

George Landis Arboretum Newsletter

Volume 13 • Number 3

August 1994

Apples Along the Silk Road



'to collect genetically diverse seed from apple as well as from other fruit crop relatives'. By collecting material from varied ecological habitats the scientists hoped to secure a germplasm of great genetic diversity, and within this diversity to find wild material with genes for disease and insect resistance, frost resistance, and various vegetative and fruiting charac-

teristics. Deep in the wilds of central Asia there is a type of 'Garden of Eden', an area where many of our most valued fruit cultivars may have originated. The ridges and foothills of the Tian Shan Mountains are places steeped in human history. Early traders traversing these 'silk-road' routes are credited with the collection and initial distribution or spread of cultivated apples (*Malus*) and other popular fruits (grapes, apricots, currants, hops, and blackberry).

In September of 1993 a small group of explorers from the U.S. Plant Genetics Resources Unit at Cornell University Agricultural Experiment Station in Geneva, N.Y. led by Phil Forsline traveled to a number of remote areas of Kazakhstan and Kyrgyzstan (in the former Soviet Union). The jagged mountains here are home to a number of wild *Malus* species which comprise today's cultivated apple.

The purpose of the expedition was

teristics.

The exploration and collection trip was arranged through the cooperation of Aimak Djngalier, an apple expert at the Main Botanical Garden of the Academy of Sciences in Alma-Ata. The areas explored roughly followed the China border adjacent to Alma-Ata, Republic of Kazakhstan and are indicated on the map by apple symbols. Seven distinctly different ecosystems were explored at elevations ranging from 1,200 to 2,000 meters (the elevational limit for apples in this latitude) in foothills of mountains reaching 5,000 meters high.

Phil Forsline is the curator of Apple and Grape at the USDA/ARS National Clonal Germplasm Repository at the Plant Genetic Resources Unit, Cornell University at Geneva, N.Y. The apple germplasm collection at Geneva comprises about 3,500 accessions including 2,000 of the cultivated apple (*Malus x domestica*).

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Matching Gifts a Bonus for Arboretum

Throughout the years, the George Landis Arboretum has been sustained by the generosity of its members and friends. Resultantly, membership contributions and individual donations continue to comprise a significant portion of our yearly income. The Arboretum has been fortunate to not only qualify for the matching gifts programs of various area corporations but to have members and friends who are employees of these organizations.

This year through regular giving and in response to a unique challenge during our 1993 Annual Appeal members and friends the Arboretum has received a check for matching funds from G.E. Foundation's "More Gifts.... More Givers" program for \$ 6,608.21. This foundation provides a 1:1 match for donations made by G.E. employees and retirees and this amount reflects donations made during the 1993 calendar year. to the George Landis Arboretum.

In addition to General Electric Corporation, the Arboretum has received matching funds for contributions made by employees and retirees from IBM, AT & T and Niagra Mohawk.

Matching gifts provide a wonderful incentive for donation and much needed funds for the Arboretum.

Donation support from members and friends is one of the most gratifying type of support for us. It not only serves as a tangible vote of confidence in the intrinsic value of this garden of trees and shrubs but provides welcome recognition to volunteers and staff for their efforts on behalf of the Arboretum.

The Arboretum is extremely appreciative of the support given by individuals and matching organizations.

At The Garden

Director's Report

It has been said that the only constant is change. Nowhere is this more evident than at the Arboretum. The seasons of course change continually, always faster than we wish they would. So much is happening in the gardens, there is so very much to

The George Landis Arboretum Newsletter

is published quarterly for members of the Arboretum. The GLA's mission is to provide natural history and horticultural education through programs and through its plant collections.

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do and all the while the spirit of the gardener, hungry for warmth and color, opens to absorb the beauty of another Northern summer. There have been many other changes at the Arboretum during the past year. Board of Trustees and staff have experienced many changes. Each summer at the Annual Meeting of the Board of Trustees retiring trustees are honored, new Trustees are welcomed aboard and officers are elected. To all of the Trustees who have given so selflessly of their time and expertise I would like to extend a most sincere thank you. Since June 1993 leaving the Board are Dale Morgan, Lou Moravec, William Fairchild, Florence Grimm, Brenda Ladd, Kathie Lippitt, Ernest Walk, Steve Young, Freeman Putney and Peter Bakal and of course Elizabeth Corning. In recognition of their many years of service and desire for continued involvement Gilbert Harlow, C.W. Huntley, Richard Southwick, Will Roth and Robert Raymond have been given Emeriti membership on the Board at the close of their regular Board term. We welcome to the Board this year the following trustees: Thomas Burbine, Frank Gilmore, Floyd Guernsey III, Pieter Kien, Susan McMillen, Carl S. Salmon, Janet Tissieri, David Vermilyea, David Vincent, Lucinda Willemain, Carol Wock and Jeffrey Zappieri. These new Trustees join the Board full of enthusiasm and a wide variety of skills and areas of expertise and will surely guide the Arboretum well.

