Controlling Field Horsetail and Other Odd Weeds

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Controlling Field Horsetail and Other Odd Weeds

- One of the oldest weeds known
  - The horsetail family dates back 230 million years and was dominate plant family at that time
- Limited research due to unique biology/ecology of the weed and limited impact to crops
- Few herbicides are effective
- Usually infests relatively small acres, but reports are increasing in many areas

Field Horsetail (*Equisetum arvense*)


Equisetaceae (horsetail) family, one of the oldest plant families, over 230 million years

Perennial with spreading rhizomes

Non-flowering; Reproduces by spores

Also known as: 'little Christmas trees'; bottle-brush; snake-grass; and horsepipes, stovepipes

Horseweed (*Conyza canadensis*)


Asteracea (composite) family, native to North America

Annual with simple taproot

Small seeds easily moved by wind

Common in no-till systems, many herbicide-resistant biotypes

Also known as:

Marestail or Canada fleabane

Preferred habitat is ?

- Generally starts at the edge of the field and slowly spreads inward
  - Favors low spots

But…

- It can move from low spots up to higher terrain
- Genetic diversity could be large
  - This could explain inconsistencies in weed control information

Preferred habitat is ?

Preferred habitat is ?

- Like other perennials it survives well in no-till fields, however, **GLYPHOSATE IS NOT EFFECTIVE**
- However, once it is established, that doesn't make tillage effective at eradicating the weed from a field
- Repeated tillage (and deep tillage) may "thin and wear the population out" but may not be good option on erodible lands
- Shallow tillage can spread the rhizomes around to new areas of the field (stay inside affected area)

‘Control’ by Herbicides

Literature review

- Glyphosate + 2,4-D is NOT effective
- Many ‘contact’ herbicides can provides ‘burndown’ activity, but not good long-term control; regrowth often occurs
- MCPA most effective in Small Grains
- Flumetsulam most effective in corn and soybean
  - Flumetsulam **(Python)**
  - Flumetsulam + Clopyralid **(Hornet)**
  - Flumetsulam + Clopyralid + Acetoachlor **(Surestart / TripleFLEX)**

2009 and 2010 research
B. Jensen, C. Boerboom, T. Trower

- 3 locations, Monroe and Columbia counties
- In summary,
  - Burndown/preemergence: flumetsulam combinations provided **mostly poor** to moderate control (40 to 70% at 8 WAT)
  - Postemergence: Steadfast + Status provided most consistent control across locations, followed by Steadfast + Hornet

2011 research

- Green county
- Objective:
  - Compare early-POST applications in corn; specifically compare Surestartwith ALS-inhibitor+dicamba combinations

  - Treatments sprayed on June 4 @ 15 GPA
  - V4 corn ; field horsetail 6 to 14” tall

2011 research

Herbicide Treatment			Percent Control					
Applied June 9, 2011	Rate	Unit	6/24/2011		7/28/2011		10/5/2011	
Roundup PowerMax +	22	fl oz/a	25	ab	37	a	47	b
Surestart	1.5	pt/a						
Roundup PowerMax +	22	fl oz/a	37	ab	45	a	67	ab
Yukon + 0.25% NIS	4	oz/a						
Steadfast +	0.75	oz/a	34	ab	59	a	95	a
Yukon + 1% COC	4	oz/a						
Steadfast +	0.75	oz/a	53	a	74	a	95	a
Status + 1% COC	5	oz/a						
Steadfast +	0.75	oz/a	35	ab	58	a	77	a
Hornet + 1% COC	4	oz/a						
Roundup PowerMax +	22	fl oz/a	36	ab	61	a	88	a
Status + 1% COC	5	oz/a						
Steadfast +	0.75	oz/a	48	a	71	a	95	a
Northstar + 1% COC	5	oz/a						

2011 conclusions

- Surestart/TripleFLEXX performed poorly compared to Steadfast + dicamba + other ALS combinations
  - Likely not enough flumetsulam at this application timing
- Steadfast + Status again performed among the best treatments; although, not significantly better than other Steadfast combination
- May still need to continue evaluations
- Multiple, and repeated pronged approach will be needed


June 29th, 2011
South Central WI crop consultant Email reads…
WHAT IS THIS WEED?

Common pokeweed
(*Phytolacca americana*)

- "New" weed in Wisconsin?
- Reports from southern WI

Common pokeweed
(*Phytolacca americana*)

- a.k.a. Pokeberry
- 3 to 10 feet tall
- Simple Perennial: large tap root
- Leaves are egg shaped but pointed, hairless, and often look purple-ish

Common pokeweed

(*Phytolacca americana*)

- Stems are red and mature berries are purple
- All parts of the plant are ***Poisonous***
- Can become a common weed in no-till systems
- Berries contain a purple juice which stains

Common pokeweed control

(*Phytolacca americana*)

