Home Horticulture - Ricky's Gardening Tips and Tricks - July 2020 Issue

Written and compiled by Ricky D. Kemery, Allen County Extension Educator Retired, phone or text: 260-431-6893

Ricky's Gardening Tips and Tricks and Home Horticulture is an online newsletter designed to provide citizens of Allen County and northeastern Indiana with up-to-date information about Horticulture and home issues, written in a lighthearted style! To subscribe, send an email to kemeryr7@frontier.com.

Watering Plants in The Garden

It seems such a simple thing. Plants need water – We - the responsible gardener- water plants so they will "live long and prosper". I guess I watched too many Star Trek episodes when I was younger…. NOAA's Climate Prediction Center forecasts slightly above-average temperatures and precipitation for the next three months. I disagree. This year has all the signs of 2012, when high temps and drought conditions occurred. I think we will be watering much more than usual this summer.

Proper watering is a skill that many folks struggle to master. With all the information on the almighty and all-knowing Internet; information how to water plants efficiently and sustainably is harder to find. Following are some tips:

- Water during the day – avoid evening watering. Disease spreads when plant leaves and soil remain wet for longer periods of time such as overnight.

- It is a myth that watering during the day causes the sun to magnify water droplets and burn holes in leaf tissue. Cold water on very warm plants can shock plants. Watering during a hot mid-day or afternoon wastes water because it evaporates more quickly.

- As the summer continues, soils dry out quickly. Water tables tend to recede deeper in the soil. Plants are larger and require more water. Mulching helps reduce water needs. I like to lay down newspaper or other uncolored paper first, then pine needles, and leaves other than walnut. Untreated and undyed bark mulch is ok, but it is more expensive.

- It is better to water deeply and more infrequently, than to water every day for less amounts of time.

- When I tended the Purdue Horticulture Gardens as an "older" student for 2 ½ years, I learned that digging near plants was the best way to determine if a plant needs water. For annuals and most vegetables, dig down 6 inches or so near the plant. If the soil at the six-inch depth is dry, then it's time to water. Apply water until the soil at the six-inch depth is moist. Seems simple. Doesn't it? For tomatoes try to go down about 8 inches if possible. I have found that watering "meters" in general to determine when to water are not as reliable as simply digging.

• Record how long it took to water the plants properly and use that as a guide for how long you need to water. Most people do not water long enough to do much good. Some experts believe that watering more frequently with less water "spoils" plants, so they do not develop the deep root systems they need. Think of the child who eats junk food all day and doesn't want to eat his/her supper. **Note**: Use a water "breaker" on the hose end to water more efficiently and avoid splashing dirt and disease organisms onto plants. The compressed thumb system of watering shown in the picture just doesn't work very well to efficiently deliver water evenly to the roots.

- It helps to determine your flow rate of water from the outdoor faucet. To do this take an empty gallon milk container and time how long it takes to fill it. It will usually be anywhere from 20-30 seconds to a minute. If you water a shrub for instance and know they will take at least 5-10 gallons per watering, then it will take at least 2 1/2 to three minutes to apply 5 gallons of water to the shrub. A mature tomato plant will take at least 3-5 gallons of water to moisten the soil around the plant to an eight-inch depth. If you have 10 tomato plants, you have just burned at least a half an hour – just to water the tomatoes.

- If you have drip irrigation, then turn on the system and determine how long it takes to water to the proper depth. Then declare bankruptcy when you receive your water bill. If you are a real stickler for details, then compose a spreadsheet that calculates the total costs of plants and materials, your time, and water bills plus the cost benefit of the produce you harvest. Have a drink when you realize that you are losing money, sweating bullets, and spending time you could have spent surfing Facebook or Instagram.

- As always, mulching is a good thing. In a drought year, covering bare soil with mulch helps conserve water and reduce disease pressure. Make sure not to over mulch. 3 inches is a good target depth for mulch. Avoid piling up mulch around the base of plants. I am not a fan of weed barrier, as it is expensive and can actually trap too much water under it, and smother plants from a lack of oxygen to the root zone.

- Rainwater is the best water for a garden. Do not use softened water ..do not pass go- or collect $200.00.

GMO Mosquitoes compiled from an article by Lily Feinn

This May, while Americans were dealing with Covid-19, the Environmental Protection Agency approved an experimental use permit for the biotech company Oxitec to release genetically modified mosquitoes in the Florida Keys and Harris County, Texas, where Houston is located.

