

# COOPERATIVE EXTENSION

University of Arizona and U.S. Department of Agriculture cooperating.



the Cochise County Master Gardener

## NEWSLETTER

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### PLANT OF THE MONTH

Barbara Kishbaugh  
Staff Writer



*Thunbergia alata*

When entering a little pottery shop/art gallery in Tombstone last fall, I noticed a flowering garden along the side of an old wooden porch. One of the plants in bloom was especially bright and cheerful and caught my eye. The shop owner told me the exciting orange flower with a dark center was actually a flowering vine called *Thunbergia*, or black-eyed Susan. She said it voluntarily appeared each year and she gave me some seed which I sowed next to our ocotillo garden fence.

*Thunbergia alata*, is a vine with smallish triangular leaves and can grow to a 6' height with a 6' circumference. *Sunset New Western Garden Book* says it is a perennial which is treated as an annual and the flowers can be orange, yellow, or white with a purple-black throat.

The idea of an interesting vine returning each year without special attention seems attractive. The plant growing successfully in Tombstone has a southern exposure with a somewhat protected location. A lady at the local library said in the midwest black-eyed Susans are not vines. And, sure enough, *Thunbergia* is the vine type and the genus she was familiar with was probably *Rudbeckia hirta*. Park Seed carries a *Thunbergia alata* "Susie" and there are other *Thunbergia* available in various colors.

If you have had local success with *Thunbergia*, let's compare notes. This seems like a little known plant in our area which could be a welcome addition to gardens.

Robert E. Call

Robert E. Call  
Extension Agent,  
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## SPINACH: COMMON GARDEN HERB

Judy Wade  
Staff Writer

Spinach (*Spinacia oleracea*) an herb? Yes! It's an annual herb. It spread from Southwest Asia where it was used by the Persians as a medicine. Spinach has been around European vegetable gardens since the 11th or 12th centuries. Belonging to the goosefoot family (chemopodiaceae) its relatives include beets, swiss chard, and lamb's quarters.

If you missed last winter's planting, you may want to try a New Zealand hot weather variety (*Tretagonia expansa*) until fall. The reason for a hot weather variety is because heat makes true spinach bolt (go to seed) quickly. *Tretagonia* is not a true spinach, but does nicely as a stand-in. This variety has large hard seeds, so prick and soak them before planting.

Along the way to maturity leaf miners, aphids, downy mildew (blue mold) and white rust can attack the young plants. Companion planting with strawberries can help strengthen the spinach, while using henbit, nasturtium, pot marigold, pyrethrum and spearmint, to name a few, will help protect against "critters".

As always, fresh and raw is the best way to get the high quality protein, vitamins, and minerals. Not just good for your body, its saponin content makes it ideal for tilling into your garden.

Still have a spinach-hater in your house? You might let them know spinach has been used as an aphrodisiac by the Chinese - especially where verility is expected. The Chinese recipe calls for frying the leaves in hot oil and salt. Since frying and salt are frowned upon - try cooking spinach with lettuce to sweeten it.

Staff:

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Articles to be published in next month's newsletter must be received at the Sierra Vista Cooperative Extension Office by May 22.

## MAY REMINDERS

BEGIN DEEP WATERING  
PLANT WARM SEASON CROPS  
CONTROL WEEDS

*Controlling Weeds*  
CHECK TREE TIES  
CONTROL PESTS



A complete packet of "What-to-do" columns is available in the Sierra Vista Cooperative Extension Office as well as the pamphlet listed in parenthesis, if you need to consult them.

## SAVE THE IRONWOOD!

Elizabeth Riordan  
Staff Writer

Desert ironwood (*Olneya tesota*), or palo fierro as it is known in Mexico, is a special tree found naturally growing only in the Sonoran Desert of Arizona, Sonora, and Baja California. This slow growing evergreen tree may live for up to 800 years if not harvested for tourist wood carvings, "mesquite charcoal", or if not cleared from grazing land.

