

## ***Pest Management News***

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### ***Insects as Food!!!***

John D. Hopkins and Tamara Walkingstick

As a young boy, I remember seeing cans of chocolate covered ants and roasted grasshoppers in a local grocery store. My mom was not inclined to purchase such disgusting things just to satisfy my curiosity, and quite frankly, I was not too disappointed that those items remained on the store shelf. It was not until I was in school at the University of Arkansas in the early 1980's that Dr. Bill Yearian encouraged us to try eating bollworms. The "YUCK" factor was high but I gave it a try, and sure enough, boiled bollworms were not very good, to put it mildly. But...deep fried bollworms were something else entirely. They were delicious!!! They looked like "Cheetos" and tasted like fried pork rinds.

Entomophagy or the consumption of insects as food is a practice that can offer new forms of employment and income through gathering and farming insects and utilizing them as an almost inexhaustible animal and human food source.

Some of the benefits of raising and harvesting insects as a food source include: the fact that they require much less land than raising traditional livestock; they emit considerably fewer greenhouse gases than most livestock; and insects are very efficient in converting food into protein.

A U.N. Food and Agriculture Organization report released in 2013 indicated that there are more than 1,900 edible insect species on Earth, hundreds of which are already part of the diet in many countries. According to the report, some two billion people eat a wide variety of insects regularly, both cooked and raw; only in Western countries does the practice retain the, before mentioned, "YUCK" factor. This U.N. FAO report listed 36 African countries that are "entomophagous", 23 countries in the Americas, 29 in Asia, and 11 in Europe.

Today, start-up businesses across the globe have been producing low-cost forms of insect protein to supplement an ever-growing global need for livestock production and human consumption alike. The science of entomology has a great role to play in helping to fill nutritional short comings in the world today.

The "Food Insects Newsletter – Chronicle of a Changing Culture", was published by Gene DeFoliart, Florence Dunkel, and David Gracer from 1988 through 2000 and is an excellent source for articles on edible insects from all over the world, including instructions on raising insects, their nutritional

properties, recipes, medicinal uses, etc. A source for obtaining “The Food Insects Newsletter 1988 - 2000” and other publications on edible insects can be found through the link below:

[http://www.hollowtop.com/finl\\_html/finl.html](http://www.hollowtop.com/finl_html/finl.html)

Further sources on the subject can be found through Dr. Gene DeFoliart’s [“Insects as Food” Publications](#) List.

Tamara says “there are an abundance of recipes for insects” and offers two that were sampled during 4-H Forestry and Wildlife Camp several years ago. She says “The first one is actually not that strange: Crisp Rice Cereal treats with meal worms. All you do is toast a cup of meal worms and add them to your favorite cereal marshmallow treat recipe. The meal worms are clearly visible so I highly recommend that you use some chocolate flavored or otherwise dark colored cereal so you cannot see the creepy crawlers. A multi-color cereal would be good too although it might be too fruity.”

<http://www.instructables.com/id/Rice-Crispy-Critter-Treats/>

“Another recipe prepared during camp was battered and deep fried crickets served with three different topping options: powdered sugar, chocolate, or cocktail sauce. We cleaned the crickets by keeping them in sand for a couple of days. We then made our batter, dipped them, and fried them. We did not take off the legs. I discovered that legs can stick in your throat making you hack like a cat with a hairball for the rest of the day.”

“And here’s a recipe that I just can’t imagine trying: Deep Fried Green Tomato Hornworm Tacos.”

<https://www.thedailymeal.com/recipes/fried-green-tomato-hornworms-recipe>

“If you’ve ever snipped a hornworm in two you’ve seen the green ooze that pours out. Now imagine that deep fried. And not even battered. I’m sorry. I just can’t.”

“The most amazing article I found while searching was actually on a foodie site: Epicurious. Seriously. One of the highest rated foodie websites and they want me to eat deep fried tarantulas.”

<https://www.epicurious.com/recipes/food/views/deep-fried-tarantula-spider-51184810>

“The reviewer says that it tasted like chicken and you could even feel the crunch of the legs like it’s a good thing. Nope. I’m gonna stick to my plants.”

With all of the first hand experiences and links mentioned above, maybe you will be tempted to explore your adventurous side and try something very new or maybe you have already been eating insects and did not even realize it.

<https://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/SanitationTransportation/ucm056174.htm#intro>

## **Pumpkin Bacterial Spot of Pumpkin**

Sherrie E. Smith

Pumpkin Bacterial Spot of pumpkin, caused by the bacterium *Xanthomonas campestris* pv. *cucurbitae*, can be a serious disease of pumpkins, cucumbers, gourds, and squash. Yield losses in

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excess of 50% have been recorded in severely infested fields. Leaf symptoms appear as small, dark, angular lesions, with the centers of the lesions becoming translucent with age. However, the most damaging symptoms appear on the fruit. Fruit lesions begin as small, slightly sunken, circular spots, 1/16 to 1/18 inch in diameter. As the lesions enlarge the cuticle and epidermis crack. Larger lesions may have a scabby appearance with tan, raised blisters. Saprophytic fungi often colonize the older lesions, giving them a pinkish-white or green color depending on the species of saprophyte involved. The unsightliness of the lesions diminishes the marketability of the fruit as well as leading to significant rot in the field and in storage. The pathogen is seedborne and can also survive in crop residue. Bacterial spot is more of a problem during high temperatures coupled with rainy weather or overhead irrigation. Inoculum is splashed onto young fruit before it develops its protective waxy cuticle. Good sanitation and crop rotation with non-cucurbit crops helps limit inoculum in the field. Only clean seed should be used. Therefore it is advisable to not save seed from a previous crop. Copper fungicides may be applied during early formation and fruit expansion to protect developing fruit. Once bacterial lesions are observed on mature fruit there is nothing to be done except to practice ruthless culling of diseased fruit.

## Pumpkin Bacterial Spot Symptoms on Pumpkin



Photos by Richard Klerk



Photos by Sherrie Smith

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## **Name That Weed**

Bob Scott

This week's plant is not a weed most of the time, but instead a very desirable native plant. A perennial, it has a bundle of seed pods and multi foliate compound leaves putting it in the legume family. Associated with pastures and roadsides more than crops for the most part. Its common name includes a state, not Arkansas. However, I took these pics near I55 at Keiser.

Be the first to identify this plant and win a prize! Email me the common name at [bscott@uaex.edu](mailto:bscott@uaex.edu).



## **To The Readers**

Please offer any suggestions for Urban or Livestock Integrated Pest Management topics (insect pests, plant diseases, weed problems, wildlife control problems) that you would like to see – **OR** – feel free to submit an article that you have prepared. Kelly and I will be glad to include it (subject to editing). Send feedback to [jhopkins@uaex.edu](mailto:jhopkins@uaex.edu) or [kloftin@uaex.edu](mailto:kloftin@uaex.edu)

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