American Seed Trade Association

Amaranthus palmeri aka Palmer Amaranth Strategic Plan

For consideration

Overview

Palmer amaranth has been a longstanding weed problem in many parts of the U.S. The discovery of Palmer Amaranth in conservation plantings during 2016 has raised the concern of producers, seed industry professionals, conservation planners and government regulators. A variety of government and industry organizations are working on methods to eradicate and eliminate further spread of the weed. However, the presence of weeds in conservation plantings requires different management techniques.

Background

1) It is unclear if there is one or more than one original source of the seed.
2) Palmer Amaranth is relatively common throughout the South, and it is considered to be a major problem but management practices used in field crop production may not be applicable in conservation settings.
3) Because the Palmer Amaranth was found in CRP plantings, farmers may be restricted on certain chemical treatments to eradicate the weed. Some Palmer Amaranth has shown resistance to a variety of herbicides, so some work may need to be done to determine what eradication treatment would work best for the particular Palmer Amaranth that is found.
4) Federal agencies have been slow to offer concrete guidelines for the eradication of the weeds.
5) Due to confidentiality agreements between farmers and USDA on CRP contracts there is no easy way to know which fields are potentially impacted to target scouting efforts.
6) Palmer Amaranth seed is not visually distinguishable from many other Amaranthus species and most seed labs do not have processes in place to differentiate the various species.

States Currently Listing Palmer Amaranth as Noxious

- MN (2017)
- OH (2007)
- DE (2012)
- WI (pending rule)
- IA (under consideration)

The following states have expressed concern and should be considered in all communications (in no particular order):

1.	Illinois	5.	Minnesota	9.	Ohio
2.	Indiana	6.	Missouri	10.	Pennsylvania
3.	Iowa	7.	Nebraska	11.	South Dakota
4.	Michigan	8.	North Dakota	12.	Wisconsin

AOSA/SCST put out the following directive to their members on December 19th

"Seed analysts must take into consideration if possible the location of production, any available field inspection information, state where seed was produced, type of crop, etcetera when making species determination for Amaranthus *contaminants. If the laboratory has no access to this type of information and it is impossible for the laboratory to definitively determine if the* Amaranthus *in question is or is not* Amaranthus palmerii*,* ***it is imperative that any* Amaranthus *be listed as* Amaranthus sp. *and classified as noxious on a Report of Analysis when reporting an All States Noxious Weed Test****. A disclaimer stating that the species cannot be determined and may be* Amaranthus palmerii *should be included with this. Inaccurate identification of* Amaranthus sp*. on a Report of Analysis may cause stop sales and further action by regulatory officials."*

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Action to Date

Environmental & Conservation Seed Committee Meetings

The committee held two conference calls on the issue and discussed it as an agenda item at the February meeting in DC, held in conjunction with the Native Seed Conference. The conference calls were designed to garner input for the strategic plan and supporting documents.

Significant Conversations with State Regulators

- Meeting with Don Robison, Indiana State Seed Control Official – Andy & Pat
- Meeting with Cliff Watrin, Minnesota State Seed Control Official – Pat
- Telephone conversation with Bill Northey, Iowa Secretary of Agriculture – Pat
- Telephone conversation with Doug Goehring, North Dakota Commissioner of Agriculture – Pat
- Personal conversation with Ted McKinney, Indiana Secretary of Agriculture – Pat
- Strategic plan discussion with the staff of the National Association of State Departments of Agriculture - Pat
- Presentation at the National Association of State Departments of Agriculture Winter Policy Meeting - Pat

Seed Testing & Identification

After Palmer Amaranth was discovered in conservation plantings it quickly became apparent that the lack of a reliable seed test was disrupting trade in conservation seed. ASTA staff encouraged the development of a DNA test. Since the tests became commercially available in late January, companies have been sending seeds to be tested.

1. The California Department of Ag Seed Lab confirmed a rapid DNA test to identify Palmer Amaranth and differentiate from other Amaranthus species. The test can be performed with two seeds. They are limited in their processing capabilities, however.
2. Eurofins BioDiagnostics has validated a similar test for a single seed and is offering the service, although it is relatively costly. The turn-around for the test is two weeks.
3. A professor at Colorado State University has created a process that will test multiple seeds simultaneously, but it is not commercially available yet. They are considering licensing other labs to perform the test. As such, the cost has not been determined but it is expected to have a lower cost than the others.
4. Grow-outs are possible, and are being offered at various facilities. They are inexpensive; however they take much longer than the DNA tests.

Creation of Native Seed Production BMPs

ASTA general best management practices guidance documents were adapted for native seeds. These documents have been distributed throughout the industry for use as reference. They also include guidance for industry to industry transactions to reinstate industry confidence.

Encouragement of the use of professionally produced seed

ASTA's Native Seed BMP document and professional produced seed promotional materials were distributed to the state seed and agribusiness associations, state seed control officials, state agriculture department commissioners, directors and secretaries in the targeted states . They were also distributed via press release, social media and ASTA's Seed E-News. These documents collectively emphasize the importance of professionally produced seed with references to ASTA's members listed on the updated ASTA website. These organizations were encouraged to distribute the information, either coming from ASTA or as their own, to their respective grower communities.