In the wild, the ironwood is especially valuable. Its roots stabilize wash banks, and since it is a legume, it provides nitrogen for surrounding foliage. The ironwood is one of the desert's "nurse plants". It provides a shady, sheltered area for more fragile plants such as the cereus and acuna cacti and the Tumamoc globe-berry. So, as the desert ironwood disappears, so other species will follow.

Desert animals also need the ironwood. It is a shelter for quail, javelina, deer, and migrating birds. Its seeds are edible and taste somewhat like peanuts.

In desert landscaping the ironwood is also a valuable tree. It is not for cold desert areas, as its foliage will be damaged when the temperatures go down to the low 20's. But, elsewhere its tiny, mesquite-like gray-green evergreen leaves provide dense shade. In the spring it produces many pea-like lavender flowers, but seems to have non-allergenic pollen. Its sharp thorns require that the tree be pruned above head height, and be planted away from walkways. It is easily transplanted and doesn't need water if it is planted in deep soil. The ironwood will grow at a moderate rate if it is irrigated along with the other garden plants.

## BASICS OF DRIP IRRIGATION

Robert E. Call

Extension Agent, Horticulture

Irrigation in the arid desert is essential for growing plants that are not adapted to this region. Water is a precious resource. Home gardeners and commercial growers are using more technical methods of irrigation. Drip irrigation is the most productive form of irrigation yet devised, reaching 95% efficiency. Drip irrigation is the frequent, slow application of water to the soil or growing media into the plant root zone, drop by drop. Drip had its beginnings in the United States with much of the current technology developed in Israel.

A drip irrigation systems has three components: 1) the head, which includes the water source, system control valve, filter and pressure regulator; 2) distribution system; and 3) the emitters.

The head has three elements, the first being a water source with a valve. The valve could be a hose bib, manually operated valve or an electronic valve connected to a time clock. The second element is a filter which removes fine particles from the water stream so that the small openings on drip emitters will not plug. The filter system can be a simple in-line 120 wire mesh screen type or as complex as a sand filter similar to those used for filtering swimming pool water. The third element is a pressure regulator which will reduce the pressure down to the operating pressure needed by the emitters. City water systems normally have water pressure in the 25 to 60 psi range. Drip systems normally operate on pressures under 25 psi.

The distribution system consists of pipes that form main and lateral supply lines that carry the water to the target area to be watered. The most common pipe used for home gardens and landscapes is made from

white PVC or black polyethylene materials. Various connectors are used to adapt the pipe to the emitters.

The emitters are the last and perhaps the most important component of the drip system and insures that plants receive the desired amount of water. There are many different emitter designs but they can be placed in three general categories: 1) point source; 2) linear; and 3) microsprays. Point source emitters are those that are exactly placed. These include a simple opening that delivers the desired amount of water and are the least expensive. Laminar flow emitters are designed to have a "maze" through which the water flows and then released through a larger opening. The "maze" causes turbulence which prevents particles from blocking the emitter opening. Diaphragm or compensating emitters are also available which adjust internal pressure and therefore external output. These allow for the same distribution pattern over uneven terrain or long lateral runs. Many also flush at the beginning and end of each irrigation. These are installed as needed usually by punching a small hole in the tubing and then inserting the emitter. Mistakes can be corrected by putting a "goof plug" in the unwanted hole. Linear emitters are placed by the manufacturer in tubing at pre-set spacings and are difficult to change. The emitters in linear tubing can be simple openings, laminar flow, pressure compensating or others. This type of tubing is generally used where rows of plants are established. The length of the tube is determined by the installer and is cut off of the roll of tubing and attached to the lateral line and the ends are plugged. Microspray emitters spray a fine stream of water. These can be installed on tubing or placed on stands above the ground to spray an area. There are many designs of microsprays, some with moving parts, others with fixed openings. Moving parts have a tendency to wear out and fails

over time. Emitters can also be connected to the distribution system by 1/4th or 1/8th inch tubing called "spaghetti tubing". Several "spaghetti tubes" can be connected to a multi-emitter which is connected to just one point on the distribution tubing.

