I really appreciate the excellent service that the Yavapai County Master Gardeners have provided to our clientele this past year. I thought it would be fitting to extend my thanks by highlighting some of our projects and activities of 2000. If I have omitted you, please forgive me and if there are activities that you have not reported, then please get that information to me. I am often racing from one thing to the next and don’t have as much time as I’d like to visit with you.

First, I’d like to recognize Nora Graf’s dedication to this newsletter. I get positive comments from other Master gardeners and Agents statewide as to the quality and interesting subject matter that appears in Yavapai Gardens. Nora puts her energy and insight into a first class newsletter for us each month of the year. Marilyn Perkins and Paul Diemer proofread and Jack Krivdo helps print and mail the newsletter.

Another large-scale project deserves to be highlighted here: the First Annual Arizona Highlands Garden Conference. This successful conference was held on September 7 & 8, 2000 at Tonto Natural Bridge State Park. Gila and Yavapai Master Gardeners planned and executed this conference. Beverly Emerson and Carole Mackler served on the planning committee along with Gila County Master Gardeners Carol Lydic, Ed Lydic, Jan Manogue, and Jerry English. Chris Jones and I assisted but mostly tried our best to stay out of the way of this highly energetic group. At the conference, those on the planning committee were joined by Yavapai Master Gardeners: Mary McCormick, Nora Graf, Tacla Machesney, Karen Barrow, Jacqueline Rickard, and Chris Nelson. These dedicated folks prepared food, accepted registrants, delivered door prizes, and held it all to-
Mistletoe

Ever been dragged under a sprig of mistletoe for a kiss? Did you ever wonder where the custom came from or what the heck is that plant? Did you know that it is a common Arizona plant.

Mistletoe use goes back to the Druids. Druid priests would hold a special ceremony five days after the New Moon following the winter solstice. The priests would cut the mistletoe from a holy oak tree with a golden sickle, never letting the plant touch the ground. The plant was then divided and handed out to the people. These sprigs were hung over doorways as protection against thunder, lightning and a variety of other evils. Other stories developed over time. Mistletoe hung in a cradle would protect children from faeries. Sprigs of mistletoe given to the first cow that calved after the new year began would protect an entire herd.

The idea of kissing under the mistletoe is thought to be an English custom but there is also Nordic mythology that speaks of mistletoe.

The Norse legend talks of Balder, the most beloved god, and his mother Frigga. Frigga loved her son so much that she wanted to make sure he was never harmed. She traveled the world getting promises that came from the four elements—fire, water, air and earth—to not harm her son. Loki, an evil spirit, found that mistletoe wasn’t bound by any of these promises. Loki made an arrow from the mistletoe and tricked Balder’s
brother, Hoder, who was blind, into shooting and killing Balder. The tears of Frigga became mistletoe's white berries. Apparently there is more than one ending to this story but, in the happy one, Balder is restored to health. In thanks for this miracle, Frigga restores the reputation of mistletoe, making it a symbol of love and promising to bestow a kiss on anyone that passes under it.

Mistletoe also appears in Greek mythology associated with the festival of Saturnalia. It was believed to have the power of bestowing fertility and the dung from which the mistletoe was thought to arise had life-giving power. During the Middle Ages the plant was hung in houses to ward off evil spirits and to prevent the entrance of witches. Scandinavians considered it a plant of peace, under which enemies could declare a truce or where warring spouses could makeup. An English custom was to burn mistletoe on the twelfth night lest all the boys and girls kissed under it never marry. It was in 18th century England that the kissing ball was created. Mistletoe was trimmed with ribbons and evergreens. A young woman standing underneath could not refuse a kiss. The kiss could mean either lasting friendship and goodwill or romance. Today we follow the custom of kissing under the mistletoe but don't have a clue about why we do it.

What kind of plant inspires these wonderful stories? Oddly enough, it is a parasite that is quite familiar to most people. It is found hanging from tree branches and obtains its nutrients by helping itself to what the tree produces. Most of us have seen it and not realized what it was. Look for it in cottonwood trees especially. That dense green ball hanging from the branches is mistletoe. Other varieties affect other species of trees. The witches broom in mesquites and other desert trees is a species of mistletoe.

