

Status of Palmer Amaranth in Ohio – Feb 2016

Mark Loux
Horticulture and Crop Science
OSU





10

November
2015

Information on new herbicides and traits

Each fall we provide an article and video on new herbicides to the OSU Pesticide Applicator Training group, for use in recertification by our educators. The article ends up in the annual recertification proceedings book, and can also be accessed at this link – [PAT loux 2015-16](#). Most of this information can also be found in the 2016 edition of the “Weed Control Guide for Ohio, Indiana, and Illinois”,

LINKS

CDMS pesticide labels/MSDS
Greenbook pesticide labels/MSDS
Agrian herbicide labels
Our YouTube videos
USB Take Action on Weeds
Purdue Chat ‘n Chew Cafe



THE OHIO STATE UNIVERSITY

OSU WEED MANAGEMENT

Information about weeds and herbicides for the agricultural community

HOME WEEDS ▾ MULTIMEDIA ▾ WEED ID ▾ QUESTIONS?

Palmer amaranth

[Palmer Amaranth Biology, Identification, and Management](#) (Purdue Weed Science bulletin)

[Palmer amaranth ID poster](#) (USB/Take Action)

[Amaranth/pigweed ID](#) (OSU fact)

[Palmer Amaranth management in Soybeans](#) (USB/Take Action fact)

[Palmer Amaranth – what it is and what to do now](#) (OSU fact)

[Palmer Amaranth – what you need to know](#) (11 -min video)

[Pigweed Identification](#) (Kansas State)

[Identification of the Weedy Pigweeds and Waterhemp of Iowa](#)

<http://u.osu.edu/osuweeds/>

Ohio counties with Palmer amaranth



2012



Late 2015

Where is Palmer amaranth coming from?

- Contaminant in seed used for CREP, wildlife seedings
 - ODA will screen seed for free
 - They must pick it up – do not drop off or mail.
- Manure from certain animal operations
 - Cottonseed hulls, etc from south used as feed
 - Manure spread on fields
- Equipment used in infested fields
 - Know where purchased equipment has been



Mahoning county, OH
2015



Palmer in Mahoning County - 2015

- Grower had zero Palmer amaranth in 2014
- Grower purchased one load of cottonseed feed product from local feed dealer last winter
 - Spread manure on his fields in late winter/early spring
- Dense infestations in 2015 in these fields
 - no residual herbicide use, not controlled with glyphosate
 - field was custom harvested – where did combine go next?
- Other animal operations also purchased from that same lot of cottonseed feed
 - did not spread manure until this fall/winter
- More infestations in 2016?

Ohio counties with Palmer amaranth

Feeding/transport of cotton feed products



2012



Late 2015

Fields with Palmer amaranth



Bookwater Rd (near Charleston=Chillicothe Road)



Bookwater Rd (near town)



Palmer Amaranth



20 to 24 inch seedheads



Seedlings in early may 2014 from one 2013 plant



Increase in Palmer amaranth over 3 years

Prevent seed production – Zero Tolerance

Year 1

“I Think I Can Get One More
Year Out of Glyphosate”