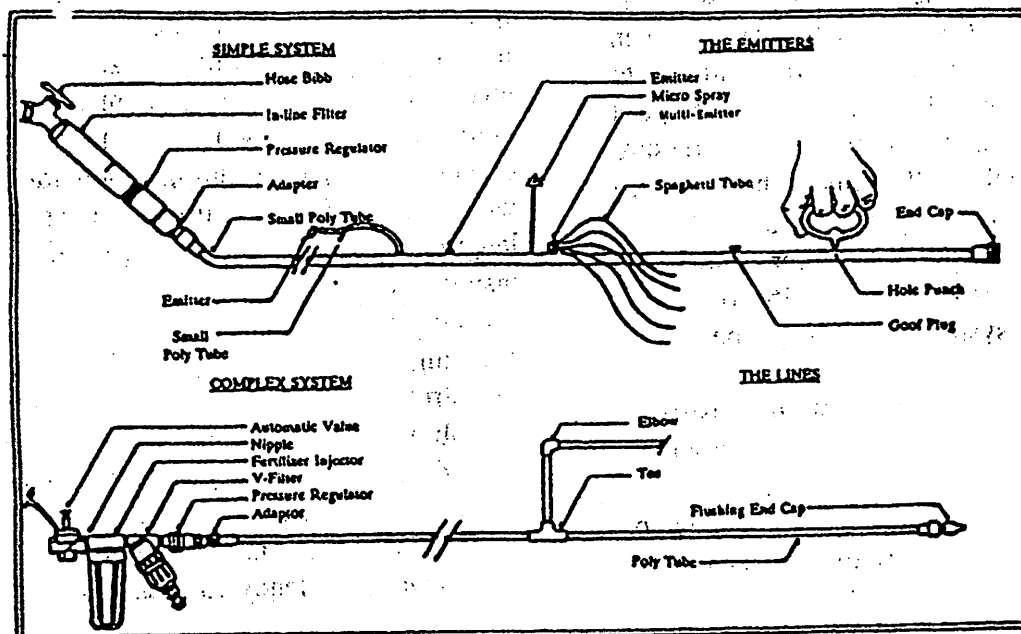
An irrigation system should be engineered backwards. This means that the water requirements of the plants must be known and the resulting design should be sized to deliver the needed water. A determination of how much water is available is also needed. To measure the flow rate use a one or five gallon bucket to catch the water and time how long it took to fill up. To calculate the flow rate divide the amount of water caught by the time it took to catch it. If a pressure gauge is available the water pressure can be determined. This is the total potential capacity that the system or zone of a system can have in terms of gallons per minute. Of course with the use of valves many zones of a system can be run in sequence, but only one zone at a time. The drip system is designed between these two points; namely the water available and the water the plants require.

There are some drawbacks to drip irrigation, however. The initial cost of a system can be more than a convention system, but the watering efficiency will more than make up for its cost over time. A drip system does take some management, i.e. plugged emitters, salt build-up, broken distribution lines, etc., and if not monitored can result in plant loss. Another disadvantage is if one gets behind irrigating it may be difficult to "play catch-up".

Designing a drip irrigation system is a fun and rewarding activity. Many installations can be completed on a weekend and provide worry-free irrigation for an entire garden, orchard, or landscape.

Anyone interested in further information on drip irrigation should contact the Sierra Vista Office at 458-1104 or the Willcox Office at 384-3594. If there are enough people wanting to design their own irrigation system, a short class could be scheduled. Please call and leave your name and phone number if you are interested so a course can be organized.

