May 27, 2014

OPP Docket EPA-HQ-OPP-2013-0749—Aminopyralid Registration Review
OPP Docket EPA-HQ-OPP-2014-0167—Clopyralid Registration Review
Environmental Protection Agency Docket Center
1200 Pennsylvania Ave. NW.
Washington, DC 20460-0001

The US Composting Council (USCC) appreciates the opportunity to provide comments to the US Environmental Protection Agency (USEPA) regarding the registration review for the chemical herbicides, Aminopyralid and Clopyralid.

We ask that the USEPA **not** approve the registration of these chemicals, or any other herbicides that do not break down during the composting process because they persist at concentrations that are toxic to plants and crops.

That said, USCC has reviewed the Preliminary Work Plans (PWP) for Clopyralid and Aminopyralid and see that the USEPA has responded to certain issues USCC raised in previous registration reviews for pyridine carboxylic acid compounds and by including dissipation studies and laboratory analysis in PWPs for these registration reviews. We believe this is an appropriate step that will improve our knowledge and understanding of these chemicals in the composting process.

Importance of Compost

Composting is a core technology for recycling agricultural and food processing residuals, wasted food, and other organic "wastes" into beneficial soil amendments. It is a source of "green jobs" and is helping to fuel the "urban agriculture" movement. Composting also is an important tool in reducing climate changing methane emissions from landfills. This is because the composting of food waste, biosolids, yard trimmings and other organics results in carbon dioxide, avoiding the methane formation that would occur if they were landfilled.

Compost has an important role to play in reviving urban soils, increasing drought tolerance, and reducing water pollution. It is an essential and vital source of fertility for organic and conventional agriculture. As the USEPA and many states ramp up the programs to divert higher levels of food scraps and other organics in the municipal waste stream it is critical that the markets for quality compost grow concomitantly. There is no doubt that compost markets will be damaged by news of herbicide contamination.

Limitations to Identifying Persistent Herbicides

Commercial composters typically use a variety of feedstocks as inputs to the composting process. The largest facilities can process thousands of tons per day, and

many facilities process hundreds of tons per day. The number and heterogeneity of incoming loads, the variability within the loads, and lack of source tracking of the loads from the field to the composting facility all conspire to make screening of incoming loads for herbicide contamination impossible.

Unless uses of the herbicides are restricted so that they are excluded from incoming compost feedstocks, they likely will not be detected in the finished compost until the composter does a screening test (bioassay) or (worse) when the contaminated compost is used on susceptible plants by customers. This was the case in Vermont in 2012, resulting in over a million dollars in costs to the composter to compensate and remediate affected gardeners and farmers. This is not an isolated case, as recent reports from Colorado, Kentucky, the United Kingdom, Washington State and other locations can attest.

Aminopyralid and Clopyralid are used to control broadleaf weeds in rangeland, grassland, grain crops, forages, hayfields, and right-of-ways. These compounds are some of the most potent and recalcitrant herbicides ever registered by the USEPA. Because of their persistence, they can easily end up in compost through a variety of pathways. For example, weed-free hay and straw is highly desirable for horses, as some weeds are toxic to the animals. The feed or straw for the horses can be shipped hundreds or thousands of miles, sometimes changing hands a few times before getting to the end customer. The manure and bedding then gets hauled from the barn to the composter, where it is processed and sold, often to wholesalers and blenders before finally getting to the end user. The allowable limits of herbicide residues on feed and vegetable crops for human and animal consumption are hundreds and in certain cases thousands of times higher than what would cause phytotoxicity to plants grown in compost made from these same materials. Additionally, these herbicides do not break down as they travel through the digestive track of animals resulting in the manure having potentially phytotoxic levels not allowing it to be used for composting.

Toxicity Levels

While the EPA has deemed these levels safe for human and animal consumption in our food chain, they are still orders of magnitude higher than is necessary to cause damage once the resulting food scraps or animal manures are composted. Even when used as directed, for instance on wheat or in animal feed, the levels that persist in straw, manure, flour or meat are well above levels that are phytotoxic. The ever-increasing movement across the country to keep food scraps out of our landfills (in the quest to reduce greenhouse gas impacts from fugitive methane) brings a certainty that more persistent herbicides will find their way to composters. These toxicity levels are 1 ppb of Aminopyralid or 10 ppb of Clopyralid.

The herbicides are degraded more slowly in the composting process than most of the surrounding organic compounds, so that the concentration in a compost pile actually may increase during the active composting process. As commercial composters have adopted modern methods that accelerate the process, reducing to 8-12 weeks what used to take 6 to 12 months, this persistence is only exacerbated.

Financial Impact to Composting Industry

Persistent herbicides such as Clopyralid and Aminopyralid found in compost and soils threaten the economic viability of the multi-billion dollar composting industry in the United States. Composters face liability claims, product testing, and financial losses. With every new incident of herbicide-contaminated compost, consumer confidence in the use of compost will decline. Popular press articles with titles that include "killer compost" accelerate this decline.[i] The negative press devalues the public's perception of compost, which is very damaging to the entire industry.

