

## GOURD PESTS

by

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As with most all growing plants, a variety of “problems” crop up from time to time from various gourd insect and disease pests. They include: Cucumber Beetles, Aphids, Squash Bugs, Corn Earworms and Plant Diseases.

### CUCUMBER BEETLES

If you have grown any cucurbit vegetables within the past year or two, you probably have seen cucumber beetles feeding on them. If you haven’t grown cucumbers, pumpkins, cantaloupes, watermelons or some other cucurbit, perhaps the beetles just came over for a visit from a neighbor who does. Regardless of how you got them, cucumber beetles can be devastating to young gourd seedlings just emerging from the ground.

There are two species of cucumber beetles prevalent in Alabama, striped and spotted. In my area, the striped is more common, but it really doesn’t make any difference if you have either one, or both. They do the same damage.

Cucumber beetles overwinter in the adult stage and emerge with the warm days of spring. They are skulking about, feeding on weeds, and just waiting to pounce on the first little seedling heads to emerge from the soil. A heavy infestation of cucumber beetles can destroy the seedlings overnight. I’m always watching for the first cracks to appear in the soil over my seeds indicating new life is about to emerge. It’s at that time I apply my first pesticide. If you’re not into chemical pesticides, there may be some organic solutions as well.

Once your gourd plants get past the first couple of weeks, shed their dicotyledons and begin to put out their first true leaves, they are pretty much past **permanent** structural damage from cucumber beetles. However, the beetles continue to feed on the tender leaves and stems. You will find them on the plants and young gourds throughout the season, even on drying gourds in the fall, and, it’s possible that their continued feeding can spread some diseases.

A note of caution here; when the gourd vines begin to bloom, all but selective pesticide treatment for insect control is pretty much eliminated due to the pollination requirement for gourds to “set” and mature. It’s possible that cucumber beetles even aid in pollination, as they are often found feeding on pollen in the male blossoms, but that is a debatable question among some gourd “experts”.

For more information on identifying and controlling cucumber beetles, go to the Internet, type in Alabama IPM Info Center, click on Alabama ipm: home page, then on vegetables/cucurbits and then on Management of Cucumber Beetles and Bacterial Wilt of Cucurbits. Also, your local County Farm Service Agency may have some brochures.

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## APHIDS

About 2004 or 2005, I noticed a significant buildup of aphids in my long handle dipper arbors. I knew they were piercing sucking insects and were taking nutrients from my leaves and vines, but the gourds seemed to be doing OK, so I wasn't overly concerned about it. In 2007, I learned that I SHOULD have been HIGHLY concerned!

I first recognized a problem when three young gourd vines in one of my arbors began to show deformed leaves. Again, I wasn't overly concerned but did look through a book on cucurbit diseases that I had obtained several years earlier.

The deformed leaves looked somewhat similar to the pictures of various mosaic viruses, but they also looked similar to the deformed leaves on a couple of my tomato plants that had developed blossom end rot. So, I sprayed the vines with calcium and waited a couple of weeks for that to solve the problem.

As the days passed, not only did the three vines not get better, I began to notice adjacent vines were beginning to show the same symptoms. That's when I began to think that I might have a SERIOUS problem! So, I collected some leaf samples and mailed them to the Plant Diagnostic Lab at Auburn.

Within a few days, I had the bad news; I was infected with **Watermelon Mosaic Virus # 2!** The bad news continued with the statement that there wasn't much I could do about it except to destroy the infected vines and control the aphids.

It seems that once the virus showed up and the aphids sucked up some of the juices, they immediately spread it to the next plant they fed on. And each feeding aphid had the capability of spreading it!

By then, every vine in about half of one arbor was infected! As you can imagine, it's pretty difficult to pull up 30 or 40 long handle dipper vines that you have "mothered" along until they stretched up over the top of the arbor and had little gourds hanging down, some with knots and spirals already tied; but I did it.