Arboretum staffing has changed this summer. Office manager Cynthia King and horticulturist Deborah Coyle have moved on and are greatly missed. The greenhouse and propagation aspects of Deborah's job have become the purview of Doroyth Clark our student intern from SUNY Cobleskill. Roy has not only been propagating but with the beautiful rock work supplied by Richard Law, is transforming the area outside the library/greenhouse into an alpine garden showcase. Richard Downs has lovingly maintained the Arboretum grounds this season as our head gardener.

This spring's plant sale was a huge

success. The sale expanded to two days, incorporated woody and herbaceous perennial plants, educational programs and drew our biggest crowd ever. Plant lovers were pleased by the wide selection and reasonable pricing of plants. Deborah and her dedicated greenhouse volunteers are to thank for the growing of many of the plants offered and for the general organization and success of the day.

In July we were fortunate to host a performance of Mettawee River Theater at the Arboretum. The performance was made possible in part with public funds from New York State Council on the Arts Decentralization Program which is administered in Fulton, Montgomery and Schoharie Counties by the Schoharie County Arts Council, Inc.. We must be living right. In this wettest of July's rain skirted the performance but held back and the show was a hit.

Due to the vast number of changes we have relied heavily on our Arboretum volunteers. Their efforts make possible the educational programs, spring benefit, bus trips, maintenance of gardens and grounds, family day and special events and manning the Acorn Shop just to name a few areas. They deserve everyone's thanks and admiration. Additionally I thank the members and friends of the Arboretum for their patience and understanding during these difficult transitional times.

A Special Thank You To

Pamela Youno for the grounds support
Jane Vermilyea for the Foundation Grants Index
Annette Brown for the projection equipment
Richard Downs for use of his loader
Bill Kowalski for electrical work
Marlene Vunk for organizing and leading Bus Trips
Dave Vermilyea for the labeling materials
Dr. Walter Osinski, Carol Wock, Julie Jewett, Janet Vinyard, Peter Rumora, Edna and Ron Lower, Cindy King, Andrea Modney, Anne Jaster, Lucinda, Willemain and John Abbuhl for plant donations for the Plant Sale.

This Native Plant

Castanea dentata: American Chestnut



◆ Charles Edward Faxon from
"Manual of the Trees of North America" by Charles Sprague Sargent Houghton Mifflin & Co., 1906

The American chestnut (*Castanea dentata*), dinosaur of the Eastern North American forest, was once the most precious tree species of our woodlands. It grew from Maine to Georgia and west to the prairies of Indiana and Illinois. The largest recorded trees reached 8-10 feet in diameter, 100 feet in height and 600 years in age. Today someone who finds an American chestnut tree in the woods is pleased and surprised, especially if its large bury fruits are on the ground beneath it. American chestnut burrs contain three seeds or nuts. Sometimes the nuts are not filled out indicating poor pollination. Chestnuts flower late (July) after the leaves are fully expanded on the growth of the current year and are monocious (male and female flowers on the same plant). The flowers are borne in catkins, some with male and female flowers and some with only male flowers. Optimum fertilization and fruit set requires cross pollination with another tree. It is not uncommon to come across elegantly toothed, slender leaves at eye level from shrub-like chestnut plants. These are short-lived sprouts growing from the roots of their once invincible, grand, mothers.

In the past Chestnuts were gathered by rural Appalachian families who depended on the annual fall

harvest for their income. Railroad cars full were shipped to the big cities for the holidays where they were fresh-roasted by street vendors and were essential to traditional goose and turkey stuffing. Wood workers in chestnut territory knew that the American chestnut wood's straight grain and light weight were superior to that of oak and used it widely for fine furniture, heavy construction, paneling and musical instruments. They knew that chestnut wood's high rot resistance equaled that of the redwood and they made it into railroad ties, telegraph poles and shingles. Even its tannin was utilized to tan hide.

