxious and uncomfortable feeling that is a result of realizing that one cannot go outside to play without incurring frostbite." I don't mean to trivialize this malady because it really does cause serious depression in some people. I am sure that any day now we will be seeing commercials on TV for yet another miracle prescription drug that promises to cure it. In fact I have heard of "light therapy" which uses special light bulbs designed to emit normal sunlight wavelengths to make one feel like the days are longer and sunnier than is actually the case.

One remedy that seems to cheer me up is to inventory leftover garden seeds. This will also save you money since you were just about to order more of the same stuff you already have leftover. Good ideas tend to repeat themselves. To determine if your seeds are still viable you can test them by placing batches of ten seeds in a moist paper towel inside a plastic bag and leave in a warm place, such as on top of your refrigerator. Within a few to ten days they should sprout and you will know what your germination percentage will be. If less than half the seeds sprout, consider replacing them since by the time spring rolls around the germination rate might be 25% or less. It is also very pleasing to see the little sprouted seeds as a reminder that life goes on, even in the dead of winter. They may also look good to eat but don't eat them unless they have been specifically sold for this purpose. Although sprouted seeds of beans, alfalfa, radishes, and even broccoli are tasty and very nutritious, often they are treated with chemicals such as fungicides that you really don't want to ingest.

Another remedy for cabin fever is to force some branches of spring flowering trees and shrubs to bloom indoors. This really is an easy and fun activity. All you need are pruning shears and some spring flowering shrubs such as forsythia, flowering quince, pussy willow, bush cherry or even some common trees such as red maple, shadblow, apple, willow, birch or hickory. Fruit trees and crabapples also work well. The procedure is simple. Make cuttings about a foot long or even two foot long from last season's growth on any of these plants and bring them indoors. Twigs that are about as thick as a pencil work best. Soak them overnight in your bathtub or in a pail in lukewarm or even hot water. The next day smash the bottom inch or two of the cut ends of the twigs with a hammer and put the twigs in a pail of water. Leave

the twigs in the pail of water until the buds begin to swell and show some color. When that happens in a few days to a week, remove them from the pail and arrange in a vase. With luck you will have forsythia in full bloom indoors within two weeks. Just be careful not to butcher any of your outdoor trees or shrubs by removing too many branches. Any flowers that you remove and force into bloom now will be absent in April!

Winter Dormancy

The week before last week I went to Wisconsin on business (not football!) and after only two days in Wausau, I have changed my attitude about our winter weather. As bad as it sometimes seems here, Wisconsin weather was so much worse that I will refrain from complaining about our winter for the rest of the season.

Plants and some animals including insects have developed a tricky mechanism for surviving the adverse weather we experience each year. It is called dormancy or for some animals it is hibernation. Few animals enter true hibernation but many common critters such as skunks, bears, and possums take long naps in semi-torpid states. When we get a few warm days in mid-winter many of these animals wake up and wander around for a day or so but they go back to sleep once it gets cold again. We have had samples of deer ticks brought in for identification every month of the year, including January. Clients report removing deer ticks from their pets even when the ground is covered with snow which means that you must always be on the alert to avoid contracting Lyme disease.

Surprisingly, some plants do the same thing. The roots of woody plants and perhaps even some perennial herbs are capable of growing pretty much anytime the soil temperatures rises above freezing. This is why most plants fare better when the winter ground is covered by an insulating blanket of snow from December on. Some winters the ground never really freezes due to snow cover but in recent years this has not been the case in this area. Most roots are damaged when soil temperatures dip below 19 or 20 degrees. This seems relatively warm when above ground temperatures drop to zero or below as is usually the case but large masses of soil are relatively stable throughout the winter. Plants in containers have it much tougher. Even very hardy woody plants such as junipers or spruce trees in above ground containers, such as half barrels or concrete pots, may fail to survive even a mild winter.

It seems paradoxical that evergreen trees like pines or fir are generally hardier than deciduous trees such as oaks. After all, every time the sun comes out even on the coldest winter days the evergreens start to photosynthesize which requires water uptake. Evergreens modify their leaf shapes to deal with this problem. Take a look at a rhododendron the next time it gets really cold out. You will notice that the leaves are tightly rolled up and droop downward. This presents as little leaf surface area to the sunlight as is possible. Even pines will droop their needles downward to avoid sun on really cold days. Deciduous plants loose their leaves of course but it turns out that the process of growing new leaves and dropping them each fall requires more energy than is required from evergreens to maintain their leaves all winter. That is why as we ascend our Catskill Mountains into the really coldest areas near the top, the tree species composition will change over from deciduous to evergreen.

This winter why not avoid mind dormancy by signing up for one of our educational classes at the Agroforestry Resource Center. Our schedule is posted at http://agroforestrycenter.org or call us at (518) 622-9820.

