

WHY WOULD A PESTICIDE NOT WORK?

By Ralph E. Mitchell, Director/Horticulture Agent of Charlotte County Extension Service

Say that you have tried all of the suggested Integrated Pest Management (IPM) techniques available to you - cultural, biological, etc. - and nothing is working to suppress your particular insect pest or plant disease. We have one tool left to try - pesticides. Of course, when all else fails and we use a pesticide to control a certain pest, we want it to work. What's going on when a pesticide doesn't work? There are a number of things that could be happening including that you made an improper pest identification, you used an improper pesticide dosage, you applied the pesticide at the wrong time, the pesticide did not reach the pest, the environmental conditions were unfavorable, the pesticide was in poor condition, and/or some pesticide resistance may have developed. Let's take a look at these reasons and dig a little deeper into the causes.

If you do not properly identify the pest in question, the pesticide you select to control it will likely not work. Some examples of this might include mistaking the weed, wild Bermuda grass, for crabgrass. The crabgrass is an annual plant, while the Bermuda grass is considered a perennial. Control of these two very different weeds will require different herbicides. Some beneficial insects could also be mistakenly identified for pests and eliminated unnecessarily. Field guides, publications such as offered through our office as well as

UF/IFAS Master Gardeners and our Horticultural Staff can help provide accurate identification of a potential pest before you take action. Proper identification of a pest first is a crucial step.

Now that your pest has been accurately identified and there sufficient numbers to warrant a treatment, you use a pesticide and it still doesn't work! Perhaps your application equipment delivered the wrong dosage to the target pest. This is not an excuse to overdose which is against the law! Different pests may require different rates as described on the pesticide label - remember to read the label, the label is the law!

Oops! You applied a pesticide, but did not consider the proper timing when a pest may be most susceptible to the pesticide. A pesticide that may have been effective on a larvae, may not work on an adult. Is the pest still there? Maybe you applied a pesticide when the pest was already long gone. Or did you miss the window of opportunity and the damage is already done? As they say - timing is everything!

Some pests are so well protected and out of reach, that a pesticide never even makes contact. Some insects for example may be under a leaf, under bark or even protected in a plant stem. This may require something more sys-

TURFGRASS				
Apply the recommended rates using pressure-type equipment in sufficient spray volume for thorough coverage and thatch penetration.				
CROP	PEST		QUARTS OF SEVIN SL PER ACRE	
			SPECIFIC DIRECTIONS	
Turfgrass: golf turf, sports fields, domestic and commercial lawns, cemeteries, parks, campsites and recreational areas.	Ants	Lucerne moth	2 to 4	For Armyworm, Cutworm, and Fall Armyworm Control: Do not irrigate treated areas for 24 hrs. following insecticide application. For Green June Beetle Grub (larvae) Control: Make applications when grubs are feeding near the soil surface. Water or irrigate turfgrass soon after treatment. Repeat applications as necessary up to a total of 4 times per year but not more often than once every 7 days.
	Armyworm	Millipedes	(1 1/2 to 3 fl. oz per 1000 ft ²)	
	Centipedes	Mosquitoes (adults)		
	Chiggers	Scarab beetle adults		
	Cutworms	(such as May beetle,		
	Earwigs	June beetle,		
	Essex skipper	Japanese beetle,		
	European chafer	green June beetle)		
	Fall armyworm	Sowbugs		
	Fiery skipper	Spittlebugs		

Some labels recommend watering to move a product to the pest's location. CREDITS: CDMS

temic or some other strategy.

If the weather is uncooperative, a pesticide may not be very effective. Rain can wash off pesticides. Soil pH, hot temperatures, and wind can all prevent proper pesticide application or cause potential off-target illegal applications through drift.

Old pesticides are another reason that they could become ineffective. Pesticides that have been around for some time and been exposed to heat or moisture may no longer work. Old pesticides may even volatilize if the container is not tightly sealed. If you suspect that your pesticide is old and ineffective, bring it to the Mid County Mini-Transfer & Recycling Center for safe disposal.

Some pests can actually develop resistance to a pesticide. While not the most common reason that pesticides fail, it does occur from time to time. Resistance often develops when only a single pesticide is used over and over again. Surviving pest populations gradually build up a resistance and become dominant. By rotating pesticides or reducing the number of treatments, this issue may be avoided.

For reasons outlined in this article, pesticides sometimes become ineffective. Most involve human error which can be corrected by fully reading the pesticide label and accurately following the directions.

Resource:

Frederick, F.M. (2008) When a Pesticide Doesn't Work. UF/IFAS Extension Service.

For more information on all types of pesticide issues, please contact our Master Gardeners on the Plant Lifeline at 941.764.4340 from 1:00pm-4:00pm Mondays, Wednesdays, and Fridays. Our office is located at 25550 Harbor View Road, Suite 3, in Port Charlotte. Our Plant Clinics are available across the county:

- **Demonstration Garden** (6900 Florida Street, PG) Thursdays 9:00am-11:00am.
- **Englewood/Charlotte Public Library** Thursdays 10:00am-1:00pm.
- **Mid-County Regional Library** 1st and 3rd Thursday of month 1:00pm-3:00pm.
- **Edison College Learning Resources Library** 3rd Tuesday of month 1:00pm-4:00pm.

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For more information about our Florida Yards and Neighborhoods Program, please contact our FYN Horticulture Program Assistant, Allison Steele, at 941.764.4351. Allison can help educate you about the Florida Yards & Neighborhoods Program so that you can create a beautiful, Florida-Friendly landscape that saves you time and money while conserving precious water resources and reducing pollution.