COOPERATIVE EXTENSION

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the Cochise County Master Gardener

NEWSLETTER

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UNIVERSITY OF ARIZONA

MESQUITE

Barbara Kishbaugh
Staff Writer

Mesquite serves many purposes in the high desert. Its form and texture make it a desirable landscaping plant. It is readily available, adapted, and requires only the water nature provides. However, if supplied with extra moisture, it will grow faster, stronger, and fuller.

Mesquite can grow quite tall—a fine specimen is on the highway towards Tucson between Huachuca City and Whetstone. The City of Sierra Vista has trimmed and manicured mesquites in Veterans Memorial Park. These gnarly mesquite limbs support narrow leaf structures which offer a bit of shade to the many visitors who enjoy the oasis of the park. The mottled shade offers relief from the sun, the leaves usually moving gently with a light breeze.

The wood is dense and has a fine grain with reddish hues prized by southwestern furniture makers. This density also makes it a desired slow burning wood for fireplaces. Its distinctive aroma used on an outside grill flavors food with a unique difference. Mesquite chips are packaged in Tucson and sold nationally for this flavor producing characteristic. Many local mesquite trees contain dead limb segments traced to a major freeze several years ago. This dead wood can be distinguished from living limbs and removed during the summer when the live limbs are leafed out.

Mesquite is an important browse feed for game. It is also used for nesting birds and the soft soil beneath the trees hide small game and insects. The limbs are used in fencing and corrals and the inner bark in some Indian woven products.

The beans were used by the first Americans in the making of a flour base called pinole (see related article elsewhere in this newsletter).

(Continued on next page)

Robert E. Call

Robert E. Call
Extension Agent,
Horticulture

The seed pods of mesquite are edible and taste sweeter when they are slightly red. The seeds are encased in a hard container which is compressed between each individual seed in the pod. Screwbean mesquite is easily recognized by its twisted seed pod.

Mesquite can be started easily from seed and quite a number of seedlings will be noticed around mature mesquite stands. The soil beneath the mesquite trees is light, rich in compost, and perfect for the germination of seeds. Seedlings do not transplant to a new location with much success. Planting the seeds in a container and waiting until they achieve some mass will assure more success when transplanting.

Once a tree has established, it is difficult to remove since the root stock travels to extensive lengths. If you cut it off, it will come back, its branches growing closer to the ground, sort of like they're hoping not to be noticed and clipped back again. Mesquites will reclaim a cleared field in a matter of a few years making it unpopular with cattle growers. In a mature mesquite area, the cows eat the mesquite beans, a welcome substitute for sparse grass.

It is difficult to classify mesquites since they hybrid easily and distinguishing characteristics are not simply identified. Nurseries stock Chilean and Argentine mesquite. The Chilean mesquite can be an evergreen in a mild climate.

The mesquite will have a dwarf, bushy appearance in some areas where water is not readily available, but give it water and a subtle beauty will emerge giving gentle grace to a high desert landscape.

The Desert Legume Program lists the following mesquite varieties:

Argentine: Semi-evergreen, 30-50 ft high and 30-50 ft spread. Hardiness: 10-15°, fast growth rate.

Chilean: Semi-evergreen, 20-40 ft high and 30-50 ft spread. Hardiness: 10-15°, fast growth rate.

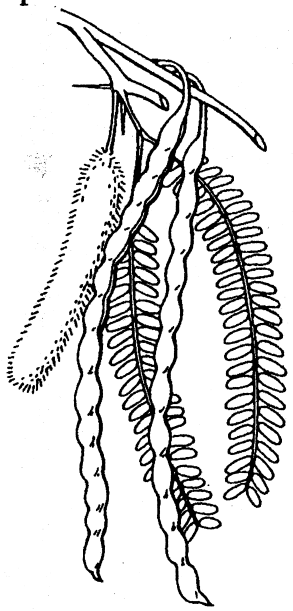
Texas Honey: Deciduous, 15-30 ft high and 20-40 ft spread. Hardiness: -10°, fast growth rate.