"To meet today's public health challenges head-on, the nation needs to facilitate innovation and advance the science around new tools and approaches to better protect the health of all Americans," The permit, which lasts for two years, requires Oxitec to "monitor and sample the mosquito population weekly."

"EPA has also maintained the right to cancel the (permit) at any point during the 24-month period if "unforeseen outcomes occur," according to the release.

Oxitec claims its Aedes aegypti mosquito (known as the OX5034) can drastically reduce the spread of Zika virus as well as dengue, chikungunya and yellow fever.

Oxitec created a male mosquito with a special gene that prevents female offspring from surviving to adulthood. The new males grow up, mate with more females and over time the number of mosquitoes' declines.

"Continual, large-scale releases of these OX5034 GM males should eventually cause the temporary collapse of a wild population," according to Oxitec.

In Brazil, which suffered a Zika outbreak in 2015 and 2016, the company claims its "friendly" mosquitoes reduced the population of Aedes Aegypti by 89% to 96%.

Ricky's Comments: It is nice to know these mosquitoes are "friendly". Perhaps we can all have lunch sometime. It appears that any decline in mosquitoes is temporary – so…continual releases of GMO mosquitoes will be required, unless of course there are unforeseen consequences. I have a wild imagination, so when I hear the words "unforeseen consequences" I envision a gigantic blood-sucking mosquito sitting in a lonely Texas or Florid bar sipping a Bloody Mary and watching the movie "Twilight" on a television stuck up in a dusty corner surrounded by bottles of obscure liquor.

Catalpas

Catalpa is a Midwest native tree which grows 40 to 60 feet in height, with a narrow, open, irregularly rounded crown and spreading branches. It has large, heart-shaped leaves and large clusters of fragrant, white flowers that usually appear in June/July in northeast Indiana.

Northern catalpa is very adaptable to adverse conditions and different soil pH but "the meta" on Catalpa is that it has weak wood and branch structure. Because of its reputation for breaking up in storms due to its weak wood, and the litter caused by the "cigar shaped" bean pods; Catalpa has never really caught on as a landscape tree. Farmers who first came to Indiana and Ohio did value the tree, because the wood of Catalpa was used for fence posts and railroad ties because of its resistance to rot.

The flowers of the catalpa are visited by hummingbirds. It is the sole host of the catalpa sphinx moth, and it provides nutrition for bees in early summer. The genus name (Catalpa) comes from a North American Indian name.

Catalpa has no serious insect or disease problems. I have seen specimens of catalpa suffer in wet years to verticillium wilt, leaf spots, mildew and twig blight. If you are a fisherperson, then you might know that Catalpa worms (the caterpillar of catalpa sphinx moth), make a great bait.

It is easy to propagate catalpa. Collect the pods after the leaves fall, once the pods are sufficiently dried, but before the seeds have fallen from open pods. Plant the seeds in late fall in a tray used for annuals that is filled with a good professional mix. Plant the seeds about an inch in depth, and place the tray outdoors. Cover the tray with hardware cloth. One should see many seedlings in the spring. A mature, well-pruned catalpa tree can be a tree of great beauty, particularly in spring when the foliage is young, and the flowers are in bloom. Many citizens who have a Catalpa tree in their landscape greatly value this native tree.

Geese “Helicopter” Parents for Hire compiled from The Dodo

Mike Digout has never been a big fan of Canadian geese. But this spring his views changed after meeting one remarkable mother goose caring for a very large family.

"I was out every night walking on the riverbank looking for beavers and, of course, there was a lot of geese activity as they were coming from the south and looking for a place to nest,” Digout told The Dodo. “It got to be quite entertaining to watch the geese fighting over places to nest and protecting their nests.”

Note: There are several comments made by Mike that raise some red flags. Why is Mike looking for beavers? Does he put a sign on his door that says, “Be back shortly - looking for beavers.” How entertaining is it to watch geese fights? Wouldn’t fake wrestling matches on television be more entertaining?

One night, Digout was sitting near some reeds along the riverbank when he saw a mother goose with an unusually large group of goslings. One by one, the babies started crawling under her feathers to go to sleep for the night, until he counted 16 fluffy bodies crowded under their mom's protective wings.