Bob Beyfuss, Extension Educator
Cornell Cooperative Extension of Greene County
February 4, 2008

Avocados

There is not a whole lot of gardening topics to write about at this time of the year so I will share some interesting stuff about a fruit we are all familiar with. Avocados probably originated in southern Mexico but have been widely cultivated from Texas to Peru and Florida to the Caribbean. They have been cultivated in California commercially since the mid 1850s. There are perhaps three distinct species with dozens if not hundreds of cultivars. The hardiest ones may tolerate winter temperatures as low as 19 F but none can survive our winters in this region outdoors.

Avocados grow into evergreen trees that may reach 80 feet in height but dwarf forms are also widely grown. Some cultivars may begin to bear fruit in as little as two years and a mature tree may bear 100 to 400 fruit each year. They flower in early spring and it takes about six months for the fruit to mature.

As a child I never heard of these fruits and they certainly were not sold in our German/American delicatessen, but they are extremely popular today. According to *Eating Well Magazine*, April/May 2006 issue, Americans consume some 50 million pounds of avocados on Super Bowl Sunday alone in the form of guacamole, or enough to cover the football field a depth of nearly 12 feet! Avocados are high in fat and calories (about 350 calories per fruit) but it is good fat, being about 70% monounsaturated and the oil when used for frying has a very high smoke point. They are also high in fiber and a good source of vitamins.

Most of us eat avocados as a guacamole dip but they are also blended with sugar and milk as smoothies or mashed and added to ice cream. Avocados have become even more popular today as part of the "California roll," a type of sushi that has no raw fish in it.

Avocado seeds or pits can be sprouted to create an interesting house plant. To grow your own avocado plant, remove the pit from the fruit, allow it to dry for two or three days and peel away as much of the onion like skin as possible. Insert four toothpicks about one third up from the bottom of the pit in four different directions to form a cradle which will allow you to support the pit in a glass of lukewarm water. You might notice that the punctured pit bleeds a milky juice that soon turns bright red. This is an indelible dye that has been used as writing ink. Allow about one half inch of water to cover the bottom of the pit and maintain this water level during the rooting period.

Once the plant has started to grow, move it gradually to full sunlight. When the new green shoot is about six inches tall, pinch it back to three inches. When new growth begins, pot it up in a good, well drained potting soil, making sure it has good drainage. Avocado plants will grow quite rapidly and perhaps, with luck, yours may actually grow into a bearing tree.

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Resources for Gardeners

By the middle of January many gardeners are desperately looking for something to remind them that spring will eventually arrive. This year's January thaw (January 7, 8, and 9) melted most of the snow in my backyard and I finally got around to cleaning up some of the garden debris that should have been removed in October. Even my frozen solid rain barrel thawed enough for me to dump it and I actually ate my last Brussels sprouts from the garden on
January 8th!

Vegetable seed catalogues often help to fill the void when working outside is just not feasible as we fantasize about just how great the upcoming growing season will be. Of course the catalogues make every single variety sound and look fantastic but these pretty pictures do not always pan out in our own gardens. Today we have the internet to help us and this week I will share some Cornell resources that are very useful and interesting. This website allows all of us to chime in with our own opinions about how well or how poorly certain vegetable varieties perform in our own backyards.

Gardeners looking for help sorting through seed catalogs this winter can turn to Cornell's Vegetable Varieties for Gardeners website for help. "It's like an Amazon.com for vegetable varieties, only we don't sell the seeds," says Lori Bushway, the Senior Extension Associate in Cornell University's Department of Horticulture who coordinates the website.

Gardeners can register at the site (**http://vegvariety.cce.cornell.edu**) to rate and review their favorite vegetable varieties, as well as those that didn't work so well for them. Anyone can visit the site to read those reviews and ratings to find varieties that will work best in their gardens.

Launched in 2004, the site has grown to include: More than 5,600 vegetable variety descriptions with seed sources. More than 3,400 reviews/ratings from more than 2,300 registered users and on-line tools to help you find the best varieties for your garden.

"We're calling on passionate vegetable gardeners to help us spread the word about the site and improve it by contributing more ratings and reviews," says Bushway. "The more ratings and reviews we get the more reliable and valuable the site becomes."

The site also links to other Cornell gardening resources, including on-line growing guides for more than 60 vegetable crops, and a new project, Vegetable Varieties Investigation (Vvi). This intergenerational citizen science project bridges the technology divide, helping youth connect with gardeners in their community, learn survey skills, and explore biodiversity through the whimsical world of vegetable varieties.

Visit the Vegetable Varieties for Gardeners website at: http://vegvariety.cce.cornell.edu. I have logged onto this site a few times and have offered my own opinions about how some of my favorite varieties perform as well as how badly some other, highly touted, varieties have done in my garden also.

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