Western Honey: Deciduous, 10-15 ft high and 15-30 ft spread. Hardiness: -10°, fast growth rate.

Screwbean: Deciduous, 10-20 ft high and spread. Hardiness: 0°, moderate to fast growth rate.

Velvet: Deciduous, 15-30 ft high and 20-40 ft spread. Hardiness: 5°, moderate growth rate.

A copy of *Mesquites in the Landscape* may be obtained from the Cooperative Extension offices.



Mesquite flowers, seeds, leaves

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MESQUITE BEANS: HOW TO MAKE MESQUITE FLOUR

Mesquite pod flour adds flavor and sweetness to many foods. Try substituting it for up to 1/2 the flour in bread, cake and cookie recipes. Here's how to make it:

Collect the ripe bean pods using a small rake to pull down the branches so you can reach the beans. Ripe beans are tan or streaked with red, crisp and sweet to the taste. (Taste the beans from each tree because some are sweeter than others.) Break the beans into your blender and grind for about 15 seconds. Sift out the seeds and fibers and store the flour in an air-tight container. For finer flour, sift again through a sieve. If you wish to store the bean pods, keep them in the freezer or heat them at 150 degrees for 3 hours to kill the beetle larva inside the seeds.

—From *The Desert Botanical Garden Trail Book*

WHAT'S BUGGING YOU

by T.J. Martin

THE SQUASH VINE BORER

COMMON NAME: Squash Vine Borer

SCIENTIFIC NAME: *Melittia satyriniformis*

DESCRIPTION: ADULTS - The adults are wasp-like moths, 1 to 1 1\2 inches with orange/red and black bodies and black dots or stripes on the abdomen. The forewings are a coppery-green, the hindwings are transparent and the hind legs have a red/orange fringe.

EGGS - The flat, oval brown eggs are laid singly on the plant stems.

*LARVAE - The larvae of this moth is a fat, bumpy-looking white hairless caterpillar about 1 inch in length when mature. It will have a medium to dark brown head and tiny legs near the front.

PUPAE - The pupae can be found in a cocoon about 1 inch under the surface of the soil.

LIFE CYCLE: In late spring or early summer, the adult moth lays her eggs one- by-one along the stem of the host plant. The young borers hatch in 1 to 2 weeks and immediately burrow into the stem and start feeding on the "pith", the inside layers of the stem. This is the most destructive phase. As the larvae grows to maturity, it eats it's way through the middle of the stem causing the stem and leaves to wilt and die. When it is fully mature (4-6 weeks), it will burrow back out of the stem, drop to the soil and pupate. In our long summers there is often enough time for this generation to grow to adulthood, emerge from the cocoon and start the cycle over again. For the generation of larvae that mature in the fall, they will overwinter in the soil in either the caterpillar or pupal state.

HOST PLANTS: Squash plants of all kinds are susceptible including the summer, winter and gourd types. Also at risk are cucumbers and melons.

TIME OF YEAR: From early summer through late fall. As long as the vines will grow, the borers will feed on them. (Approx. June-October in Sierra Vista.)

WHAT TO LOOK FOR: Your first clue of trouble ahead will often be to walk out to your garden and find one or more of your previously-healthy squash vines looking wilted and almost dead. No amount of supplementary watering seems to make a difference. If you look closely at the vine, especially near the base of the stems, you may notice a small pile of greenish or yellowish-white "sawdust" surrounding a hole in the stem. This "sawdust" is the excrement of the borer inside the stem. If you have had problems in the past you might be on the lookout for the rather distinctive-looking adults flying around in the spring. A scan of the stems on your growing plants can show you the single flat, oval brown eggs she has laid. Hand-pick any of these you may find.

PROBLEMS AND DAMAGE: While the larvae is happily chewing away it is destroying the nutrient and water delivery system of your plant. That vine will be too weak to produce fruit and will probably even die. If enough of the vines are destroyed, the entire plant may die.

