

Weeds to Watch

New Weed Threats for Corn and Soybean Fields*



Cressleaf Groundsel



Purple Deadnettle



Biennial Wormwood



Asiatic Dayflower



Hophornbeam Copperleaf



Giant Ragweed



Burdock



Wild Buckwheat



Kochia



Lambsquarters Complex



Waterhemp



Palmer Amaranth



Star-of-Bethlehem



White Campion



Wild Four O'Clock



Pokeweed

*Weed communities continually shift in response to management practices. Failure to properly identify new weeds when they first enter a field may result in the plant becoming permanently established and increase weed management costs. The weeds included on this poster pose an increasing threat to agronomic fields. The maps provide information regarding current distribution of species. **Rare Occasional Common**

File: Pest Management 3

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Cressleaf Groundsel (Butterweed): Winter annual. **ID keys:** Hairless, alternate and pinnately compound leaves; deeply divided, round-toothed lobes; hollow stems; yellow daisy-like flowers found in clusters. **Problem:** Primary emergence in fall, but some plants may emerge in spring; difficult to control weed of no-till fields; tolerates 2,4-D. **Management:** Canopy and Canopy XL are effective in fall for small plants. Fall applications or early spring applications of paraquat or glyphosate also are effective.

Hophornbeam Copperleaf: Annual. **ID keys:** Leaves alternate, heart-shaped at base, covered in short hairs; margins are finely toothed; small white flowers on axillary and terminal spikes. **Problem:** Late emergence; little response to ALS or dinitroaniline herbicides. **Management:** Because of hophornbeam copperleaf's prolonged emergence period, sequential management programs generally provide the most consistent level of control.

Kochia: Annual. **ID keys:** Leaves alternate, lance-shaped, margins fringed with hairs; tumbleweed-shaped plant; flowers inconspicuous, forming dense spikes in axils of upper leaves. **Problem:** Populations resistant to ALS and triazine herbicides are common in Midwest. **Management:** Kochia seed is short-lived in the soil. Therefore, integration of soil-applied and postemergence tactics with postemergence application to plants less than 3" tall can reduce populations.

Star-of-Bethlehem: Bulbous perennial. **ID keys:** Grass-like, dark green leaves with grooves and a prominent white midrib; white flowers with 6 petals. **Problem:** Matures early in season so it escapes most control measures; occasionally sold as an ornamental plant; often found in and around old flower gardens; often confused with wild onion or wild garlic; tolerates 2,4-D and glyphosate; all plant parts are poisonous. **Management:** Paraquat, Authority/Spartan, Valor, or tillage are effective.

Purple Deadnettle: Winter annual. **ID keys:** Opposite leaves on square stem; soft hairs on the upper leaf surface and along veins of lower surface; upper leaf surface is prominently veined and wrinkled; pink to purple flowers; easily confused with henbit. **Problem:** Primary emergence in fall, but some plants may emerge in spring; tolerates low rates of 2,4-D, dicamba, or paraquat. **Management:** Controlled with higher rates of glyphosate, or tankmixes with atrazine or Sencor; tillage controls established plants.

Giant Ragweed: Annual. **ID keys:** Leaves opposite; serrated with 3 to 5 deep lobes; rough surface on leaf and stems. **Problem:** Extended emergence period; resistance to ALS herbicides; stem-boring insects interfere with herbicide translocation; soil-applied herbicides not highly effective alone. **Management:** Sequential herbicide applications such as a soil-applied herbicide followed by one or two postemergence applications. Cultivation also is effective.

Lambsquarters Complex (*Chenopodium* spp.): Annual. **ID keys:** Leaves alternate, highly variable in shape; new leaves often have white, mealy coating. **Problem:** Several *Chenopodium* species are present in the Midwest; variability among plants and similarities between species make identification difficult; consistent control with ALS herbicides and glyphosate may be difficult in soybean. **Management:** Early postemergence herbicide applications improve control.