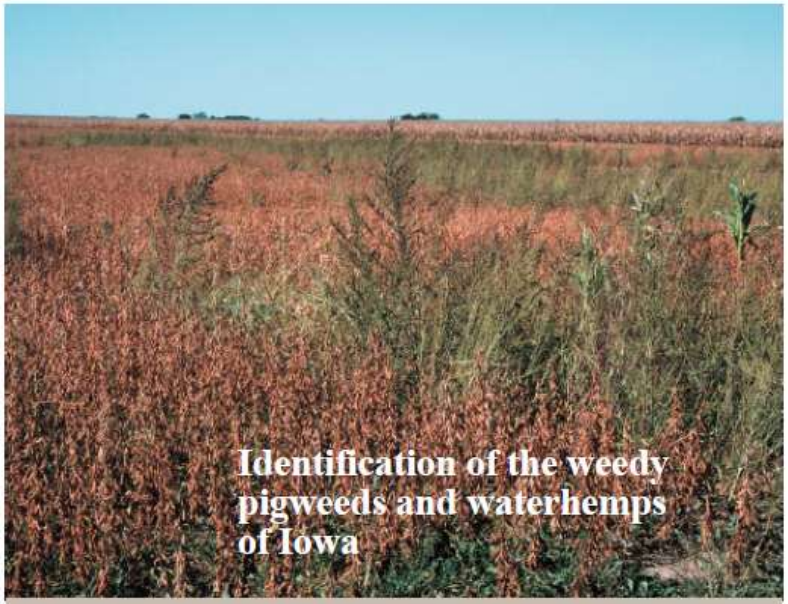
- Spot treatment with 2% glyphosate solution
- Fallow areas: 1.1 to 1.5 lb ae/a glyphosate or 0.75 lb ae/a glyphosate + 1 pt 2,4-D in the fall before frost
- Corn: 1.1 lb ae/a glyphosate in RR corn. Other options, Northstar, Yukon, Status, Callisto
- Soybean: 1.1 to 1.5 lb ae/a glyphosate in RR soybean. Other, 0.75 oz Synchrony in STS soybean, Classic, HarmonyGT, Raptor

Palmer amaranth

(*Amaranthus palmeri*) is in Wisconsin Crop Production Fields

Wisconsin Crop Manager article 10/13/11

http://www.extension.iastate.edu/publications/PM1786.pdf



Identification of the weedy pigweeds and waterhemps of Iowa

Sponsored by the Iowa Soybean Promotion Board

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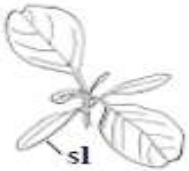
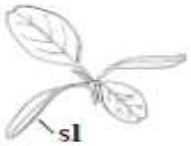
Pm-1786 April 1999

Pigweed and waterhemp identification table

	Common Waterhemp	Redroot Pigweed	Smooth Pigweed	Powell Amaranth	Palmer Amaranth
Seedling shape					
Stem hairs					
Leaf shapes					
Separate male and female plants	Yes	No	No	No	Yes
Seedhead shape	smooth, long, slender	prickly, short, stout	slightly prickly, long, slender	prickly, very long, thick	very prickly, very long, thick