CULTURAL CONTROLS: Timed plantings, either early or late, may avoid most of the initial egg laying females. There are a couple of varieties of squash that claim resistance to the Vine Borer, Butternut is the most mentioned. Cleaning up and HOT composting or throwing away of any wilted or dead vines will destroy any larvae still growing inside. A good fall clean-up to clear the debris and tilling the soil to 6-8 inches will go a long way toward reducing next year's borer crop. Another tilling in the early spring can expose any remaining larvae or pupae to birds or reptiles looking for lunch.

Encourage your plants to branch by pinching back the growth early in the season. Mound soil over the vine at intervals to encourage root growth at leaf nodes. This way, if a borer does get part of the plant, the remainder has a better chance of survival.

TRAP PLANTS: You might try planting just one single squash plant, waiting until it shows signs of severe infestation and then pulling it up and destroying it. This might do away with most of the local population and clear the way for a later planting.

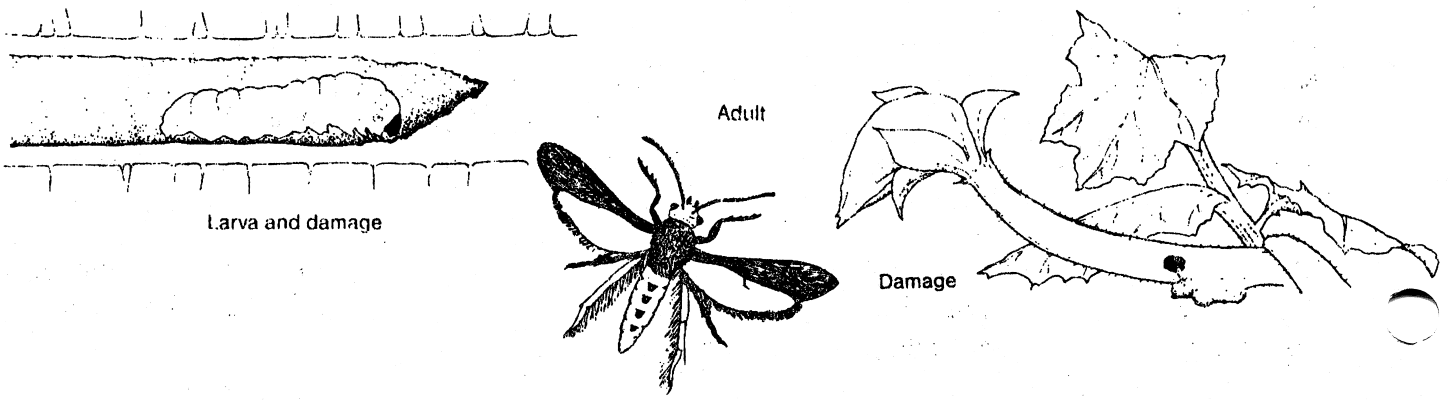
MECHANICAL CONTROLS: For the unsqueamish, you can take a piece of wire and carefully run it up the inside of the stem until you hit resistance and then skewer the little pest that is causing the trouble. Another option is to CAREFULLY slit the affected vine lengthwise until you find the culprit then remove and destroy it. The vine itself may be saved by piling soil or compost around the slit area. Keeping this area moist may encourage the plant to put out roots there if the rest of the plant is in good condition.

As a preventive measure, cover your vining plants with agricultural fleece early in the season to prevent the adult from laying her eggs. Others have reported success in preventing egg laying by wrapping the vines in foil or nylon stocking pieces up to the flowers. Naphthaline mothballs are reported to be a repellent and Diatomaceous Earth sprinkled around the base of the plant will be a barrier to the crawling larvae.

NATURAL CONTROLS: Beneficial nematodes in a liquid solution can be injected into the vines to kill the larvae.

BIOLOGICAL INSECTICIDES: There has been some limited success reported in spraying young plants with Bt to try and catch the newly hatched larvae as they bored into the plant. Otherwise you can try injecting Bt directly into the stems above the borer's hole to try and kill the hidden larvae. Rotenone can also be dusted or sprayed on the plants near the bases.