“I was stunned that this mom had 16 babies, so I started going back every night looking for this mom and her goslings,” Digout said. “And every day it seemed like she had a bigger group.”

He counted 25 goslings one day, then 30 the next until he finally spotted the mama goose and her mate with 47 babies.

He realized that this amazing goose mama was caring for goslings from many different families. This is known as a gang brood and is common in urban and suburban areas with lots of nests. Gang broods are formed when especially patient parents babysit other geese’s children, giving their friends a few nights off.

And it was clear to Digout that this goose mama was made for the job: “It was incredible how calm she was with so many goslings around,” Digout said. “She seems like such a patient mom.”

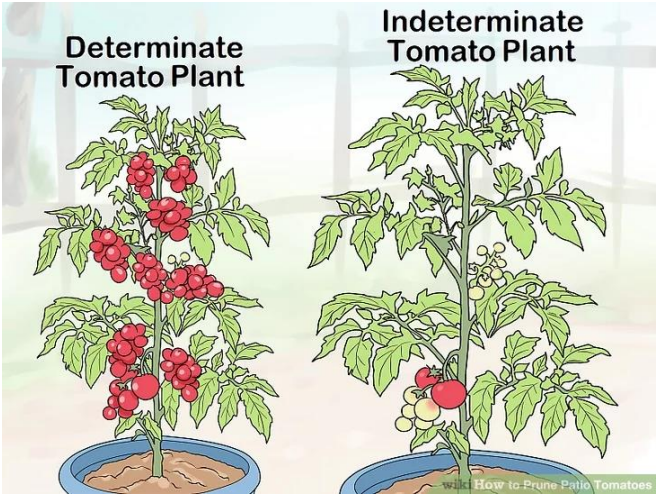
It might be a different story if Digout could understand goose language, He might hear these exchanges”

“How come Johnny gets all the good grass?” “He’s touching me!!! “I hate you! “ “ Go to your room!” -- Goose mom sneaks off for a quick drinky poo…...

“Eye roll of disrespect” - when mom tells gosling to stay with the brood….

A Philosophical Way to Prune Tomatoes

Some info compiled and edited from an article Co-authored by Katie Gohlman, Horticulturist WIKI How



I recently pruned my cherry tomatoes planted in two large containers in my backyard. Pruning tomato plants can help reduce disease and produce better quality fruit as the plant is more balanced in the leaf/fruit ratio to be more efficient. At least that is what the experts say.

There are two main varieties of tomato plants: determinate and indeterminate. Determinate tomato plants will grow in a small bush and are generally well suited to planting in a container. Since all the fruit are produced and ripen at roughly the same time, determinate varieties are good choices for canners.

Indeterminate tomato plants will grow larger than determinate tomatoes. Their growth and fruit production are not "determined" so they produce fruit all season. It is the **Forest Gump** philosophy. This quote from the movie is treasured by tomatoes everywhere in the world *"I don't know if we each have a destiny, or if we're all just floatin' around accidental-like on a breeze. But I, I think maybe it's both." –…wipes tears from face…..*

Determinate tomato plants will likely not need to be pruned except for maybe removing lower leaves and suckers. Indeterminate tomatoes will usually require a large cage or tall wooden stake to grow properly and can benefit from pruning.

It can be helpful to begin pruning your tomato plant from the bottom and working your way up. This will allow you to keep track of your progress and you'll be able to clearly see what needs to be removed as you work. Most of the pruning will take place at the bottom of the plant. Many stems on the lower portion of the plant will not yield fruit. This is the **Alice in Wonderland** philosophy of pruning. As one pinches or clips off bottom leaves, shout "OFF WITH THEIR HEADS! When the police arrive after a frantic call from a neighbor, explain the proper methods of pruning tomatoes as they handcuff and haul you away…

Don't overdo the pruning. It's important that you leave enough leaves and stems for the plant to function properly. Cutting away too much of the plant can cause it to grow slowly or possibly die. Removing too many leaves can expose the fruit to the sun and ruin the tomatoes. Don't remove more than 1/3 of the total plant while pruning.

Remove suckers as they appear. Suckers are shoots that grow in the leaf axil of the plant – where the main stems and a leaf stem already occur. They do not produce fruit, so they are worthless. This is the **Wall Street** philosophy of pruning. As Gordon Gekko said in the movie "The public's out there throwing darts at a board, sport. I don't throw darts at a board – I bet on sure things."