## THE BASICS OF DRIP IRRIGATION



## WHAT'S BUGGING YOU<sup>©</sup>

by T. J. Martin

### SOWBUGS AND PILLBUGS IN THE HOUSE AND GARDEN

**COMMON NAME:** Sowbugs, Pillbugs or Wood Louse.

**SCIENTIFIC NAME:** Class: Crustacea, Order: Isopoda

**DESCRIPTION:** These cousins of the shrimp and lobster look a bit like short, flattened, and armored caterpillars. The adults grow to about 3/4 of an inch long and about 1/3 as wide. They have seven sets of short legs and are covered with body-width overlapping scales. They have antennae and are usually brown or gray in color. The pillbug has the habit of rolling up into a ball when disturbed, hence its name. The immatures resemble the adults and the eggs are deposited in the soil. They are nocturnal.

**HOST PLANTS:** Usually sowbugs and pillbugs are found in decaying material such as compost piles, rotting wood and other debris. A problem may occur if they feed too heavily on plant roots or tender new growth in your garden.

**TIME OF YEAR:** Pretty much any time in warm climates such as ours.

**WHAT TO LOOK FOR:** These crustaceans can be found when you turn over your compost pile or under boards, old pots and other debris laying on moist ground. Sometimes they will find their way into human dwellings by way of cracks and crevices in the foundation or around doors. They will usually hide next to a wall in a moist place such as bathroom or kitchen.

**PROBLEMS AND DAMAGE:** Sowbugs and pillbugs perform a valuable service by turning decaying plant matter into useful soil nutrients. It is only when they appear in large numbers and start feeding heavily on plant roots and sprouts that they cause real problems. Greenhouses without natural predators are particularly vulnerable.

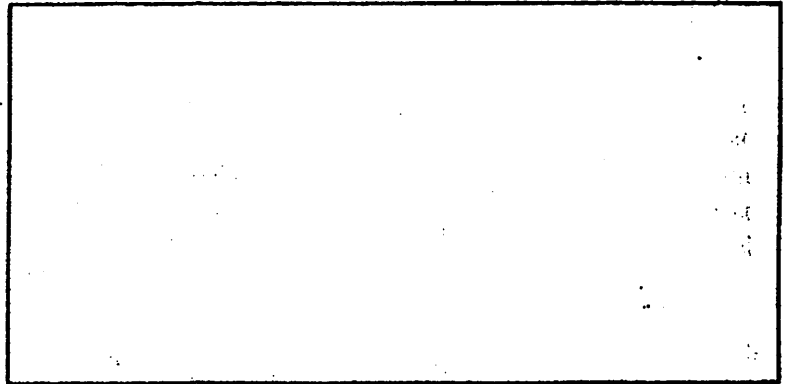
**CULTURAL CONTROLS:** Cleaning up the area of debris will take care of a lot of problems. They will hide anywhere where it is moist, dark, and hidden from predators. (Look under stones, boards, bar, etc.) Screen your compost before putting it into the garden and remove any critters you find there.

**COMPANION PLANTING AND REPELLENTS:** A sprinkling of lime may repel them.

**TRAPS:** Place a board of clay pot on a moist area of the garden. Wait a day or two and then pick it up during the day and scoop up any crustaceans that are hiding there. It might help to "bait" the trap with a slice of potato or apple or some lettuce or spinach leaves.

**MECHANICAL CONTROLS:** Handpicking works fine. Sweeping is okay if they are in your home.

Address correction requested



**NATURAL CONTROLS:** Toads love 'em and are more efficient at finding them than birds or reptiles.

**BIOLOGICAL INSECTICIDES:** None

**CHEMICAL CONTROLS:** Please consult the Agricultural Extension Agent or a Master Gardener Volunteer for current recommendations. Phone 458-1104 in Sierra Vista or 384-3594 in Willcox. Whatever you use, **FOLLOW THE LABEL DIRECTIONS EXACTLY** and take the necessary precautions to protect yourself, other humans, non-target animals and the environment.



**SOWBUG**



**PILLBUG**



**ROLLED UP PILLBUG**

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