Mistletoe can affect the health of the tree and the only real treatment is to cut out the branches where it occurs. Cut at least twenty-four inches below the actual ball. The plant sends out roots into the branch; if they are not removed the mistletoe can reappear. A tree is less susceptible to mistletoe invasion if it is in good health. Open wounds in the tree are good places for the seed to get a start. Seed is the source that spreads the plant. Many birds love mistletoe berries and, after passing through the intestinal tract, the seed is ready to sprout. In fact, it needs to be eaten by a bird for it to germinate. Phainopeplas (this bird looks like a cardinal with a crest but is a shiny blackish color) are primary feeders on the fruit. If you see phainopeplas during the winter, there's a good chance they are spreading mistletoe seeds. The verdin sometimes builds its nests in the clumps.

Other interesting facts: Mistletoe is the state flower of Oklahoma and there is evidence that it is poisonous. Keep it away from children but don't let that stop you from using it to protect your house from thunder and lightning.

From Charles Dickens, the Pickwick Papers

"From the centre of the ceiling of this kitchen, Old Wardle had just suspended with his own hands a huge branch of mistletoe, and this same branch of mistletoe instantaneously gave rise to a scene of general and most delightful struggling and confusion; in the midst of which, Mr. Pickwick, with a gallantry that would have done honour to a descendant of Lady Tollim glower herself, took the old lady by the hand, led her beneath the mystic branch, and saluted here in all courtesy and decorum."
Can you believe that, by the time you receive this, we might actually have started winter. I'm becoming fairly skeptical, as here it is the first of November and I still have marigolds blooming and tomatoes ripening. Yeah, I know they are ripening slowly but tomato plants in November? It's a first for me. In spite of things lingering on, I'm already getting excited about next year. In fact, my first new catalog of the year arrived. Thompso...
Desert Willow
*Chilopsis linearis*

The Desert Willow's spectacular flowers more than make up for its shaggy appearance. This native plant makes a great addition to any garden. The orchid-like flowers are beautiful and fragrant, a favorite of hummingbirds. You have probably seen these plants in landscapes and along the road. While this plant is called a willow, it is not related to the more common willows we are familiar with. It is more closely related to the catalpa.

The plant has long slender leaves of a medium green. Its form can take either a shrub or tree. While its natural form is shrubby, with pruning it can be made into a tree—the form most often seen in landscape. Personally, I have found the trees rather pathetic looking when not in bloom. The branches and leaves tend to be thin and weak looking. Growing as a shrub (left to form naturally) or pruning so it has multiple trunks gives a fuller-looking plant. Even as a shrub, a little pruning will give the plant a neater appearance. Heavy pruning is needed to form a tree. Willows can grow to 20-25 feet high and as wide as 15 feet, although I have rarely seen one as big as that.

In the fall, the leaves turn yellow and drop. If the plant has bloomed, the long thin seed pods will remain on the tree. Come spring, the long leaves (up to six inches) develop, creating a graceful weeping effect.

Blooming takes place quickly; a one year old tree may produce blooms. Pink to lavender, even white flowers, will appear starting in April and it may bloom off and on through September. Flowers are ruffled and trumpet-shaped, sometimes called orchid-like. They are favorites of hummingbirds and a variety of insects, including honeybees. Other birds will feed on the seed.

In its native habitat, it can be found between 1500 and 5000 feet in many areas of the southwest and northern Mexico. It's generally found along dry washes and arroyos. If you have been driving around and suddenly see a flash of purple and white, it's probably the Desert Willow. It's commonly seen in the Verde Valley but it is found throughout the County.

It's a sun lover, although it can tolerate some shade. It's also drought tolerant. Once established in the landscape it can get along with natural rain but will look better and bloom more with a little extra water in the summer. Don't overdo it though; watering every couple of weeks is probably enough. Soil isn't a big issue for if it has good drainage. Low temperatures don't seem to bother it either. It is known to handle 10°F and can probably go even lower. New growth is more sensitive to temperature, so, come late summer or early fall, cut back on the water to prevent new growth.

Since this plant has a bit of a disreputable appearance after it loses it leaves in the winter, you might want to plant some evergreen shrubs nearby to soften its appearance. Groupings of unpruned plants can serve as an informal (very) hedge.

