

Creation of an Industry Best Management Practice for Adoption of a Closed Chain of Custody for Herbicide Use in the Utility Vegetation Management Industry

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Introduction

The Utility Vegetation Management (UVM) industry makes extensive use of herbicide applications in maintaining vegetation on utility rights-of-way (ROW). Considerable progress has been made in developing application methods and formulations that mitigate potentially adverse environmental impacts of UVM practices. Less attention has been focused on the logistical aspects of herbicide shipping, storing and mixing, as well as management of the waste stream, including rinsates and empty containers.

The Utility Arborist Association (UAA) and Dow AgroSciences have recognized an opportunity for improvement in the safe, environmentally responsible and effective uses of herbicides in UVM. It may be possible to reduce the risk of potential error, public and applicator exposure, and inappropriate disposal of wastes through the adoption of alternative supply chain processes and fieldwork practices.

A directed grant program has been established by UAA, the purpose of which is to fund development of an end-to-end strategy for managing the chain of custody for herbicides from manufacturer to custom blender, distributor, utility owner, and applicator. Dow AgroSciences has provided a leading contribution to the new grant sufficient to fund a basic project. Any additional funding will be to enhance project deliverables.

Industry Best Management Practice

The expected outcome of the new grant program is the establishment of a Best Management Practice (BMP) focusing on ready-to-use formulations in returnable, reusable containers. This concept has the potential to result in creation of an end-to-end strategy for managing herbicide chain of custody from manufacturer to custom blender, distributor, utility owner, and applicator.

Commercial variants of portions of the envisioned closed chain of herbicide and container custody systems are already available and are utilized in the industry. It is estimated that approximately 20% of current herbicide applications in UVM programs employ closed container management systems. While some need for traditional open non-returnable containers will remain, it is expected that 80% of UVM applications could adopt closed returnable/reusable containers.

The new BMP will establish an overall construct and process, and will establish expectations while allowing commercial variations in specific methods. While there will likely be a place for non-returnable containers, the BMP will focus on the use of returnable containers. The BMP will also facilitate creation and use of a closed system for the applicator, reducing the need for handling open containers of concentrate on or off the job site.

Project Plan

The project will be completed in six individual phases, summarized in the following sections:

Industry Survey

The first step of the project is currently underway and involves conducting a survey of UVM industry stakeholders. The survey focuses on determining current practices, experience, and perceptions within the industry as related to herbicide handling and supply chain logistics. The intent is that this initial step will establish a baseline of the “as is” situation. It will also identify areas of interest and challenge. Results from the survey will be used to guide the design of the project.

Process Benchmarking

The next task to be undertaken is to conduct a formal process benchmarking study of best-in-class operations. This is a formal study that defines the business environment in which the new BMP would exist, and includes an assessment of environmental and utility related regulatory requirements. The study would define what drives and constrains the process, as well as process inputs and outcomes. A series of four formal studies of best-in-class early-adopters will be conducted. These may be regionally based, and will be selected to include industry variations such as differences between large and small UVM programs at investor-owned and public sector utilities.

Financial Analysis & Business Case Development:

Once the individual benchmarking studies are completed, attention shifts to the creation of a financial business case supporting adoption of the new BMP. An initial generic case study comparing the traditional approach (open system, disposable containers) to the new BMP will be developed. Actual business case studies of early adopters used in the benchmarking effort may be developed and offered as supporting evidence. The purpose of the financial analysis will be to identify direct and indirect costs and benefits at each step in the new BMP process, and to whom they accrue.

Establishing the UVM Industry Best Management Practice:

This task involves the creation of the actual BMP through formal adoption by UAA. This will be accomplished through an iterative collaborative process based on Delphi Analysis techniques. The project team will create an initial hybrid BMP. A small expert stakeholder UAA group will be engaged to provide feedback. Finally a second, larger general stakeholder group will validate the BMP. An executive level narrative “white paper” will be written that defines the process and quantifies its benefits.

Implementation “Tool Kit”

Once the new BMP is established, work on the project will turn to the creation of resources intended to facilitate ease of implementation of the new BMP for various user groups. This includes production of an information packet that includes a description of the new BMP and a background piece summarizing the project. Other resources would include items such as checklists, FAQ, a financial tool and training materials.

Communication

The final phase of the project involves the active promotion of adoption of the new BMP. This may include providing information regarding the new BMP directly to key stakeholders. In addition, the new BMP will be presented at the UAA's annual meeting and will be featured in this publication. Topics related to the new BMP will be included in UAA regional UVM meetings. Articles will actively promote the new BMP in trade publications.

Summary

The project will support the development of a UVM industry BMP. The endorsement of the UAA will serve to validate the new BMP. It can be expected that, as with other UAA BMPs, utility vegetation managers will include the new BMP in vegetation management specifications. This will be an effective means of stimulating adoption of a closed chain of custody for herbicides used in the UVM Industry.