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Chemical Drift Roundtable

University of Mississippi. Community-First Research Center for Wellbeing and Creative Achievement

Delta Food System Partnership

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Delta Food System Partnership + UM CREW

March 3, 2023

The University of Mississippi's Community First Research Center for Wellbeing and Creative Achievement (UM CREW) hosted the Chemical Drift Roundtable as part of their research for the Delta Food System Partnership. This partnership addresses food insecurity in the Mississippi Delta region by collaborating with local horticultural farmers to expand production and market.

CREW interviewed several Delta farmers who identified chemical drift as a key challenge for horticultural farm production and expansion. This roundtable discussion was designed to provide deeper insight into the chemical drift issue and highlight potential pathways toward solutions.

Roundtable participants were encouraged to share their own knowledge and experiences with chemical drift in order to further understand farming challenges in Mississippi. CREW personnel provided prompts to initiate discussion expanding upon the specific chemical drift challenges participants were facing, proactive and reactive methods currently used to combat drift, and what coexistence between horticultural farmers and row crop farmers looks like to them. Finally, participants shared their own ideas of how the state and agriculture institutions can promote this coexistence and work collaboratively to close the gap of food insecurity in Mississippi.

Roundtable Discussion

I. Defining the Problem

Commonly Drifted Chemicals
1. Dicamba
2. 2,4-D
3. Gramoxone
4. Paraquat
5. Roundup

Effects of Drift on Horticulture
• Speckled Leaves
• Speckled Fruit
• Dead Plants
• Morphed Fruit
• Prevented Pollination/No Fruit

- Most chemical drift damage in Mississippi is due to Dicamba, 2,4-D, Gramoxone, Paraquat, and Roundup. Roundup is not as volatile, but still causes damage.
- When these chemicals drift, they can kill, speckle, and morph horticultural plants and fruit. They also can prevent pollination so there is no fruit at all. Overall, the way these chemicals affect plants is always unpredictable.

II. Current Prevention Methods + Remaining Issues

Current Prevention Method		Remaining Issue
Grow Around Spray Season	→	Spray times are not always predictable.
Buffer Zones	→	Some chemicals can drift over 3 miles.

Reporting	→	Fear of retaliation discourages reporting and penalties are not severe enough to warrant the risk.
Drift Reduction Additives	→	Drift reduction chemicals are often not used properly to meet the federal requirements.
Communication Between Farmers	→	Some row crop farmers do not have the bandwidth to inform horticultural farmers before each spray.

- Horticultural and row crop farmers each use their own chemical drift prevention methods as listed above. However, these methods have limitations and caveats that still allow for drift and damage to occur.
- Communication and working relationships between farmers can be challenging and are often times not feasible. Retaliatory threats frequently prevent farmers from reporting drift damage.
- Current chemical use legislation is vague, and financial penalties for infractions are inconsequential. Though farmers are aware of the specific guidelines set out by extension, these rules often times go unfollowed.

Participant-Derived Solutions

Roundtable participants proposed the following solutions:

Ask for Key Player Support

Meet with state agriculture committee legislators, Mississippi State Agriculture Commissioner Andy Gipson, Mississippi Delta Council, and Mississippi Delta Council for Farm Worker Opportunities, Inc. to ask for a pledge for assistance in creating chemical drift solutions for horticultural farmers.

Farming Chemical Database

Work with Mississippi Department of Agriculture and Commerce create a publicly available, consolidated database of the chemicals that are being used on each farm to give neighboring farms a good sense of what to expect while working in close quarters with each other. An example of this would be DriftWatch by FieldWatch, but there currently is no incentive for farmers to participate in this program. Look into ways to create incentive for farmers to participate in this type of program/database.

Using Risk Mitigation Tools Through Insurance

For farmers that are using dicamba and/or other pesticides, create a reporting mechanism that would coordinate with insurance companies (such as the Farm Bureau) as a way to subsidize insurance rates and/or as a claim reduction tool. The goal would be that farmers who use this risk mitigation tool would receive a discount on their insurance, and/or failure to use the tool could be used as a tool for claim coverage.

Farm Mapping App

Develop an app in which farmers can document their crop types, planting, growing, harvesting, spraying, chemical use, etc. This app would use satellite imagery and documentation to create a warning system for users – shows chemical users where horticultural crops are growing on neighboring land, and warns horticultural farmers of impending chemical use on a neighboring farm giving them time to cover their crops.

Friendly Educational Promotional Materials for Farmers

Create a brochure that can be used at point of sale when farmers are purchasing chemicals that advises them on best practices of chemical usage and provides information that they can share with their neighboring farms on things such as: what they are growing, when they are growing, and their planned pesticide/herbicide/fungicide usage. Suggested branding: “Be a Friendly Farmer.”

Next Steps

1. CREW will continue to work with partners to identify solutions that have worked in neighboring states and other parts of the country.
2. CREW will conduct interviews with key players to gather information around Mississippi chemical drift policy and identify potential resources for a chemical drift working group.
3. CREW will condense research into a proposal for key players by the end of Summer 2023, that can be utilized prior to the next legislative session (if necessary).