Consider cutting off the terminal leaf/bud of the plants where the growth is more upwards instead of outwards. If your tomato plant has grown too high, you may consider pruning the topmost growth stems. This will prevent the plant from growing upwards, redirecting growth outwards to the tomatoes themselves. This is the **Jack and the Beanstalk** philosophy - Cut the top off before the giant comes down….

Pruning tomatoes is an ongoing process. Remove lower leaves and suckers as the plant develops. Don't top the terminal growth too early. Read books on philosophy and self help while watching your garden grow. In the early morning proclaim to your tomato plants as per the **Jerry Maguire** philosophy of growing tomatoes "You had me at hello"

Mulberry

Many younger folks nowadays are looking for mulberry trees to establish in their garden or landscape.
There are two types of mulberries.

White mulberry is native to China but very common in our area. The tree was introduced in the Long Island, New York area in 1827 and was planted in many areas of the eastern United States as a potential food source for the silkworm. Unfortunately, the overall costs to produce silk in the United States were too high, and this get-rich scheme failed.

White mulberry flourished in our temperate climate. Birds and other animals ate the mulberry fruit and quickly spread the seeds – and the tree to other areas. The saplings have a deep taproot and are very difficult to pull-even at a small size.

White mulberries are common in the northern ½ of Indiana. Many folks think white mulberries have white fruit. It is more common for white mulberry to have red to purple fruit that may turn white at maturity. White mulberry can be invasive and can overtake areas such as fencerows. As always, one person's weed can be another person's treasure. Recently the tree was listed as invasive by a task force of university and members of the commercial landscape industry as reported in the last issue of Home Horticulture.

Red mulberry is a rare native tree most often found in shady moist sites in mature woods. It is primarily found in southern Indiana. The leaves are usually larger than white mulberry and are quite rough on the upper surface. The tree is intolerant of sunny conditions. Red Mulberry fruit is delicious, but the fruit is produced in less quantity than white mulberry. The fruit is found along the twigs, unlike white mulberry whose fruit is found in clusters at the ends of the twigs. Red Mulberry bark has fibers in it which were made into cloaks by the Choctaws. They were also used to make ropes for the ships of the Spanish conquistadors.

All of the mulberries have leaves that occur in three shapes – entire, mitten, and three lobed leaves. Mulberry is a dioecious species, composed of male (creamy) and female (green) flowers borne on separate trees in mid-spring. This explains why some folks who plant mulberries collected from the wild never see any fruit production. Both male and female trees have to in the neighborhood - so to speak – for the female tree to produce fruit.

White mulberry leaves are often shiny and bright green above, with larger more rounded teeth than red mulberry. The main veins on the underside of white mulberry leaves are much more prominent than red mulberry. I always could identity white mulberry by the orange to reddish inner bark; compared to tan inner bark of red mulberry. Even the outer bark of white mulberry has an orange cast.

I must mention that cultivars of mulberry are in the nursery trade. Weeping mulberry is used as a specimen tree in home landscapes. This tree-to the best of my knowledge- does not produce fruit.

I know that mulberry trees are part of a permaculture "guild". Some gardeners still actively plant seedlings of white mulberries in their landscapes and gardens. It's a tough choice. White mulberry fruit is delicious and nutritious, but this invasive non-native and difficult to remove tree often can end up in fencerows and landscapes where it is not wanted.

Japanese Beetle

The following are excerpts from newspaper articles I wrote in 2005, and 2016. Information has changed since that time, so I added info from various Extension sources.

Japanese beetles are native to Japan, China, and other parts of Asia. They first were discovered in the United States in a nursery near Riverton, New Jersey in 1916. Since then, Japanese beetle has spread to many states east of the Mississippi River, as well as parts of Wisconsin, Minnesota, Iowa, Missouri, Nebraska, Kansas, Arkansas, and Oklahoma and now even into Colorado.

Early efforts to control the spread of the beetle were not effective, and in fact, disastrous. Rachel Carson in her book Silent Spring discusses how DDT and related pesticides were used in the late 1950's in an attempt to "eradicate" Japanese beetles moving into the state of Illinois. The resulting bird and animal kills were catastrophic.