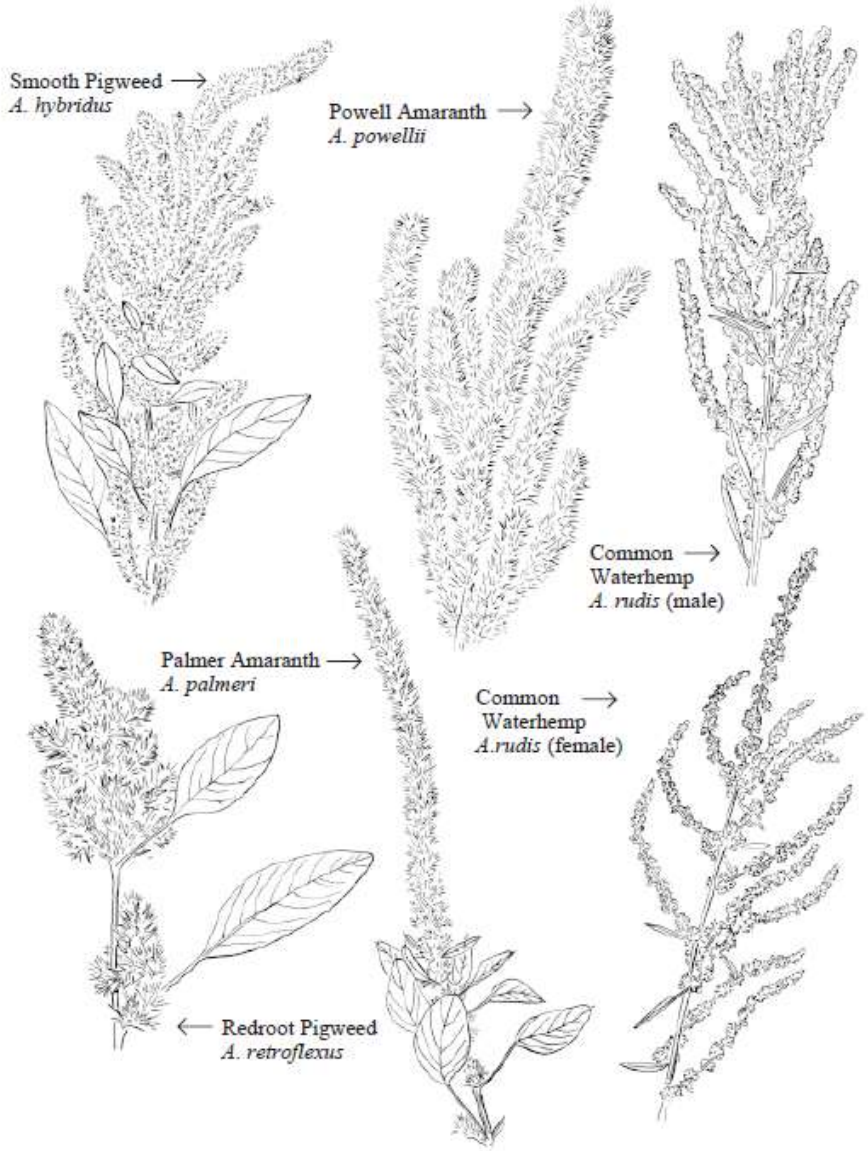


Figure 1. Seedhead shapes with male common waterhemp for comparison.

Palmer Amaranth

A. palmeri

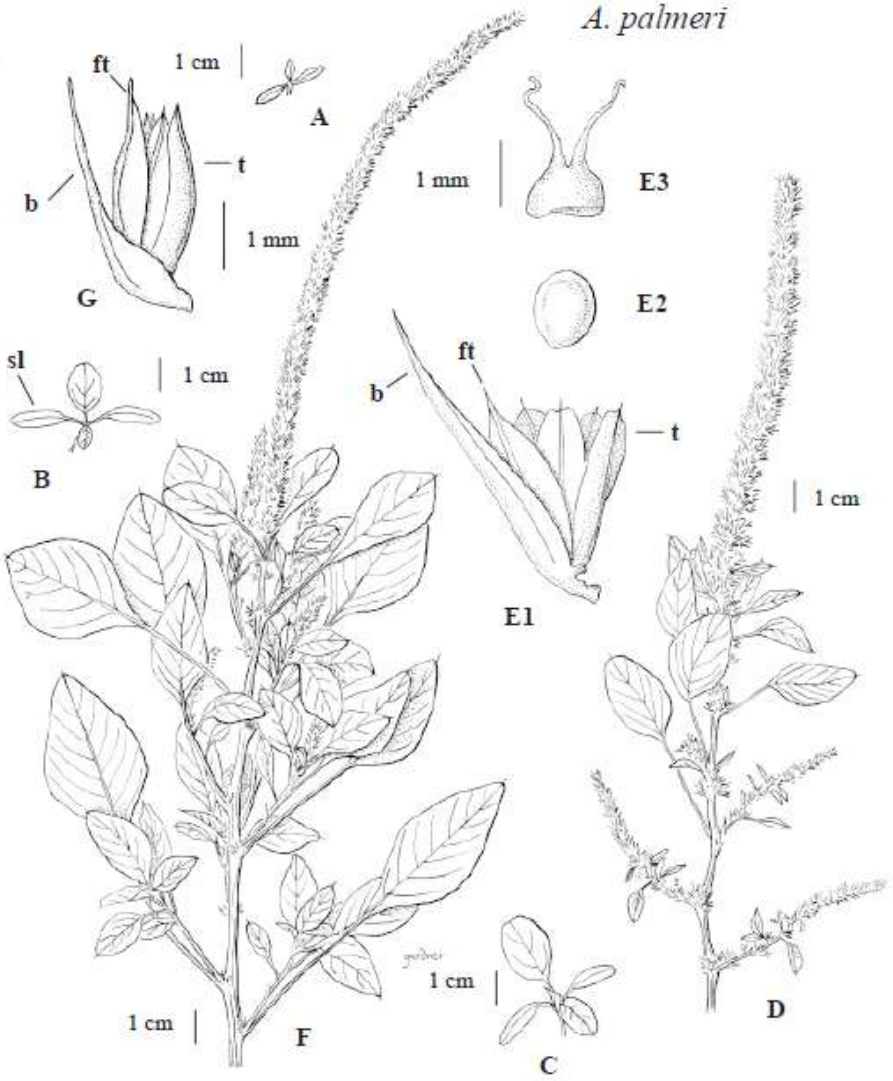


Figure 6. A-C. Seedlings: **A.** Seed leaf stage. **B.** Single-leaf stage (**sl**—seed leaf). **C.** Two-leaf stage. **D.** Seedhead (female plant). **E.** Female flower, exploded view: **E1.** Flower and bract; **E2.** Seed; **E3.** Seed cap. **F.** Flowering male plant. **G.** Male flower. (**b**—bract; **ft**—first tepal; **t**—tepal)


Thanks for your attention!
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