General ASTA Press Release

DNA test availability and promotion of the use of professionally produced seed.

USDA Native Seed Meeting

ASTA members and staff met with Skip Hyberg, Ph. D., Senior Economist, Economic and Policy Analysis, and other USDA staff to start a forward looking conversation to exchange ideas how to minimize the likelihood of invasive and noxious weed seed from being included in native seed mixes. USDA was very interested in discussing ways to reduce weeds in USDA conservation plantings. It was stressed that the meeting was not about Palmer amaranth, but about the full set of invasive weeds that could be introduced into USDA plantings. The group agreed to create a smaller working group on the issue, although that group has not met to date.

Identifying Palmer Amaranth in production fields

Bob Hartzler of ISU Extension and Curtis Thompson of KSU Extension gave presentations to ASTA's Environment and Conservation Seed Committee on identifying and managing palmer amaranth in the field. Palmer amaranth seed was distributed to participants at that session during ASTA's Farm and Lawn Seed Conference. Additional seed was sent to AOSA/SCST for further distribution (AOSA/SCST decided not to distribute the seed to their members).

Opportunities

Cooperative programming

Work with USDA to determine and/or monitor their interagency projects. ASTA and its members are in prime position to facilitate this process. Continue the focus on seed mixes used in conservation plantings, management of conservation plantings and noxious weeds.

Structured communication efforts

It is critical that the seed industry prove to the grower community that industry is doing all that it can to get noxious weeds out of the seed supply. However, it is important to stress that there are many routes of transmission for palmer amaranth and other weeds. The grower community must also be educated in the processes used by seed companies to ensure the purchase of quality seed. The industry must explain that standard procedures have been in place prior to Palmer Amaranth awareness to protect the seed supply. (In the native seed market "local" is often equated with "higher quality" so continuous education is needed about the use of professionally produced seed.)

Lab utilization of DNA test

Identify the labs that have the capability to perform the DNA test. Most state regulatory labs do not have the equipment to perform that test. This list can be distributed to seed companies to use if they wish to identify Palmer Amaranth definitively in their products. State regulatory officials can also be made aware of the labs for their internal use.

Proposed Action

Convene Interested Parties ASAP

Many states and governmental entities have put forth efforts on the issue, but a noticeable lack of communication and coordination has been obvious. As an example, states have taken vastly different approaches to eradication. These entities should all have the same goals, and it is time to expedite a conversation about solutions. ASTA should coordinate meeting(s) to exchange information, discuss possible solutions and create an action plan. Initially, the group can meet in April via conference call for information and introductions. A second face-to-face meeting in May would be designed with an action plan goal. A wrap-up meeting at the ASTA Annual Meeting in Minneapolis would be held to finalize the establishment of a plan of action. Suggested participants are:

- ASTA Environmental & Conservation Seed Committee representative(s)
- ASTA – Andy, Jane & Pat
- Weed Science Society of America – Carroll Moseley, PhD, Sr. Regulatory Stewardship Mgr., Syngenta
- California Department of Food and Agriculture – Bob Price
- Eurofins BioDiagnostics – Denise Thiede
- Colorado State University – Todd Gaines
- Minnesota Department of Agriculture Plant Protection Division Seed Program – Cliff Watrin
- Office of the Indiana State Chemist Seed Section – Don Robison
- Illinois Crop Improvement Association – Doug Miller
- Iowa Department of Agriculture Secretary – Bill Northey
- Grower group representative(s)

The meetings will focus on assuring noxious weeds do not enter the seed supply chain, not on eradication. Eradication efforts will be the responsibility of Extension, and USDA through the NRCS and Farm Service Agency.

NOTE: This effort may have costs associated due to lack of travel fund availability by some of the participants (that is, ASTA may have to subsidize).

Meeting with Bob Harzler, Iowa Extension

Possibly in conjunction with the Interested Parties Group, a small group of individuals should meet with Dr. Hartzler to explain the seed industry side of the issue, try to get a better understanding of what he is recommending to the grower community, and seek to establish a strong working relationship.

Presentation to NASDA

It may be possible to give a report of ASTA's action plan and progress at the September 2017 National Association of State Departments of Agriculture Annual Convention. The opportunity could be used to ask for their assistance in conveying the importance of professionally produced seed.

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Program at the Farm & Lawn Seed Conference

The program for the Farm & Lawn Seed Conference should be planned soon, with a portion of the sessions dedicated to weed issues – now and in the future. If established early, the program can be promoted to enhance participation as well as awareness of the issue.

Communication with the Grower Community

All of the grower groups should be interested in our efforts and would benefit from the resources we have available.

Communications Efforts in General

ASTA should continue promoting the benefits of professionally produced seed to the grower community, especially for cover crops and conservation.

Establish an ASTA Noxious Weed Working Group

Because this is not just a Palmer Amaranth issue, this effort must be continuing. A working group can assist with emerging issues so that the association and industry can be prepared as problems arise.

Farm Bill

ASTA's Farm Bill working group is discussing ways in which seed specifications and management requirements in USDA conservation plantings may contribute to the presence of weeds. The group will be working to finalize recommendations in the coming months.