

# THE CHATTANOOGA REGIONAL HOSTA SOCIETY



## THE HOSTA CONNECTION



**APRIL 2, 2016**  
**MEETING 10 A.M.**  
**THE BARN NURSERY**



*Notes from the Editor,*

*You'll notice the time change for our next meeting, the Barn is having a program on Sun Gardening, at 10 am. We are taking this opportunity to learn about Sun Gardening; yes, I know we do hostas in the shade, but there are times we loose our shade. I don't know who the speaker is.*

*Our May 7th meeting will be our picnic at Tammy and Gary's, we'll eat at 12 noon and have the plant auction at this time. (don't think the Barn would like us to have the auction there). More on this in next newsletter.*

*Haven't heard anything about our order for First Blush, I'll see what I can find out. Could be, since our Garden Club's order was placed late, other orders are being filled first.*

*Nine of us went to Gibbs Garden, it was beautiful, the early daffodils had already bloomed – the mid season was getting ready to bloom, we missed seeing the enormous areas filled with daffodils, we could see where the early daffodils had bloomed. I told Johnny next year I want to go to the Gibbs Garden the second week it's opened to see the early daffodils. Don't get me wrong the gardens were beautiful, there were several trees and bushes in bloom, the new growth was beginning to show on the Japanese Maples. The gardens ponds and hard scapes are beautiful to look at. I got some ideas for my garden in the winter.*

The information on the next page, Craig Walker advised us on what to watch out for when buying compost . Taken from US Composting Council, 1/12/2016

## PERSISTENT HERBICIDE FAQ

1. How can I tell if my compost is contaminated?
2. What plants are sensitive to these herbicides?
3. What do plants damaged with these herbicides look like?
4. How long do persistent herbicides last in soil?
5. Why don't persistent herbicides break down in the compost process?
6. Does exposure to persistent herbicides in compost pose a health threat?
7. Where do persistent herbicides come from and how did they get into compost?
8. How are persistent herbicides regulated and how are regulations enforced?
9. Why aren't labeling requirements effective?
10. Why can't composters simply test for contamination?
11. What federal action is needed to help prevent herbicide-contamination of compost?

### What are persistent herbicides?

Herbicides are chemicals used to manipulate or control undesirable vegetation. Our industry has come to understand that a few herbicides can persist on vegetation and in the soil for months or years and we term these products, persistent herbicides. We are specifically concerned with a class of herbicides from the picolinic acid family. These chemicals are marketed for use in hayfields, horse pastures, golf courses, right-of-ways, grain crops, and lawns to kill unwanted broad-leaf weeds. These herbicides do not normally impact grasses including such plants as corn, wheat, and oats. There are four known persistent herbicides: Clopyralid (Dow AgroSciences, 1987), Aminopyralid (Dow AgroSciences, 2005), Aminocyclopyrachlor (DuPont, 2010), and Picloram (Dow AgroSciences, 1957). There are over 150 retail products in the U.S. but these chemicals may appear on labels in slightly different variations making identification difficult.

### How can I tell if my compost is contaminated?

Persistent herbicides are colorless and odorless. Scientific studies reveal that they mostly pass unaltered during animal digestion (including microbial digestion) when used at labeled rates. In fact, animal digestion tends to concentrate these chemicals because the animal processes the food but passes most of the chemical as a waste. Testing for specific persistent herbicides is expensive and difficult. USCC recommends that compost producers conduct regular plant growth testing for the presence of persistent herbicides.

### What plants are sensitive to these herbicides?

Plant families sensitive to persistent herbicides include:

- The nitrogen-fixing, legume family of plants such as peas, beans, lentils, and clover
- The nightshade, solanaceous family of plants such as tomatoes and potatoes
- The sunflower, composites family of plants such as sunflower, petunias, daisies, lettuce, and asters
- The cucumber, cucurbit family of plants such as cucumber, squash, pumpkin, and watermelon

### What do plants damaged with these herbicides look like?

Damaged plants may show on or more of the following symptoms:

- Stunted growth: the main growth tip stops growing and the lateral buds begin to grow
- Reduced fruit set
- Cupping of leaves
- Failure of secondary leaves to grow after the seed leaves emerge
- In legumes, compound leaves stay single

### How long do persistent herbicides last in soil?

Depending on the type of herbicide and the level of concentration in the soil, persistent herbicides can last anywhere from several months to three or more years before completely breaking down into inert compounds. The length of time depends upon a variety of factors, including the type and moisture content of the soil.