Almost pure chestnut stands were once commonplace. People of older generations recall the "chestnut woods" near their town, a part of the community heritage. They reminisce about the time at the beginning of every summer when these stands, lightened with delicate crests of creamy flowers, appeared as if they were covered once again with snow.

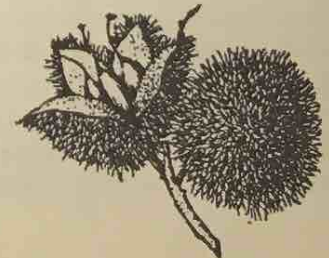
In the late 1800's a canker-forming bark disease, caused by the fungus, *Endothia parasitica*, was introduced from the Orient to New York City where it was discovered and described in 1904. The disease was exceptionally virulent and by 1950 had destroyed virtually all large Chestnuts from

Maine to Alabama. The organism does not kill the roots of the plant and resultant sprouts can sometimes reach fruiting age before infection and death.

The American Chestnut Foundation, Inc. has been established to work toward reversing the plight of this species. Foundation objectives are four-fold: To encourage biological research to develop an effective control to eliminate the fungus; to breed trees for disease resistance; to locate, nurture and preserve remaining chestnut trees; and to propagate seedlings in order to increase the population. Within the last two years the New York State Chapter was founded and since then district chapters have been established around the state. State Chapter President, Mr. Herbert Darling, came recently to the Arboretum to demonstrate mud packing of blight cankers. Mud packing is a technique used to biologically control the fungus which causes the disease.

Presently, the foundation needs to locate healthy, fertile American chestnut trees from which fruits may be gathered in an effort to continue the species. The vigor of the next generation requires a diverse group of seeds for the planting of this generation! If anyone knows of such trees or is interested in learning about or becoming actively involved in the war on chestnut blight, contact: Mr. Herbert F. Darling, President, New York State Chapter American Chestnut Foundation, Inc., c/o Buffalo Museum of Science, 1020 Humbolt Parkway, Buffalo, New York 14211.

This article has been abridged by Theodora Jaster from an original piece by Lewis Decker, District 4 Representative NYS Chapter, American Chestnut Foundation.



Garden Exotica

by Anne Best

Hardy Bamboos

"No man can live without a Bamboo tree in the immediate vicinity of his house but he can live without meat."

Taoist proverb

From the very earliest times the bamboo has been so indispensable in the economy of the

Orient that the proverb quoted above probably holds some truth. There are many points of interest about these shrubby

g r a s s e s ,

(Gramineae

- grass

f a m i l y)

besides their

many uses and

their long

history. Most of

them flower very

infrequently and

nearly all the species

die after flowering or

survive only with

difficulty and have to

be started again

from seed. It is

usual for all

bamboos of a given

species to flower in

the same year, all over the world,

wherever they are growing, indoors

or out, cultivated or wild; not only the

mature canes (culms) but young shoots

only a few inches high will also flower

and die. Since many of the species

cover large areas, a flowering year

can cause considerable economic loss.

Another spectacular habit of the

bamboo is the extremely rapid rate of

growth of some of the species. A culm

(cane), or vegetative shoot, of bamboo

is formed in the spring from food stored

in the roots during the previous year and grows to mature height in a short 5-8 week period. It is a peculiar habit of these plants that the young growing culm will always have the same diameter at its base that it will have when the culm has reached its final height. Also, many people don't realize that a few species are evergreen & hardy in our area. After this initial burst of growth, the culm may live for a number of years. It will develop branches and become harder & stronger, but will not grow taller or thicker. For maximum strength & durability, culms should not be cut until they are at least 3 years old. Under favorable conditions the new shoots which arise each year in a bamboo planting will be taller and thicker than those of the previous year, until the species reaches its full potential size. So, its normal for the youngest culms in a planting to be the largest and vice versa.

There are a great many different bamboos widely distributed in America, Africa and Asia and botanists here found them difficult to classify because of the infrequency with which some of them flower. They have, however, been sorted out into a number of families and the hardy species belong mostly to the groups of *Arundinaria*, *Phyllostachys*, and *Sasa*.