Desert Willows are readily available in most nurseries. They have become a popular landscape plant in Arizona. For the more adventurous, they do grow easily and quickly from seed. If you decide to try this, just pop them in the ground like you would any other seed; they need no special pre-treatment to improve germination.
Cold Temperatures and Plant Growth
By Jeff Schalau, County Director, Agent, Agriculture & Natural Resources

When temperatures drop in winter, plant growth and metabolism changes in many ways. Some changes are directly related to the increase in the viscosity of water as it approaches freezing. Other changes are highly complex, involve many processes, and are still poorly understood. In this column, we will explore some ways that plants respond to cold temperature and how these relate to horticultural practices. I do this at some risk of boring people to tears, but it is good basic information.

Many annual and crop plants simply will not survive the cold temperatures (32 degrees F and below) we experience during winter. Many of us have planted tomatoes in April only to have a late freeze wipe them out. Seeds of many plants simply will not germinate until the environment reaches a certain minimum temperature. Other seeds need to be exposed to cold temperatures for a given time before they will germinate. These data are documented by experiments and recommendations should be provided when purchased seed is purchased from a reputable source.

Cold hardiness is determined genetically within plants. Intolerance of cold temperatures is a major factor limiting native plant distributions. Poorly adapted plants do not develop cold hardiness and cannot acclimatize fast enough to survive early cold weather. Other poorly adapted plants come out of dormancy too early, begin growing and are killed by low temperatures. This is one of many reasons to landscape using native plants.

Perennial plants have adaptations that allow them to survive cold temperatures. Woody plants undergo physical and physiological changes that prepare them for winter. This process is known acclimation. Shorter day lengths trigger this process in most deciduous plants. Deciduous plants form buds with many bud scales to protect the tender tissue below.

At the cellular level, plant cell sap contains many dissolved compounds: sugars, salts, proteins, etc. This concentrated solution lowers the freezing point of the plant tissues. In other words, the more "stuff" dissolved in the cell sap, the harder it is to freeze it. When freezing temperatures come, properly acclimatized plants will form ice crystal in the intercellular spaces (between cells). As the temperature drops further, water moves out of the cell membrane to the intercellular spaces. Here, the cell sap has an even higher concentration of dissolved compounds. Plant tissue damage often occurs when the temperature drops so fast that the ice crystals form faster than the cell sap can migrate to the intercellular spaces. This is the type of injury that is often seen on the southwest side of fruit tree trunks.

Cold injury to conifers (cone-bearing evergreens) is most often seen as shoot desiccation. Unlike deciduous trees, conifers continue to photosynthesize through the winter. Photosynthesis requires a steady supply of water. Water becomes more viscous when it is near freezing and therefore moves more slowly. Under these conditions, roots may not be able to absorb water fast enough to replace that lost to transpiration during cold, dry winter days. This is not likely to occur given the mild climate of the Verde Valley. However, this should remind you to continue watering your evergreen trees and shrubs during the winter months.

To avoid cold injury, keep trees well cared for so they can acclimate properly. During winter, deep water all woody plants monthly (twice per month for evergreens). Valued specimens or fruit trees can be covered to conserve heat reradiated from the soil surface at night. Overhead sprinklers can also be used to prevent frost damage to buds of deciduous fruit trees during spring frosts. Keep on winter watering.
I am going to try and keep everyone informed of the plans for next year’s Highlands Gardening Conference. I am sure they could use a few more volunteers and I would like to see more attend the coming conference. So below are a few notes from the planning committee’s first meeting.

Present: Beverly Emerson, Phil Young, Ann Long, Joyce Rudy, Bill Cart, Janie Holmberg, Chris Jones, Jeff Schalau. After Jeff, Chris, and Beverly brought attendees up to speed on this year’s conference, we visited Sharlot Hall Museum to eat lunch and stroll the grounds. Next we visited Pine Rock Camp and then Chapel Rock Conference Center. By unanimous decision, we chose Chapel Rock as our preferred venue. It is a short drive from downtown Prescott, very scenic, has adequate facilities, and appears to be reasonably priced. They serve all food consumed on site. I think it will be okay (not as good as this year.)

The dates we hope to reserve the facility for is October 7-9. The conference itself would be on the 8th and 9th, with the 7th being a setup day.

Currently, we are looking at dates that should be avoided. The Yavapai County Fair will be held on September 20-23, 2001. The Southwest Horticulture Trade Show will be on September 13 and 14, 2001. If anyone has other potential conflicting dates, please let us know. In addition, the Sharlot Hall Folk Festival is scheduled for October 6 and 7. This would limit our ability to have a welcome reception there but would be an activity that conference attendees could visit.