Ineffectiveness of Label Warnings

Warning labels on herbicide products are ineffective in preventing the contamination of composting feedstocks and compost. Instructions on labels often appear complicated, they may not be read completely, or if they are, are not fully understood or not followed accurately. Even if herbicide applicators are provided with clear and accurate instructions on the product's warning label, there is still a long supply chain and communication breakdowns can easily occur between parties. The supply chain includes land owners, herbicide application personnel, harvesters of plant materials, brokers, processers, distributors, resellers, haulers, and finally compost facilities where the contaminated feedstocks is received, processed into compost and sold into agricultural, horticultural and retail lawn and garden markets impacting the end user. It is virtually impossible to ensure that the integrity of this supply chain and that communication will be maintained.

Though some applicators might follow instructions correctly, there are usually others down the supply chain that receive treated residues and may be unaware of the initial labeling requirements. Others may be aware of labeling requirements but choose to ignore them. Furthermore, in some cases applicators have refused to reveal where these compounds have been applied. Neither USEPA nor state enforcement actions are taken towards anyone other than the herbicide applicant, or rarely against the initial landowner.

Because there are so many loopholes in the chain of custody by which contaminated residuals can end up entering composting facilities, first the uses must be restricted to applications that are unlikely to lead to collection and eventual delivery to composting facilities, and second the labels should be modified to reflect these changes. Restricting the application only to licensed applicators will further decrease the likelihood that they are used "off label" and the herbicides stay where they are used.

Need for Standardization & Testing Protocols

As noted at the outset, we are pleased to see the compost dissipation study included in the PWP. However, it should be made clear that the goal of this study is not only to understand the decomposition of the herbicides in the composting environment, but to develop standards for that limit persistence in order for an herbicide to receive approval.

A standardized testing protocol should be based on data such as:

- How long the herbicide persists and at what concentrations;

- What plants are susceptible and at what concentrations;
- The dose-response relationship; and
- The no observed adverse effect level (NOAEL).

The only way to ensure that persistent herbicides are kept out of compost sites and finished compost is to require testing for compostability and persistence in compost and to reject the registration of any herbicide found to persist in compost at phytotoxic levels. The details of the testing protocols and research needed should be developed and agreed upon by the US EPA, independent research scientists, and the compost industry.

Ultimately, the herbicide manufacturers must be required to show that the product degrades during the compost process so there is no residual phytotoxicity to plants in the compost product when the herbicides are used as directed. In order to show this, manufacturers must provide the results of third party peer-reviewed research that demonstrates no adverse impacts of herbicides on plant growth following the composting process. The length of time needed for completion of the composting process varies significantly based on technology used, the factors that govern decomposition, attention to process management, and the end markets that a composter is targeting. The compost industry should provide input as to the appropriate time and methods required for the testing protocol to insure the safety of compost.

The environmental and financial risks to the multi-billion dollar compost industry, as well as the threat to our climate, is too great to do anything less than change the registration process so that herbicides cannot persist in compost at phytotoxic levels. If this action is not taken, environmental damage and financial losses will continue to escalate for composters, the compost industry, home gardeners, and industries that use compost including commercial agriculture, horticulture, and landscaping.

Request for Interim Measures

Unfortunately, because of the length of time for the registration review process (final decisions are scheduled for 2020), there is great potential for damage to the composting industry in the interim. USCC believes that there should be a moratorium on the sale of these and similar persistent herbicides until the following conditions are met:

1. Approved uses and crop tolerances are restricted so that the likelihood of compost exceeding 1 ppb of Aminopyralid or 10 ppb Clopyralid is minimized.
2. Labels are revised to reflect those restrictions
3. Use is restricted to licensed applicators
4. Lab methods are developed and approved that allow independent labs to test and verify the amounts of herbicides in compost and feedstock samples.
5. A persistence limit, or maximum half-life in compost, be established
6. Testing of the fate of the compounds during composting is completed.

The US Composting Council, a 501(c) 6 Trade and Professional Association, is the only national organization in the United States whose mission is the development, expansion and

promotion of the composting industry. The USCC achieves this mission by encouraging, supporting and performing compost related research, promoting best management practices, establishing standards, educating professionals and the public about the benefits of composting and compost utilization, enhancing compost product quality, and developing training materials for composters and markets for compost products. The USCC has over 800 member companies, including private and municipal compost producers, equipment manufacturers, product suppliers, academic institutions, public agencies, nonprofit groups and consulting/engineering firms.

The USCC looks forward to working with the USEPA to achieve our mutual goal of maximizing the recycling and beneficial use of wasted organic resources and helping to reduce the nation's organic waste stream to near zero. Insisting that the herbicides available to farmers and land managers cannot persist to the point that they devalue the compost manufactured from these organic resources is a critical piece of achieving this goal.

Respectfully submitted,

Lori Scozzafava
Executive Director
US Composting Council

[i] Sullivan, Dan, 2013, Killer Compost Update: Herbicide Damage Still a Major Problem, Mother Earth News, February/March 2013