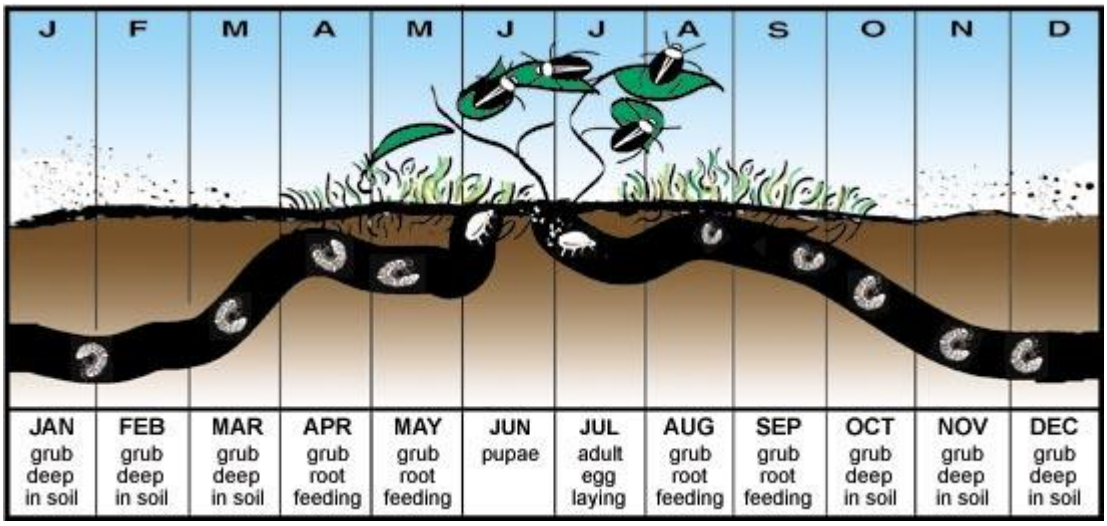
Populations of the beetle peaked during the 1990's in Indiana, and then began a slow decline as the pest moved on to western states. I know this because a Master Gardener named Marylin Wilt used to send me reports of all the beetles she collected and placed in soapy water each day for many growing seasons from 1996 into the early 2000's. Her numbers began to decline in the late 1990's.

The beetle has made a bit of a comeback in our area.in recent years, but nothing like populations in the 1990's.

The life cycle of Japanese beetle is complex. It is one of a few pests where both the adults and the larvae do damage.

In late June or early July, adult Japanese beetles emerge from the ground. The beetles are about an inch in length, dark brown and iridescent. The female beetle emerges first and sends out powerful feeding and sex hormones to attract other beetles, especially foolish and irresponsible males.

The beetles feed on leaf tissue, leaving the leaf veins alone. This results in a skeletonized appearance.
The adult females begin to lay eggs in the ground soon after mating. They tend to pick areas where the ground is soft –such as irrigated turf.



In August or early September, the eggs hatch underground into small larvae (worms). The small larvae feed on turf grass roots. If populations are high, the larvae can kill the turf.

The mature larvae will burrow deeper in the soil in the fall to overwinter in a small "cell". The following spring, the larvae work their way closer to the surface where they will pupate. The cycle repeats itself when "new" adults emerge in late June or July.

.

There are many organic controls available for Japanese beetle control. Nowadays I prefer organics over conventional pesticides. Regardless of what pesticide that is used (read the labels) try not to spray on flowers where bees also visit. Spraying very early in the morning or later in the day can also help avoid bees. Try not to use systemic insecticides (ones that travel within the plant) on flowering plants.

Neem is a very effective organic pesticide that kills the adults and repels them from areas. It must be stressed that neem has a one day waiting period before edible crops can be consumed.

Bacillus thuringiensis var. galleriae (beetleJUS / beetle GONE!) is a newer organic product for adult beetle control. Many organic folks I know simply knock the beetles off flowers or shrubs into a bucket of soapy water where they die quickly.

One naturally occurring bacterium that is commercially available is called Milky Spore®, which is an option for controlling grubs in the soil that damage the lawn. When spores of Milky Spore are ingested by Japanese beetle grubs, they die and, in the process, they release billions of new spores into the surrounding soil.