However, I did balk at pulling up infected vines in other arbors and my field gourds. I just thought, "I can't destroy my whole gourd crop over this!" Instead, I "went to war" with those little buggers! And I **WON** that battle! They didn't spread any more viruses, but much damage had already been done.

To shorten a long story, on vines that were not infected by the virus, I did grow some excellent long handle dipper gourds in 2007! Vines that were infected produced some gourds also, but they were deformed and ugly. I didn't even try to sell them.

If there is any good news to all this, Auburn informed me that there is no evidence that the Watermelon Virus # 2 persists in the soil or seeds! I was concerned that I had a disease that would come back every year. And it still may show up, but from now on, you can bet I'll be after the first aphid that shows it's ugly little head!

For more information, go to the Internet, type in Aphids and then click on Aphids I University of Kentucky Entomology. The article should come up immediately. Your local County Farm Service Agency may have some bulletins also.

## SQUASH BUGS

Squash bugs are sometimes confused with stinkbugs. While belonging to the same family of insects, squash bugs and stinkbugs are NOT one and the same. One easy method of identification is to observe the speed with which they react to your presence. If you start to touch one and it immediately “falls” from its perch and flies away, it’s probably a squash bug. If it seems to ignore you and slowly ambles on its way, it’s probably a stinkbug. Both insects can emit a stinky odor as a defense mechanism.

While stinkbugs can produce some damage with their piercing mouthparts, you don’t generally find them by the dozens as you do with the squash bugs in the nymphal stage. Therefore, it’s the squash bugs that really “bug” me when I see them blissfully feeding on my gourd vines and gourds.

They are most obvious in my arbors as I walk through them tying knots and spirals and generally spending hours working there every day from about mid-June until the first of August. Since I hand pollinate most of my arbor gourds (a subject I deal with in another article), I can apply insecticides on an “as needed” basis without worrying that my gourds won’t be pollinated. And I do just that when I see the little buggers having a picnic on my gourds.

Squash bugs can do some physical damage as they puncture leaves, stems and gourds and suck up the sap. At the same time, they inject a toxic substance into the plants, which can cause a wilting known as Anasa wilt of cucurbits.

After wilting, vines turn black and crisp, and become brittle. Small plants may be killed entirely.

For more information on squash bugs, go to the Internet, type in Squash Bug and then click on Squash Bug HYG-2141-88. Your local County Farm Service Agency may have a bulletin also.

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## CORN EARWORMS

Perhaps you are wondering why an article under the heading of “gourd pests” is about **corn** earworms. Well, the corn earworm does not confine itself to just feeding on corn. It will feed on many different plants, and when it comes to the disfiguring of a gourd, the corn earworm probably does more actual esthetic damage than any other insect I have encountered.

The larval stage is what does the damage, and a single worm can chew a destructive path along several inches of a young gourd overnight.

While corn earworms are usually found individually, or maybe in pairs, they have a voracious appetite and literally eat their way along, chewing through the outer skin and into the gourd shell. This is what’s so discouraging to me, especially in my arbors where I take pride in having little or no insect damage on my gourds. Once the shell has been damaged, the gourd cannot repair itself and the damage is permanent.

This damage does not render the gourd unusable. In fact, some gourd artists take pride in turning any defect into the overall character of their creation. To me, however, corn earworm damage is a “turnoff” because I know what caused it, and in the case of my arbor gourds, could have been prevented had I been a little more observant.

For more information on corn earworms, go to the Internet, type in Corn Earworm and click on Corn Earworm (also called Bollworm and Tomato Fruitworm). The article should come up immediately. Your local County Farm Service Agency may have a bulletin also.

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## POLLINATION

While pollination, or lack of it, is not a gourd pest, next to seed germination and vine growth, it is the most essential part of growing gourds. Thus, I felt it important to share a little information about it.

Although I grew up on a mountain farm in NE Jackson County, AL, I knew nothing about gourds. My dad didn't grow them and I had never been around anyone who did. Consequently, my first effort was to plant two short rows in the middle of my vegetable garden. As you can imagine, by July, gourd vines were the only things visible.