White Champion (White Cockle): Biennial or short-lived perennial. **ID keys:** Softly hairy, opposite leaves with prominent veins; 5 notched white petals. **Problem:** Germinates in spring or fall; tolerates 2,4-D or low glyphosate rates used in burndown treatments in no-till fields. **Management:** Increase burndown glyphosate rate to 0.75 lb ae/a; control survivors with postemergence dicamba-based herbicides in corn or glyphosate in Roundup Ready® soybeans; tillage controls established plants.

Biennial Wormwood: Annual or biennial. **ID keys:** Fern-like leaves with toothed margins, 2 to 5" long; erect stem, may be reddish or branch from the base; flowers are a series of spike-like clusters located in terminal leaf axils. **Problem:** Thrives in no-till systems and areas with high moisture; prolonged emergence and prolific seed production. **Management:** Soil applications of Authority/Spartan, Sencor, or Valor. Postemergence applications of growth regulator herbicides, Basagran, glyphosate, or Liberty.

Burcucumber: Annual. **ID keys:** Vine with alternate, hairy leaves; usually with 5 shallow lobes and a finely toothed margin; stems are sticky-hairy at nodes; flowers located in leaf axils are greenish white with 5 petals; clusters of ¾" spiny fruits. **Problem:** Vining plant that climbs by tendrils and interferes with grain and vegetable harvest. **Management:** Soil applications of Balance Pro or postemergence applications of atrazine, Beacon, Buctril, Classic, Cobra, glyphosate, or Liberty.

Waterhemp: Annual. **ID keys:** A pigweed species; highly variable plant shape; leaves long and slender; stems and leaves smooth and hairless. **Problem:** Prolific seed production; prolonged emergence period and herbicide-resistant biotypes favor survival in corn and soybeans. **Management:** Integrated management programs combining preemergence and postemergence tactics provide the most consistent control; tillage may reduce problems in no-till fields with history of control problems.

Wild Four O'Clock: Perennial with large taproot. **ID keys:** Heart-shaped (lilac-like), opposite leaves; squarish stem with swollen nodes; pink to reddish flowers. **Problem:** Difficult to control weed of reduced-till fields; tolerates 2,4-D; readily establishes from seed. **Management:** Moldboard plowing and other thorough tillage is effective; glyphosate applied at the early flower stage in Roundup Ready® crops is effective; postemergence dicamba in corn or Classic in soybeans will suppress this weed.

Asiatic Dayflower: Annual. **ID keys:** Leaves are lanceolate, 2 to 4" long with parallel veins, conspicuous basal sheaths; flowers with two bright blue petals. **Problem:** Tolerance to glyphosate has allowed dayflower to become established in Roundup Ready® crops; prolonged emergence. **Management:** Timely application is the key to successful control of dayflower. Glyphosate or Amplify/FirstRate applied to 6" dayflower has provided acceptable control in university field trials.

Wild Buckwheat: Annual. **ID keys:** Vine with alternate, heart-shaped leaves with a tapered point; papery sheath encircles the stem at the base of each petiole; inconspicuous green flowers. **Problem:** Vining growth habit makes harvesting difficult; not responsive to single applications of glyphosate. **Management:** Two applications of glyphosate may be necessary for effective control; many alternative postemergence small grain, corn, and soybean herbicides will provide effective control.

Palmer Amaranth: Annual. **ID keys:** A pigweed species; leaves diamond-shaped with long petioles; female plants have prickly bracts. **Problem:** Prolific seed production, prolonged emergence, and herbicide-resistant biotypes favor survival in corn and soybean fields. **Management:** Integrated management programs combining preemergence and postemergence tactics provide most consistent control. Tillage may reduce problems in no-till fields with history of control problems.

Pokeweed: Perennial with large taproot. **ID keys:** Large, pale-green leaves and reddish stems, both hairless; purple to black berries. **Problem:** Established plants are difficult to control; birds eat berries and spread seeds. **Management:** May be controlled in fall with glyphosate or glyphosate + 2,4-D. Glyphosate in Roundup Ready® crops or dicamba-based herbicides in conventional corn or Synchrony in soybean will suppress or control pokeweed.

Common chemical and trade names are used in this text. The use of trade names is for clarity by the reader. Inclusion of a trade name does not imply endorsement of that particular brand of herbicide and exclusion does not imply nonapproval.