The canes of the *Arundinarias* are cylindrical, and have more numerous branchlets at the joints than *Phyllostachys*, whose stems are flattened on alternate sides; *Sasa* varieties are dwarf plants with large leaves. The shoots of many of the *Phyllostachys* species are edible. Usually these new edible shoots appear in March, April and May. The period for cutting is about 3-4 weeks, but it is advisable to mound soil around them to exclude the light and help prevent them from becoming bitter. The sheath covering the young shoot should be removed and the tough basal part should be cut off along with the roots.

The tender shoot can then be cut horizontally in sections about 1/8" thick and cooked for 20 minutes. If it is the slightly bitter type than changing the water after boiling for 10 minutes helps eliminate the bitter taste.

Many species spread quite aggressively and can make a nuisance of themselves. Among the landscape features that will generally restrain the spreading tendencies of bamboo are building foundations, paved areas, mowed lawns, bodies of water, or water saturated soils, and dense shade cast by plants taller than the bamboo. Also, bamboos tend to spread relatively slowly up steep slopes. If it is necessary to contain the bamboo in a small area barriers of sheet metal, hardware cloth, concrete or fiberglass glazing can be used. Flat fiberglass glazing material which comes in rolls in a wide variety of widths and lengths is probably the most practical material to use for large barriers. The barrier may need to be at least 3 feet deep for the larger species and at least 18" deep for the smaller types.

Bamboos are among the most useful of all plants. In addition to being ornamental, their dense root systems make them effective for erosion control. The larger species make excellent privacy screens, windbreaks or noise barriers. The smaller species are good as ground covers. Bamboos do well in containers, both indoors and out. The culms are useful for everything from garden stakes to building construction, water pipe, concrete reinforcement, fishing poles, and furniture. Many species produce edible shoots as discussed earlier.

Bamboos are vigorous, rugged plants and are quickly becoming popular in home landscapes today. They are seldom bothered by insects or disease. In general, the larger species prefer to grow in full sun and the smaller species tolerate or prefer some shade. They present a different "feel" and texture in the garden and are well worth getting to know.



Jim Best



George Landis Arboretum

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Autumn 1994 ♦ Classes & Events

For Youth and Families

Introduction to Holland Bulbs

Now is the time to plant bulbs for beautiful flowers this winter and next season. An expert from the Van den Berg Bulb Co. will introduce you to the delights of imported bulbs and demonstrate techniques for growing them indoors and out. Meeting House

September 10 10:00 a.m. - noon

Arboretum Members \$ 3.00 Non-Members \$ 5.00

Recycling Plant Materials

Don't throw away those valuable leaves, grass clippings and other garden leftovers! Properly composted, they'll improve your garden soil like nothing you can buy. Tom Burbine, Cornell Cooperative Extension agent for Montgomery Co., will lead this fascinating lecture exploring the wonders of compost. Meeting House

September 17 10:00 a.m. - noon

Arboretum Members \$ 3.00 Non-Members \$ 5.00

Moving Established Trees and Shrubs

Did you ever plant a tree in the wrong place? It may not be too late to move it. Some established plantings here at the arboretum are in the process of being moved. Well known local nurseryman Floyd Guernsey III will demonstrate proper techniques for moving established plants and will talk about the proper aftercare to ensure survival. Meeting House

September 24 10:00 a.m. - noon

Arboretum Members \$ 3.00 Non-Members \$ 5.00

Putting the Garden to Bed

One of the secrets of good gardening is doing the right thing at the right time. In this popular class learn how to properly prepare your garden for winter and get a great start on next season. Instructor Phyllis Rosenblum is author of "Garden Time" in the Times Union and a well known area horticulturist and lecturer. Meeting House

October 1 10:00 a.m. - noon

Arboretum Members \$ 3.00 Non-Members \$ 5.00

Classes in this section are all lead by Arboretum Science Educator, George Steele, and are designed specifically for children and their adults but everyone is welcome.

The programs are offered free of charge. Most programs last about one hour. Many of the programs have been sponsored by generous local individuals and businesses whose names are noted below. Please take the opportunity to thank these sponsors when the occasion arises.

Know Your Trees

A walk through the Arboretum's Woodland Trail will focus on learning to spot characteristics which are used to properly identify the common native trees of our area. Meeting House

Saturday, September 17 2:00 p.m.

This class is offered free of charge and is being sponsored by Guernsey's Schokarie Nursery of Schokarie.