One example of a commercially available formulation of Milky Spore is produced by St. Gabriel Organics. Cost to treat 2,400 square feet is about $30. This product is most effective when applied in early- or mid-August, when the grubs are actively feeding. Milky spore works best when applied to moist soils. It must be applied 3 times a year for two years. One cannot use conventional products for weed or insect control in the yard.

There are also several species of nematodes (tiny round worms) that attack Japanese beetle and other soil-dwelling grubs. NemaSeek® consists of live beneficial nematodes that actively search for grubs in the soil. Nematodes also need to be mixed with water and applied to moist soil. Nematodes mostly die in winter so they will need to be reapplied annually.

Using Japanese beetle "traps" available on the Internet and selected hardware and box stores is controversial.

Research has shown that in certain situations, the powerful lures used in Japanese beetle traps actually attract many more beetles than are caught, which can increase plant damage in the nearby areas.

Chickens and pond fish will eat Japanese beetles. They quickly lose interest when populations are high. Perhaps we can teach gang broods of geese to eat them.

It has been my observation over the years that using traps actually increases populations in areas rather than controlling the adult beetles. Often, I would ask homeowners perplexed as to why beetle population were high whether someone nearby was using a trap. Often the answer was yes.

Plant Varieties Least Favored By Japanese Beetles	**Plant Varieties Most Favored by Japanese beetles**
Arbovitae	American and English elm
Boxelder	Birch
Boxwood	Black walnut
Clematis	Elm
Dogwood	Grape
Euonymus sp. (burning bush, etc.)	Hawthorn
Forsythia	Hollyhock
Hemlock	Horse-chestnut
Hickory	Japanese and Norway maple
Holly	Larch
Juniper	Linden
Lilac	London planetree
Magnolia	*Malus* spp. (crabapple, apple etc.)
Mulberry	Mountain ash
Northern red oak	Pin oak
Pine	*Prunus* spp. (flowering cherry, etc.)
Red and silver maples	Pussy willow
Redbud	Rose Spruce
Sweet gum	Raspberry
Tulip poplar (tuliptree)	Virginia creeper
Yew	Willow

The above information was from Iowa State University

Drought

As I have mentioned, I expect this year to be similar to the drought conditions in 2012. History tends to repeat itself.

Major droughts in the Midwest occurred in the mid-to-late 1800's. The early 1860's, 1877, and 1890 were particularly bad years. The 1877 drought brought with it a major swarm of locusts, which contributed to devastating crop losses in the Midwest. The Little House series by Laura Ingalls Wilder recounts how locusts destroyed the wheat on their farm.

The Dust Bowl of the 1930's resulted in devastating crop loss in the Midwest from 1930 to 1936 - caused by severe drought coupled with massive soil erosion. During this drought, dust blew all the way from the Midwest to New York and Washington, D.C.

The early 1960's also experienced heat and drought. As a child I remember my parents and neighbors dancing outside in sheer delight when rain finally arrived in early fall after a long spring and summer of intense heat and drought.

The El-Nino drought of 1988 was very intense and widespread. Heat waves killed around 4,800 to 17,000 people across the United States - and also killed thousands of livestock. The drought of 1988 qualifies being one of the costliest natural disasters in the history of the United States.

In 2012, much of the U.S. had drought conditions develop through the late winter and spring months lasting most of the summer. The summer of 2012 was the third-warmest summer ever in the history of the U.S. 2012 taught everyone how quickly water tables can lower – especially in urban areas where runoff is a huge issue.

Severe droughts that have occurred in the past hopefully will make everyone realize that climate change and soil and water conservation is always an important issue.

Poison Ivy, Oak, and Sumac

Poison ivy, sumac, and oak rash is caused by an allergic reaction to an oily resin called urushiol. This oil is in the leaves, stems and roots of poison ivy, poison oak and poison sumac. Most people -- about 85% -- are allergic to urushiol. You can be affected by it at any age. No one is immune. It is only a matter of threshold – once a person reaches a maximum exposure to urushiol based on their genetics – they will develop symptoms. There are actually two types of poison ivy. Eastern poison ivy can grow on the ground and also climb on fences and trees. Western Poison ivy is the only form of poison ivy that grows in much of the west but is also found in northern Indiana. Eastern and Western forms have hybridized, and the hybrids (of

course) are found throughout the central Midwest. You really cannot tell the two types or the hybrids apart. Poison ivy has three leaflets attached in an **alternate** fashion on the main stem. Lookalikes with three leaflets where the compound leaflets are arranged **opposite** to each other on the stem are boxelder and brambles. The climbing types often have aerial roots or hairy roots. Poison ivy also develops greenish flower clusters and greenish to white berries. Birds like the berries and spread the plant – often under trees and fence rows.