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 LABEL DIRECTIONS EXACTLY and take the necessary precautions to protect yourself, other humans, non-target animals and the environment.



THE AGENT'S CORNER

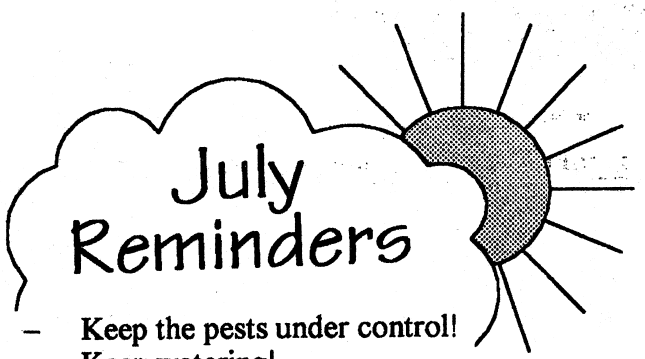
Robert E. Call
Horticulture Agent

QUESTION: I have strawberry, raspberry and grapes that were growing well but now have leaves that are drying up around the edges and in the middle of the leaves. I water every day for five to ten minutes with overhead sprinklers that are on a timer clock. Do these plants have a disease?

ANSWER: Your plants are not getting enough water for two reasons. The first is that water volume and watering duration are not adequate. The second is that as you water, salts in the water are added to the soil in addition to natural salts that are native to our desert soils. These salts, in part, are sodium, carbonates, calcium, chlorine, and perhaps some heavy metals. To correct the problem start watering every other day for a half hour then check the water penetration depth using a soil probe or long screwdriver. If they go in an inch or two in the ground then you need to water. If it goes in a foot or two don't water. Once a month or so a deep watering is needed to leach out salts causing them to pass the root zone. The drying of the leaf edges is caused by the plant taking up salts through the root system which are then conducted up to the leaves. The leaf cells "pump" out water into the "saltier" intercellular spaces so that equilibrium is reached between salts within and without of the cell. This removal of water from leaf cells causes the drying that you see.

QUESTION: Why don't I have any summer squash being produced? There were some fruits early on in the season but now there are just vines and flowers growing. Also, my tomatoes are not producing and some that have had fruit are cracked. What can I do?

ANSWER: With hot weather, pollen of some plants becomes less viable and does not pollinate, therefore fruit does not form. When the hot weather stops fruit will set again. This is also true for tomatoes, bell peppers, chili peppers, and some members of the squash family. Tomatoes will crack from hot weather and irregular watering. The biggest factor causing tomatoes to crack is the variety genetics. If a variety description list the tomato as crack resistant it will probably not crack. A crack resist tomato variety is "Mountain Pride."



- Keep the pests under control!
- Keep watering!
- You can still plant something!

BEWARE OF MESQUITE TWIG GIRDLERS

T.J. Martin
Staff Writer

If you are the proud owner of one or more mesquite trees in our area, you may notice a greater-than-normal amount of debris under your trees this time of year. If so, you may be the host to an interesting beetle called the Mesquite Twig Girdler. The mama beetle chooses a likely looking tree and lays her eggs in the bark near the tips of the branches. Then she backs down the limb a bit and proceeds to "girdle" or chew a line all the way around the branch. This has the ultimate effect of killing the end of that branch and usually it will fall to the ground under the tree. Meanwhile, back in the twig, the beetle eggs hatch and the larvae feed on the branch.

When you find these branches or observe them hanging from the tips of the tree limb, there really isn't much you can do to save them, the damage has already been done. But you CAN do a lot to prevent this from happening next year. Gather all the twigs and small limbs from the area and destroy them. If there are any limb ends just hanging from the tree, cut them off below the damaged area and destroy them also. This will have an effect by destroying the larvae in the twigs and thus reducing next year's crop of beetles. Be sure to get them all because any that are left behind will simply overwinter in the debris and become egg- laying adults on your trees next year.

COOPERATIVE EXTENSION
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Current Produce Availability Message: (602) 384-3262