Since then, I have learned a few things about growing gourds, much of it by trial and error—mostly error, I guess.

One of the things I did learn from that “Grand Old Man” of the gourd world, Mr. Jim Story, was that for a gourd to grow into maturity, it must be pollinated.

During my first couple of years of growing gourds, I noticed a lot of blooms but not many gourds. In looking closer, I found a lot of small gourds that were turning black and would eventually fall off. When I finally mentioned it to Jim, he said, “It’s probably poor pollination. You should try hand pollinating.”

Here is a short course on hand pollination:

First, hardshell gourds are mostly night bloomers. That means that the blossoms will open in late afternoon, stay open all night and close up in the morning hours after daylight

It’s important to note that most of the blossoms you see are male, not female, and will not (can not) produce a gourd. You can tell the difference by looking for the presence of a tiny gourd on which the female blossom is attached. If there is no gourd, it’s a boy!

Once you know the difference, there are a couple of ways to do the hand pollinating; take a small paint brush (the kind artists use), dip it in a male blossom to get the pollen, and then swish it around in the female blossom. This is probably the easiest way to do it.

Or—you can remove the male blossom from the vine, peel off the petals and cup from around the stamen, peel the petals off the female blossom, and then rub the male over the female. This method is more precise if you’re trying to keep a variety “true” (and that’s a subject for another article). Regardless of the method you use, it’s best to use two or three males per female to insure good pollination.

Quite often I hear someone say; “I thought insects were supposed to do the pollinating!” Well, they are. But remember, most hardshell gourds are night bloomers. That means day feeding insects; as they scurry about searching for pollen, have only a few hours in late evening and early morning in which to

do the pollinating. And, if you've made the mistake of applying a pesticide to your gourds any time after they started blooming, you cut the insect pollination even more. While there are night feeding insects that do pollinate, sometimes they just don't do a very good job.

For more information on plant biology, go to the Internet and type in Biology of Plants: Pollination. The article should come right up. Your local Farm Service Agency may have some bulletins also.

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## DISEASES

With their huge leaves and thick vines, gourds are ideal plants for diseases. And, there are many that can attack your gourds, creating stress and possible early death of the vines.

My first experience with cucurbit diseases occurred in 1989 when I tried to grow some of those "huge" pumpkins you see advertised in the seed catalogs. My attempt was a complete failure as all the pumpkins rotted.

In 1990, I planted my first two short rows of gourds and my pumpkin disease problems carried over to the gourds, though not nearly as bad. Even now, I just can't seem to keep my vines healthy for an entire growing season. Oh, I grow some pretty good gourds, but there are always way too many that rot in the field or have shells so thin I don't even harvest them.

Gummy stem blight was the first serious plant disease that I became aware of. It attacks the leaves and vines causing the infected vines to die, and can eventually kill the entire plant. I still have a problem with it.

Other common diseases of cucurbits include downy and powdery mildew, anthracnose, bacterial wilt, wet rot, mosaic viruses and fusarium wilt.

Cool, damp weather in early spring sets the stage for many of the common diseases. Even during a hot, dry summer, some diseases, such as the mildews, can flourish in the high humidity we have in Alabama.

Unfortunately, short of a thorough preventative fungicide application program throughout the growing season, there is not much you can do to prevent diseases in your gourds. And for most gourd growers, that is not cost effective.

Crop rotation, along with good cleanup of the previous year's refuse (vines, weeds, and non-useable gourds), will help some. Air circulation through a trellis or arbor helps also. If you irrigate, a soaker hose or drip system is better than a sprinkler as it keeps most of the water off the leaves and vines. If you do sprinkle, do so in the morning hours so the vines can dry before nightfall. It's better to soak the soil two or three times per week rather than make a light application daily.

For more information on cucurbit diseases, go to the Internet, type in AL IPM Info Center, click on Alabama ipm: home page, then on Vegetables/Cucurbits. Your local County Farm Service Agency may have some bulletins also.