Utility poles are favorites for poison ivy

Shrub like growth of western poison ivy.

Poison ivy rash may begin as a straight line because of the way the edge of the leaf blade brushes against your skin. If you come into contact with a piece of clothing or pet fur that has urushiol on it, the rash may be more spread out. You can also transfer the oil to other parts of your body with your fingers. The reaction usually develops 12 to 48 hours after exposure and lasts two to three weeks. Your skin must come in direct contact with the plant's oil to be affected. Blister fluid doesn't spread the rash.

If you think you've come into contact with poison ivy, wash your clothing promptly. Handle contaminated clothes carefully so that you don't transfer the urushiol to yourself, furniture, rugs or appliances. Also wash any other contaminated items — such as outdoor gear, garden tools, jewelry, shoes and even shoelaces — as soon as possible. Urushiol can remain potent for years. If you put away a contaminated jacket without washing it and take it out a year later, the oil on the jacket may still cause a rash.

Poison Sumac

Poison sumac is related to the poison ivies and poison oaks, not to the other plants called sumacs.

It is relatively rare compared to the other members of the family. The rash-causing agent, urushiol, is the same, and it causes the same rashes. While poison sumac is rare, you may find quite a bit in undisturbed wetlands in northern Indiana. I have encountered it at a few ACRES sites, and in undisturbed wetlands when kayaking.

Poison sumac also has compound foliage, but its alternately arranged compound leaves have leaflets that are lanceolate-like a spear head. It has red stems, and the leaf edges are smooth. It can become quite large- often a small tree – making it easy to overlook. It also has white berries like its cousin poison ivy. Poison sumac is not related at all to native sumac trees found in Indiana. True sumacs have serrated leaf margins and hairy stems.

A botanist points to a full-grown poison sumac tree with the family that lives on the edge of this wetland.

Poison Oak

In Indiana, Poison Oak is only found in extreme southern portions of the state. Two populations exist – one population is found in the eastern U.S, with another found in the far west. It is tricky to identify because the leaves are very similar to its cousin poison ivy.

The only difference is that the leaflets have rounded edges, unlike the broad-toothed edges of some leaflets of poison ivy. It also does not climb like poison ivy.

Worms and Compost

Master Gardener Martin Rust teaches about composting to Master Gardener Youth program members at the Extension office gardens. (circa 1999). Martin was a wonderful Master Gardener. He served on the Allen County Solid Waste advisory board, taught tons of classes to citizens about composting, and maintained the compost areas at the gardens at the Extension office. The stone building in the background was a focal point of the new area constructed just a year before. (see page 15)

Many younger gardeners are now interested in worm composting or vermiculture. Vermiculture is different than traditional composting – where a mixture of brown and green material is layered in large bins and turned until rich compost is produced. Vermiculture composting uses kitchen scraps, moist paper, and worms (red wigglers and surface night crawlers are best) to produce worm poop – or vermicompost - which is a great addition to garden soil. This method of composting is faster than traditional composting but produces less material. Vermiculture can produce odors and draw critters, so one needs to monitor outdoor vermicompost bins frequently.

Hoggles'
Demented Cat Logic
Logic

To my caregiver: I have a confession. I have deliberately run though poison ivy patches knowing you would develop a rash after petting me ….. *puts paw to side of face and laughs maniacally...*

Daylength and Flowering

In the early 1920's, USDA scientists W.W. Garner and H.A. Allard were the first to recognize the role of light duration on flowering in plants. They wondered why "Maryland Mammoth" tobacco failed to flower in the summer even though it grew to ten feet in height, but flowered in the greenhouse in winter at less than five feet. Then also wondered why certain varieties of soybean when planted at two-week intervals from May through July all flowered at the same time.

After ruling out factors such as temperature and nutrition; they discovered that it was the length of the day that was influencing flowering. Garner and Allard named this response of plants to day length photoperiodism. After a study on numerous plants, they classified plants into three categories based on day length response for flowering: 1) short-day plants, 2) long-day plants, and 3) day-neutral plants.