Autumn Campfire Sing-Along

Join friends and neighbors and make new ones around the campfire as we celebrate the Autumnal Equinox with songs, stories and activities about nature. Meeting House Field

Friday, September 23 7:30 p.m.

This sing-along is offered free of charge courtesy of Rachel Fashion Interknitting of Cobleskill.

Bird Feeding Basics

With the approach of winter many people begin to feed our wild songbirds. Learn about the basics of bird-feeding including what to feed and where. During the class we will learn how to identify some of the local species you may find visiting your feeding station. You will make some bird feeders from recycled materials to take home and try in your backyard. Meeting House

Saturday, October 1 2:00 p.m.

This program is free of charge and is being sponsored by an anonymous local donor.

Night Walk

Explore the cool autumn evening and learn about the animals that are active then. With luck we may be able to catch in some owls. Meeting House

Saturday, October 15 7:00 p.m.

This program is offered free of charge and is being sponsored by the Best Western Inn of Cobleskill.

Top off your visit to the Arboretum with a stroll through our unique shop!

Many unusual gifts for that special gardener or nature lover. A steady supply of woody and herbaceous plants is offered including a number of unusual Clematis species.

Special values to be found with 30% off on selected items during our midsummer sales.

The Acorn Shop is open Saturday 10 - 5, Sunday 12 - 5 and at other times by chance or appointment.

The Acorn shop is staffed by volunteers and proceeds benefit the Arboretum.



Star Parties

Join the Albany Area Amateur Astronomers for evenings of splendid star gazing from the Meeting House hilltop.

Star parties are free of charge, are suitable for all ages and a heck of a lot of fun! Star parties are of course dependent on clear skies. If skies are doubtful please call the Arboretum, there will be a recorded message regarding Arboretum sky conditions. And please, remember to dress warmly.

The Fall Star Parties dates are...

Friday, September 30	8:30 p.m.
Saturday, October 1	8:30 p.m.
Friday, November 4	7:30 p.m.
Saturday, November 5	7:30 p.m.

If you would like more information on any of the Arboretum programs, call (518) 8756-6935.

George Landis Arboretum
Autumn Calendar
P.O. Box 186 • Lape Road
Esperance, NY 12066

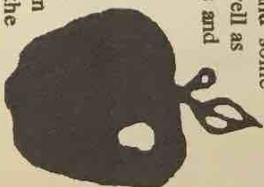
Special Event

A Celebration of Apples

Dr. Phil Forsline, curator of the U. S. Plant Genetic Resources Unit at Cornell University's Agricultural Experiment Station in Geneva, N.Y., will lecture on his recent trip to Kazakhstan and Kyrgyzstan. There on the slopes of the Tien Shan Mountains grow the wild forebears of our domestic apple. The purpose of the expedition was to obtain seeds from the great variety of wild apples growing in the remote areas of these mountains.

Following Dr. Forsline's talk we plan to celebrate the apple by offering some new and some heirloom varieties for tasting as well as excellent cider. Traditional crafts and recipes will be offered for sale to benefit the arboretum.

Join us on Sunday, November 13 at 2:00 P.M. at the Cornell Cooperative Extension Headquarters on Martin Road in Voorheesville. Please call the Arboretum for additional details.



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Garden Forum

Tom Burbine

What has caused my woody plants to be partially killed with very few or no flowers this spring?

A. This past winter has been extremely hard on woody ornamental plants throughout New York State. Calls to our office have verified the problem of winter injury ranging from plants not flowering, to complete death of the entire tree or shrub. Some woody plants have been on site for 25 to 30 years or more.

Recommendations for correcting this injury vary according to the extent of injury seen. First be patient before you cut the entire plant to the ground, see if you can see new shoots or buds forming along the stem or close to the ground. One way to tell if a stem is healthy or not is to use the "thumb nail" test to see if there is any life in a particular part of the plant. ("Thumb nail" test: a dark green color under the bark indicates live wood when life in the stem and there is a good chance of recovery with new shoots or leaves. This usually occurs with good sun and warming soil conditions. A light green, yellow or brown sap wood indicates plant stress or winter kill to that part of the plant.

Selective pruning out of the weakened or dead parts of the plant just above a developing bud will help in recovery of the injured plant. In some cases such as hedges, this may be 50 percent of the top growth of the plant.

