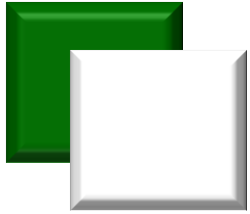


Experiences with glyphosate-resistant Palmer amaranth in the North

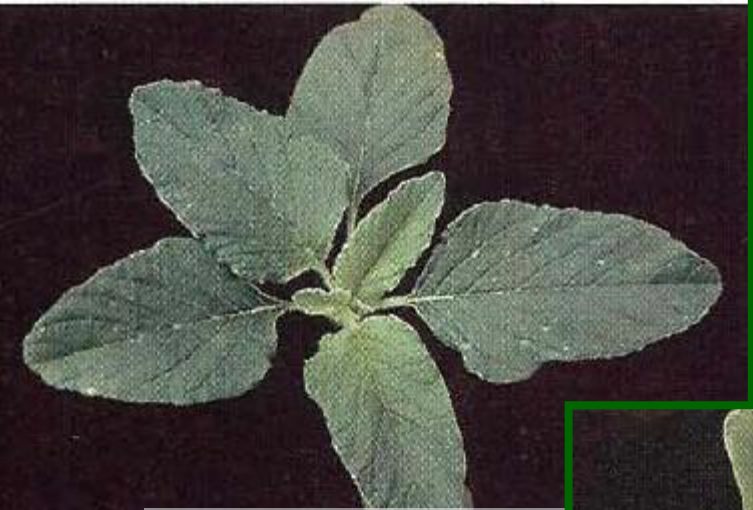
Christy Sprague
Michigan State University



Palmer amaranth

- *Amaranthus palmeri* - “Palmer pigweed”
- Native to the desert Southwest
 - Thrives in hot climatic conditions
 - Tolerant to drought
- One of 10 common pigweed species in the great plains and southeast U.S.
- Not common in the upper Midwest
 - No reports of Palmer amaranth found in MSU’s herbarium





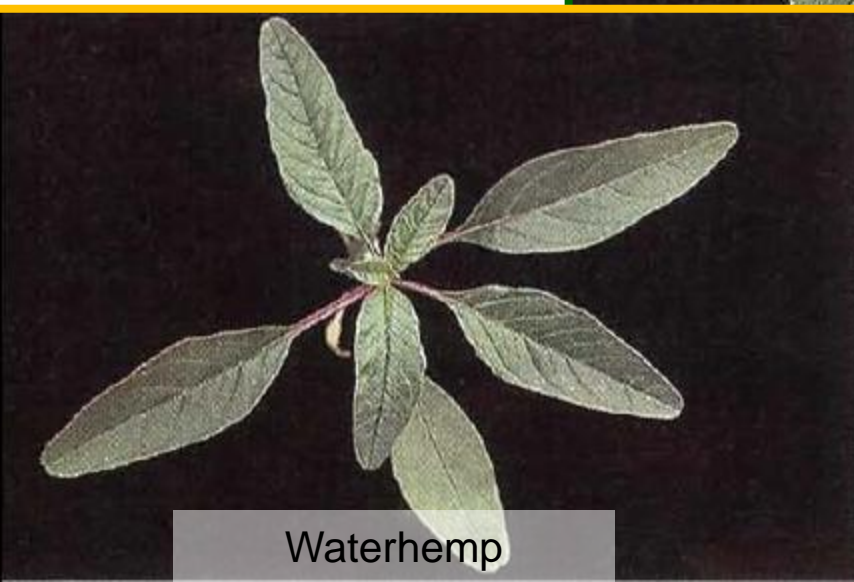
Redroot pigweed



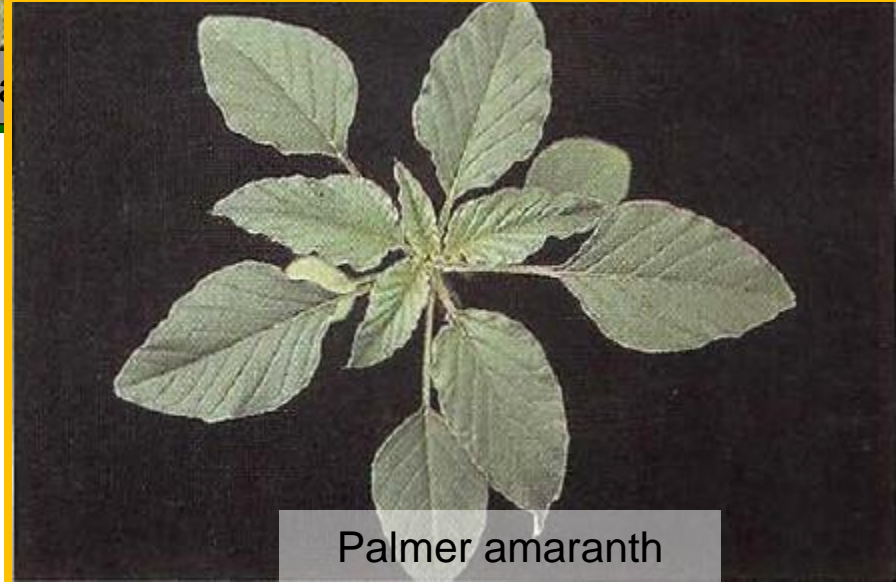
Smooth pigweed



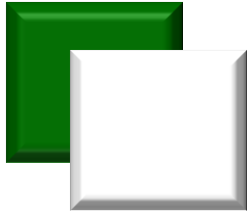
Small amaranth



Waterhemp



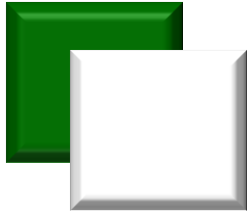
Palmer amaranth



Pigweed identification

	Palmer amaranth	Powell amaranth	Redroot pigweed
Seedling	leaf tip hair-like protrusion	no	no