It was later discovered that is wasn't the length of the day that plants were perceiving, but the length of the night – or darkness. So, a short-day plant should be really called a long-night plant, but the earlier terminology persists to this day.

Perennial chrysanthemums are a classic example of a short-day plant. These plants-left on their own - will normally flower sometime in the fall, as the days became shorter and the nights longer**.** The chart below lists

short day, long day, and day neutral annuals. In greenhouse conditions, facultative plants flower faster under higher light conditions – obligate plants do not.

Photoperiod responses of numerous bedding plant species.

Obligate short day plants Hyancinth bean African marigold	**Facultative short day plants** Cosmos Globe Amaranth (Gomphrena) Moonflower (Ipomea) Morning Glory Signet marigold Zinnia
Obligate long day plants Bachelor's buttons (Centaurea) China aster (Callistephus) Fuchsia Gazania Lavatera Lobelia Monkey flower (Mimulus) Petunia 'Purple Wave' Strawflower Sweet pea (Lathyrus)	**Facultative long day plants** Ageratum Calendula Dianthus Linaria Pansy (Viola) Petunia (Grandiflora types) Salvia Snapdragon Statice Sunflower
Day neutral plants Amaranthus Centranthus Cleome Cobea Stock Verbascum	

Greenhouse growers manipulate the length of the day using covers to fool the plants into thinking the days are shorter than they really are. In this way the mums produce flowers just in time for us to plant them in landscapes in August and September.

Long day plants really want shorter nights and longer day periods in order to flower. Most spring flowers are long day plants.

Some plants like certain summer vegetables do not respond to day length. These are called day-neutral plants
.
Goldenrod is a short-day plant. It begins to flower late in the summer when butterflies are beginning their long migrations south. Their pollen is a primary food source for that long journey.

Tobacco, soybeans, corn, and rice are also short-day plants. When you think about it, they all mature late in the season – just like they should. Cosmos is also a short-day plant. It produces its flowers late in the season when other flowers are fading. Many sunflower varieties are also short-day plants. Poinsettia is perhaps the most famous short-day plant. Growers manipulate the day length, so the bracts of poinsettias turn color - just in time for the holidays.

A Blast from The Past

When I first began my Extension career at the Allen County Extension office in Fort Wayne in 1995, I was told by the Allen County Extension board and Master Gardeners that they wanted the gardens around the Extension office to be "a showpiece, teaching opportunity, and destination" for the community. I had experience in maintaining public gardens at Purdue University. So, I began - with the help of many Master Gardeners - the process of transforming and adding garden areas, paths, seating, garden rooms and water access and fencing to the plantings. I wish I could say it was an easy process. In the end, as you can see, the area became a showpiece and interest from the public and visitors to the office increased dramatically.

Work began in what is now the Vegetable Garden, Youth Garden, and Trial Garden in 1998. Master Gardener Glen Voris led this project.

The Everlasting/Cutting Garden began as a huge pile of soil that I shoveled out over the course of several days to create this area.

The photos show the entry area, an armillary sundial, and a new Everlasting garden near Glen's area. The blue flowers on the fence – constructed by a master artisan named David Key from Marion, are Lisianthus - a Texas wildflower.

With the help of Master Gardeners several new areas were created or renovated. The Monet Garden, an expanded Butterfly Garden, the Cottage Garden, the Sensory Garden, Patio Garden, a Glade area, and Promenade area. The Ornamental Grass Garden, A Trial Garden, Community Gardens, an Intern Entrance Garden. An Everlasting / Cutting garden and Youth Garden were also created. In addition, the landscape around the gardens were connected with paths and seating, watering systems were installed, and unusual plants were added to enhance the outer areas. I was especially proud of the Ehle, Ford Prairie, which I started by installing plants propagated from seed collected from prairie remnants in the area

Managing a public garden is in itself a full-time position. To do so takes hard work, leadership, vision, creativity, and a willingness to listen. I always worked side by side with volunteers to make our vision of the Display Gardens a reality.

To *subscribe to this electronic newsletter, send an email to kemeryr7@frontier.com - or text 260-431-6893. I will not share information with others. Ricky Kemery will not knowingly discriminate in any way based on race, gender etc…*