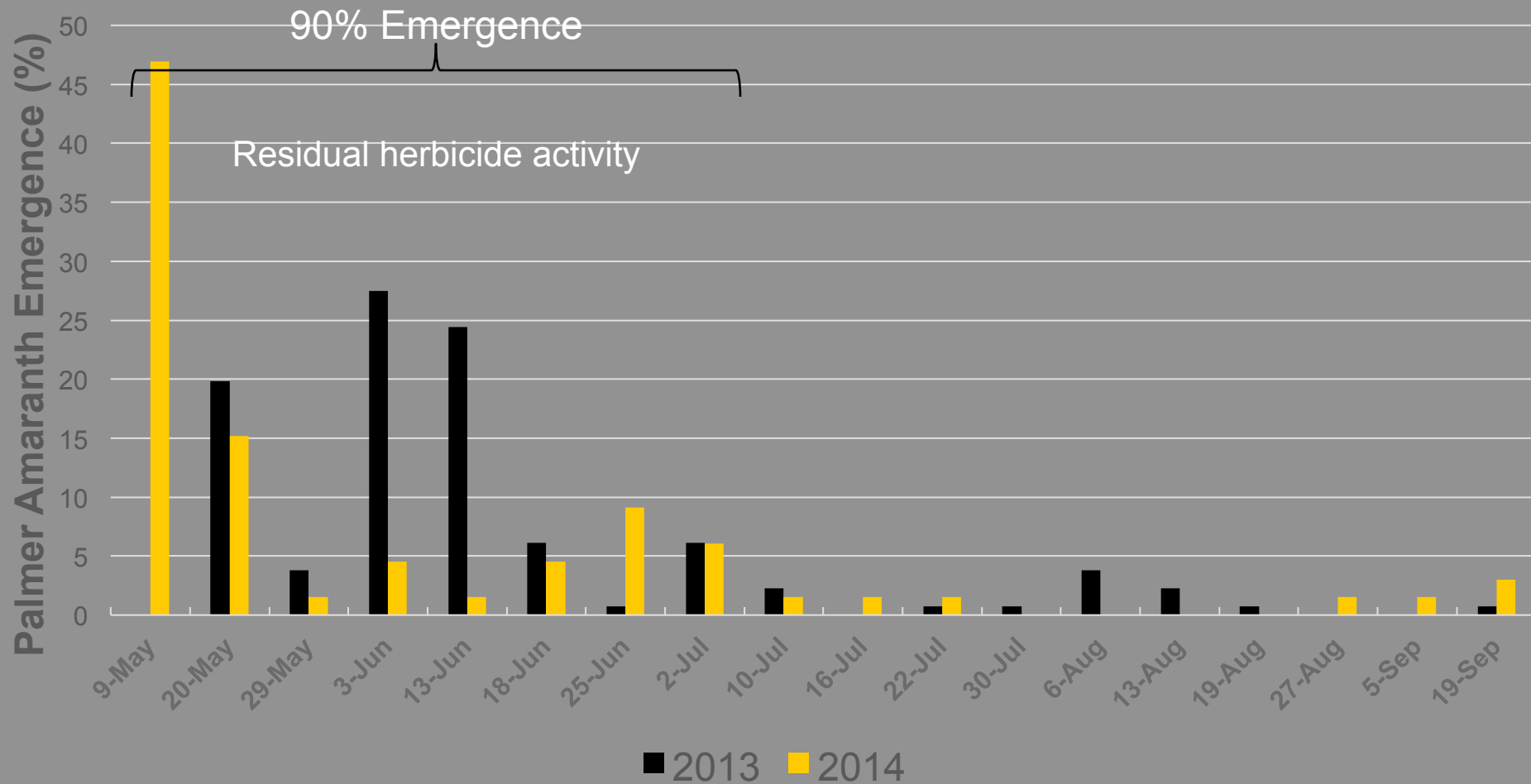
Year 3

Year 2

Emergence

Season-Long Palmer Amaranth Emergence

(Twelve Mile, IN 2013-2014)



Herbicide resistance in Ohio *Amaranthus* spp (4X rate) 2014 populations - collected/submitted

- Redroot pigweed – 19 populations
 - site 2 – 68%; site 9 – 11%; site 14 – 37%
 - 53% resistant to 1X glyphosate rate
- Waterhemp – 14 populations
 - site 2 – 93%; site 9 – 43%; site 14 – 21%
 - 100% resistant to 1X glyphosate rate
- Palmer amaranth – 7 populations (all submitted)
 - site 2 – 100%; site 9 – 29%; site 14 – 14%
 - 71% resistant to 1X glyphosate rate
- Site 2 = ALS; site 9 = glyphosate; site 14 = PPO

Typical Palmer control programs - soybeans

- Residual herbicide at or before planting
 - Valor or Authority product, Fierce, Fierce XLT etc
- First POST on 2 to 3 inch Palmer plants
 - fomesafen/glyphosate or glufosinate (LL soy)
 - Can add residual to reduce need for another POST
 - Dual, Zidua/Anthem, Warrant
 - Prefix = Flexstar + Dual
- Second POST on 2 to 3 inch new plants
 - Cobra or glufosinate
- Xtend or Enlist – can use 2,4-D or dicamba in POST

Just Give Weeds The Finger!

**Greater than 6"
Good Luck!**

**2"
Ideal**



**3-4"
Good**



**4-6"
Marginal**



The Difference of 2 Days!

Flexstar on 6-inch Palmer

Flexstar on 3-inch Palmer



Typical Palmer control programs - corn

- Residual herbicide at or before planting
 - Atrazine premix OK
 - Lexar, Corvus + atrazine better
- POST on 2 to 3 inch Palmer plants
 - Avoid glyphosate or ALS inhibitors
 - Number of effective POST herbicides
 - Better to also include herbicide with residual activity
 - atrazine
 - Callisto or other mesotrione product
 - Dual or acetochlor or Zidua/Anthem

Palmer Amaranth

Know what it looks like
Scout fields in early August
Get help with ID if necessary
Look for mature seed
If none – remove from field
Prevent seed production
Do not run through combine



OSU C.O.R.N. Newsletter

<http://corn.osu.edu/>

OSU Weed Science Website

<http://u.osu.edu/osuweeds>

Weed Control Guide for OH/IN

[OSU Extension Bulletin 789](#)

loux.1@osu.edu

[614-292-9081](tel:614-292-9081)