Some trees such as the Japanese Red Maple have been injured at the tips with leaves just forming. In this case, prune out the injured or dead wood, using the "thumb nail" test as a guide, and let the tree gradually recover.

Many spring flowering plants, such as forsythia and some rhododendrons or Azaleas, have had their flowering buds injured and will not flower this year. In this case, the plant is still healthy but severe winter conditions have injured the flowering cycle. Winter protection techniques and windbreaks will help to moderate the situation next year.

In all cases noted above, lightly fertilizing around the perimeter or drip line of the plant will help in plant recovery. Don't over fertilize, for too much nutrient around the base of the plant can cause excessive growth which can lead to other growth problems.

Q. What about summer mulches for landscape use?

A. Mulches used in the landscape around ornamental plants come in two forms: Natural and synthetic. They provide basic benefits such as: Reducing soil erosion, Conserving soil moisture, Controlling weeds around landscape plants, Protecting against temperature extremes, Improving water holding capacity of sandy soils, and Reducing soil compaction of clay soils.

In addition, when organic mulches decompose they can add to the structure of soil by opening up the soil to better root development and also improving on the moisture conditions in the soil.

The type of mulch one uses in and around the landscape is affected by cost, availability, ease of application, and perhaps ease of removal. Ability to stay in place along with supplying organic disease organisms are also important.

Summer mulches are usually applied when the soil begins to warm up in the spring. The primary roles of summer mulches are maintain even soil temperatures, reduce weed growth and to conserve soil moisture. Mulches that are left around trees and shrubs year round should be pulled away from the trunks in the early fall to allow the ground to dry out and allow the tree bark to harden for the winter months.

The selection of mulching materials can vary with the crop and landscape effect one wants. Black plastic and straw are commonly used in vegetable and small fruit planting. Wood chips, bark chips, and pine needles are popular around trees and shrub beds. Fine mulches such as bark granules, wood shavings, cocoa shells, and buckwheat hulls can add color and texture to annual and perennial beds.

Fine gravel and crushed stone can add a different effect to landscape planting and rock gardens.

The depth one applies a mulch around plants will vary with the particle size of the individual mulching material from a 1 1/2 inch layer of sawdust to a 3 to 4 inch layer of wood chips. Mulches work by excluding light. In general the coarser the mulch, the thicker it needs to be applied to achieve the desired benefit. Ideally mulch is applied to the drip line of the plant.

Woven plastic materials are also used as mulches with the materials placed around landscape plants with a 1 to 3 inch layer of an additional organic or decorative mulch applied on the top to prevent breakdown of the plastic by the ultraviolet rays of the sun. These materials allow moisture nutrients and air to pass through the cover into the soil while controlling weeds and conserving soil moisture.

Response adapted from Cornell Cooperative Extension HOMES AND GROUNDS information sheet entitled "The Types and Uses of Mulch in the Landscape" by Dr. Donald A. Rakow, Cornell University Department of Floriculture and Ornamental Horticulture.

'Apples' from page 1

Prior to this expedition representation in the collection from the remote regions surrounding Kazakhstan was poor. Sixty five accessions (18,000 seeds) were collected of three different species of *Malus*. They will be added to the existing genetic base and will be used for study and breeding to improve cultivated apples worldwide.

You may be lured by the mystery and intrigue of exploration, the wealth of human history or a passion for apples to come and hear Mr. Forsline lecture about his travels and the fascinating history of this popular fruit. On November 13, 1994 the Arboretum will sponsor an Apple Day with Phil Forsline as the special guest speaker. For further information regarding this event, please call the Arboretum.

The Seasons of a Perennial Garden -



A complete renovation of the Van Loveland Perennial Garden began in the Spring of 1988. The process has been slow but steady, with a goal to educate as well as to entertain the public with the beauty and delights of the perennial.

In designing the beds, our desire is to present a four-season picture of beauty where visitors can learn about new and exciting perennials, find visual interest in the borders

Mark Your Calendar

On Wednesday, September 14 the Board of Trustees is giving a party! The Annual Volunteer Appreciation Celebration provides a fun occasion for volunteers to meet one another, to explore new opportunities and most importantly, to receive our recognition and thanks for their indispensable contributions. Partners are welcome. The party begins at 6:30 p.m., If you would like to come (and we hope you do) please RSVP by September 7.

Volunteer Workdays

Regular workdays are held the first Saturday of each month (unless a holiday conflicts). Everyone is welcome.