We are seeking a chairperson for the event: preferably two co-chairs with one from the Verde Valley area and one from the west side of the county. Beverly Emerson has reluctantly declined, but is willing to assist in the planning and preparation.

Our next meeting will be held in Camp Verde on 11-29-00 at 11:00 AM (location to be arranged). We will take a break in December, and then return to Prescott on 1/17/01 at 11:00 AM. All meetings will be brown bag lunch and I will get a county vehicle to transport Prescott MGs to the Verde Valley meetings. (Sorry this did not go out before the meeting, but there is still time to be part of this. If you are interested please get in touch with Jeff—Ed.)

Any interested in attending, please contact the Prescott Extension office at (520) 445-6590 or E mail Jeff at: jschalau@ag.arizona.edu.

Master Gardeners interested in being part of the conference are listed below with their contact information.

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<thead>
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December Calendar

Apply dormant spray as soon as leaves fall. Dormant oil will smother overwintering insect eggs and pests. Spray deciduous flowering and fruit trees along with roses.

Care for your Christmas Tree. It isn’t natural for pine trees to be grown inside and they can easily be killed when used as a decorative element in the house. Move it outside quickly after the holidays, no more than a week after if possible.

Fertilize fruit trees.

Mulch if you haven’t already done so.

Start planting bareroot plants, trees, berries and ornamentals. Once you get it home, soak the plant in a bucket of water for about an hour and then plant it immediately.

There is still time to plant chilled bulbs.

Don’t forget to water about once a month if it’s cold, more often if we have a warm winter.

Plant cool season bedding plants. Asters, calendula, cornflower, dianthus, pansy, poppies, shasta daisy, snapdragons, stock and sweet peas can still be planted as plants. It’s too cool usually for seeds to germinate well.

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Volunteer Opportunities

Eden Center Adult Day Health Services, Inc. in Cottonwood is a non-profit organization that is looking for volunteers to help with a gardening project. See their website for the service they provide: edencentercottonwood.com Some of our Elders would love to be involved as an activity.

We would love to have a plant cart such as the ones donated to The Center Adult Day Care in Prescott and Prescott Valley. A volunteer to come and instruct the Elders on using it would be wonderful.

Looking for artists to help with logo project. Yavapai County Cooperative Extension is looking for a design specific for the County. If you are interested, give Jeff Schalau a call. The design has to pertain to the County.

The Margaret T. Morris Center in Prescott is looking for volunteers to develop, maintain and beautify their facility. The center is a residential facility for people with Alzheimer’s. They have a number of volunteer opportunities. Call Judy Lampros, volunteer coordinator, at (520)445-6633, for more information on what they need.

Looking for mulch or compost material? Call Dorothy Hunt at (520) 634-6363.
Activities and Events

The Cottonwood Organic Gardening Club meets at the Cottonwood-Verde Valley Fairgrounds on the second Wednesday of each month at 1:30 p.m.

Arboretum at Flagstaff
Saturday, Dec 2, Holiday Plant and Gift Bazaar 3:00 to 7:00 P.M., Visitor Center. Public Sale. 9:00 A.M. to 5:00 P.M. In addition to the plants available at the sale, there are stocking stuffers ($3.50 to $8.00) from the Gift Shop. This year's sale will again feature gift-ready florist-quality amaryllis and fragrant paperwhites, ferns and flowers, salad bowls, herbal gift bowls, and specialty bowls for cats and other small animal friends and houseplants for the low-light and low humidity situations of the winter season. I Mail or e-mail orders to Janice.Busco@nau.edu.

Master Gardener website—You can find this newsletter along with the Master gardener Manual, the farm fresh brochure plus other information at the Yavapai county cooperative extension website. Go to: http://ag.arizona.edu/yavapai>http://ag.arizona.edu/yavapai/

February 17 & 18, 2000, The High Desert Gardening Conference, Sierra Vista, AZ, Lakeside Activity Center, Fort Huachuca.

The "Arizona Master Gardener Manual" is now on-line. Check out http://ag.arizona.edu/pubs/garden/mg/

NOTE FROM THE EDITOR: Let me know about your garden, the types of seeds you planted, interesting articles you found—anything of gardening interest. Send to: Nora Graf P.O. Box 3652 Camp Verde, AZ 86322.

Jeff Schalau County Director, Yavapai County Extension Agent, Agriculture & Natural Resources

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