Pigweed identification

	Palmer amaranth	Powell amaranth	Redroot pigweed
Stem	smooth	hairy	hairy

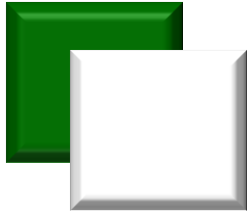


Pigweed identification

	Palmer amaranth	Powell amaranth	Redroot pigweed
Petiole length	long (>2x)	short	short

as long or longer than the leaf blade

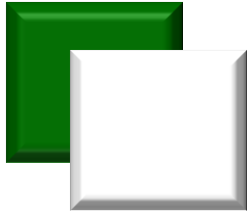




Pigweed identification

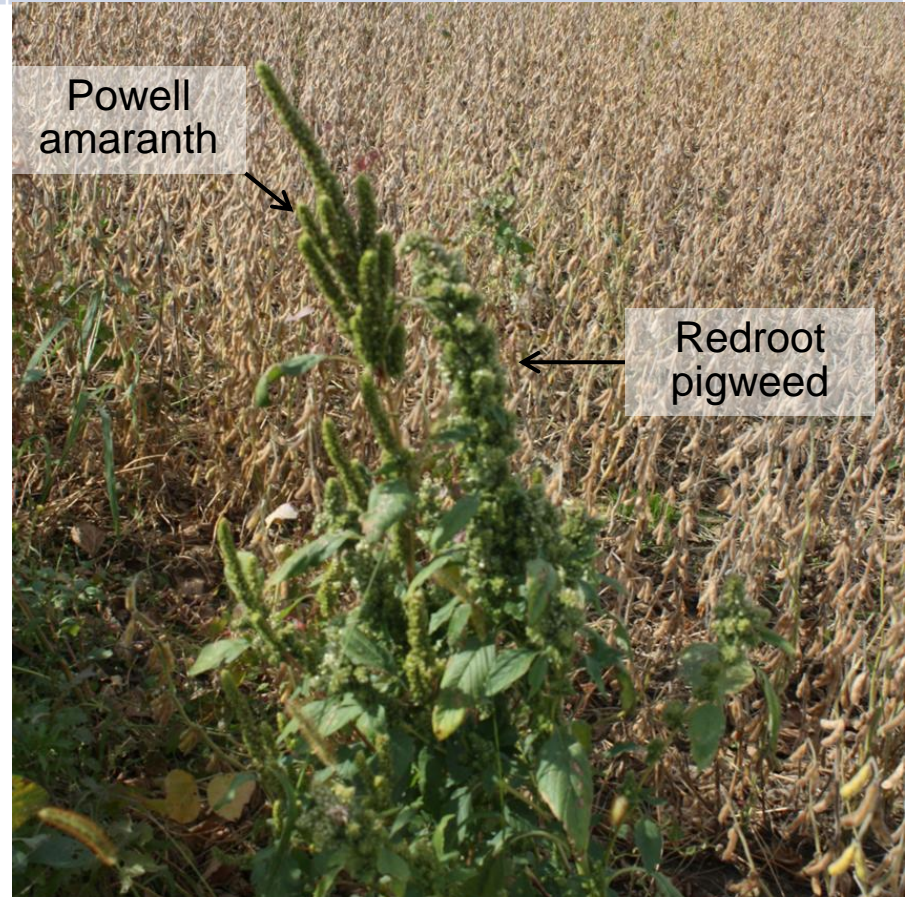
	Palmer amaranth	Powell amaranth	Redroot pigweed
Spiny bracts	yes (female)	no	no

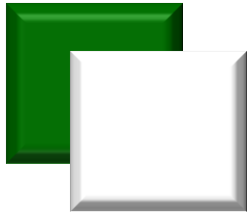




Pigweed identification

	Palmer amaranth	Powell amaranth	Redroot pigweed
Seed head	unbranched	branched	branched





Pigweed identification

	Palmer amaranth	Powell amaranth	Redroot pigweed
Reproductive	dioecious (male & female plants)	monoecious	monoecious

male



female





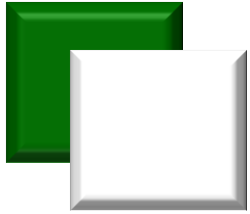
“Male”
seedhead



“Female”
seedhead

Palmer amaranth produces over 400,000 seeds per plant





Pigweed identification

	Palmer amaranth	Powell amaranth	Redroot pigweed
Seedling	leaf tip hair-like protrusion	no	no
Stem	smooth	hairy	hairy
Petiole length	long (>2x)	short	short
Spiny bracts	yes (female)	no	no
Seed head	unbranched	branched	branched
Reproductive	dioecious (male & female plants)	monoecious	monoecious















Gratiot Co.



Barry Co.



Prevention and early detection are essential!!