### Why don't persistent herbicides break down in the compost process?

At its most fundamental level, composting is digestion by microorganisms, regardless of the method (e.g., aerated static pile, anaerobic digestion, etc). Microorganisms are animals. Scientific studies reveal that persistent herbicides mostly pass unaltered during animal digestion. In fact, animal digestion tends to concentrate these chemicals because the animals process material with food value and passes most, if not all, of the chemical as a waste. Simple composting math demonstrates that one ton (2,000 pounds) of feedstock approximately reduces to half that amount as finished compost. Persistent herbicides break down much slower compared with composting, and therefore, most of the chemicals pass into the compost. Low toxicity to animals is one often cited benefit of persistent herbicides. It is up to our industry to prove that there are drawbacks to these chemicals and that requires reporting effects to state agencies AND to the USCC

### Does exposure to persistent herbicides in compost pose a health threat?

According to the USEPA, persistent herbicides are not harmful to people or animals when these products are used at labeled rates. In fact, clopyralid, and recently, aminopyralid are approved for use on many food crops. The primary environmental concern from this herbicide is its effect on sensitive plants which include many important vegetables. If vegetables grown in a soil that contains persistent herbicide-contaminated compost produces edible parts, USEPA reports that the food is safe to eat.

### Where do persistent herbicides come from and how did they get into compost?

The most common feed stocks with persistent herbicide contamination are manures and bedding but grass clippings and many food items can be contaminated. Individual state agencies approve uses of these products and this is why it is so important to collect good data and report contamination to your state agency. Approved typical uses include horse pastures, hay fields, grain fields (e.g., corn, wheat, oats, barley, etc.), some vegetable crops, golf courses, right-of-ways, and lawns. If a compost facility unknowingly accepts treated material, the compost may have plant damaging levels of persistent herbicides.

### How are persistent herbicides regulated and how are regulations enforced?

First, chemical companies conduct numerous studies of a chemical and they present those data to the USEPA. Agency staff then evaluate the data and often conduct their own studies to determine if the chemical is safe to people and the environment. Once USEPA

approves the chemical for use, the company must then petition individual states and sometimes even counties within states to sell the product. Few states conduct their own studies or evaluation of the chemical industry's studies. Once a persistent herbicide is on the shelf, they are regulated in three ways:

1. Self-regulation: When a homeowner, farmer, or professional applicator purchases and uses one of these products, they accept the terms of the label's warranty disclaimer. Some uses of persistent herbicides require application by licensed professionals but most uses are allowed by the general public
2. Professional applicators and to a lesser extent, farmers, are required to keep records of all applications and regulatory agencies irregularly inspect their records and their places of business for compliance with applicable laws. Such individuals are also required to carry insurance policies.
3. Citizen complaints. States must investigate citizen complaints regarding such things as off-site plant damage and damage to non-target plants. Actionable complaints are those with detailed information regarding the amount, source, and cause of the application

#### Why aren't labeling requirements effective?

Herbicide labels are complex multi-page documents. Many users only read parts of the label and some users may not understand even the parts that they read. Not all labels explicitly require notification to other individuals that may come into contact with treated areas or treated products such as a crop treated with a persistent herbicide. For example, many agricultural crops, such as hay or straw, can have very long chains of custody that involve many individuals far removed from the original application site. Also, treated grass clippings in many urban areas may be put in a bin, picked up by a trash collection service with many tons from other homeowners, and finally tipped at a compost facility.

#### Why can't composters simply test for contamination?

Composters can test for contamination but the tests are time intensive if done in-house and expensive if hired to a laboratory. Guarding against contamination requires a great deal of new data collection and record keeping. The USCC believes that it is unfair to place this financial burden on the composter. Compost producers can help us make this argument by testing your feedstocks and products. If you find contamination, you should report it to your state agency AND to the USCC

#### What federal action is needed to help prevent herbicide-contamination of compost?

Unfortunately, we must present USEPA with data that demonstrates contamination from persistent herbicides. Ideally, every compost producer would test their products for contamination and report those findings to state agencies AND to the USCC. If the problem seems minor because few investigate and report problems, USEPA will dismiss it as such and not tighten regulations on use of persistent herbicides.