Saturday, Sept. 10 at 9:00 a.m.
Leader: Ron Lower.

Coffee/attack plan—general fall cleanup, installing protective cages on rhododendrons.

Saturday, Oct. 1 at 9:00 a.m.
Coffee/reminiscing planning. Finish that fall cleanup and enjoy the beauty that is all around us and join us for a Pot Luck Lunch

Pamela Yourno and Andrea Modney

throughout the year, and appreciate the dynamic nature of the perennial garden. These borders aren't meant to be strictly laid out and closely manicured. Like the old house it compliments, this perennial garden marks time in its own way - plants for all seasons tumbling together in gentle entropy. Each season presents a new aspect of the planting.

Spring brings a blast of bulbs, and Summer the dazzle of Delphiniums and daylilies.

Autumn transitional tones of aster, aconitums and phlox blend with the browns and beiges from ornamental grasses and choice seed pods of seasons past. These warm brown tones again dominance as Autumn fades, and give character to the perennial beds under the wan sun and northwest winds of Winter.

The concept of a 'winter garden' brings mystified stares from some. But for others it reveals the beauty of the garden in a new guise - a limitless expression of the color brown, a dance of shape and shadow, and a subtle symphony in the sighs and rattles of dried foliage in the cold wind. At no other time of the year can you see the real 'bones' of the plants. With their branching stems and seedpods so distinct, they reveal another side of beauty, not just with color, but with shadows and movement. The perennial garden is far from dead in winter.

Winter's garden is a recollection of all the seasons that went before. Planning, purchasing, and preserving are the ingredients that will transform dead herbiage into frozen splendor. Winter's garden is a recollection of all the seasons that went before.

Volunteer Notes



Kevin Kressner (center) of Schenectady stands proudly in front of one of the two bridges built as part of his community service project which qualified him to become an Eagle Scout. The bridges flank the lower pond.



Arbiculture class from SUNY Cobleskill after finishing a full day of tree and shrub pruning at the Arboretum under the direction of Instructor James Bates.

Gardeners' Workshop

Eastern Forest Communities - (Part 2)

Anne Best

Ecological Succession

Succession is the process of vegetation development over time and is roughly predictable in any given area. An abandoned field will be invaded by certain species before others appear. A pattern for the region will appear. The succession will usually result in the regrowth of species identified as most characteristic of the area. Remove an Oak-Hickory Forest down to the bare soil and, in time, another Oak-Hickory Forest is likely to grow back. Prior to this, however, a series of species will probably grow on the site, ranging from common ragweed and Poison-ivy to Staghorn Sumac, Gray Birch, and Eastern Red Cedar.

Newly disturbed areas are often not very hospitable so the first species to invade the area following the disturbance are physiologically tough. They grow quickly and reproduce before other species enter and shade them out. These colonizing species, called **pioneer plants**, (such as weeds, aspens, certain birches and white pines, etc.) are replaced by others that

take longer to complete their life cycles.

Finally, there are species that occur that continue to grow in the area indefinitely until the next disturbance. This process of vegetation development, the replacement of species by other species over time, is called **ecological succession**.

A forest's age: It is not possible to exactly determine a forest's age just by looking, but it is possible to make an educated guess as to the overall maturity of the forest. **Old forests** have a well defined canopy of understory and dead tree snags will be scattered throughout. Overturned, decomposed stumps will appear as mounds scattered over the forest floor, giving the forest an irregular, rolling topography. Trees will tend to have broad circumferences and be spaced rather far apart. Mature forests usually have a thick litter layer and many fallen and decomposed tree trunks. Most of the sunlight is intercepted by the canopy and the understory, and so mature forests are highly shaded, some being almost dark. **Young or**

"immature forests" can be identified by the overall high density of trees of small circumference, giving a crowded, spindly appearance. These trees will be of varying heights, and the understory, if present at all, will tend to be poorly defined. Much more light is available in this situation which results in a thick shrub and herb layer. In a young forest the litter layer will be thin.

The term **virgin forest** refers to a forest that has never been cut or otherwise affected by human activity. There are only a few small tracts of virgin forest remaining in the eastern United States. Virtually all our forests have regrown from abandoned farmland during the past hundred years or so. In addition, disturbances from the forces of nature are ever present (weather and insects). These forces can destroy a mature forest but in its place will grow a young **successional or second grow forest**.

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