



Invasive Species of the Month for December 2018

Japanese Chaff Flower (*Achyranthes japonica*)

Origin: Korea, China, and Japan

Introduction: Unknown origin, first spotted in Kentucky in 1981

Interesting Fact: Japanese Chaff Flower has been mostly found along the Ohio River floodplain but has been spotted as far north as Gibson and Lawrence Counties. We want to keep it from establishing in Knox County.

Description: Japanese Chaff Flower (hereafter JCF) is an invasive, herbaceous perennial in the Amaranth family, which includes many agricultural weeds. JCF can grow up to around 10 ft. tall and has opposite leaves with a distinct arching venation as well as bottlebrush-like seedheads.

Defining characteristics:

- Elliptic, opposite leaves with a strong arching venation pattern
- Reddish (especially near the nodes), angled stems that can be finely pubescent
- Inconspicuous flowers arranged in a spike
- Bottlebrush-like spike of seeds (with paired bracts) that elongate as the plant matures

Botanical Terminology:

Allelopathy – the biochemical inhibition of a species by another

Pubescent – having hairs

Rhizomes –horizontal underground stems that are storage structures and can produce new shoots



Left Image: The bottlebrush-like spikes of JCF.

Center Image: The leaves and stem of JCF. Note the arching venation (highlighted in red)

Right Image: The growth habit of a mature JCF with seeds.



Knox County Cooperative Invasive Species Management Area

Habitat: Marshes, wetlands, forest edges, riparian areas, field edges, roadside ditches, etc.



Above Image: A dense patch of Japanese Chaff Flower along a forest edge in Posey County.

Ecological threat: JCF produces lots of seeds (anywhere from 100 to 1,000+) per mature plant, and these seeds have a high germination rate of 95%. JCF's seeds cling easily to fur, feathers and clothing; in addition, the seeds seem to spread along waterways, allowing JCF to spread far and wide quickly. Besides seed production, JCF is potentially rhizomatous, which would allow it to spread vegetatively as well. JCF also increases growth with the addition of nitrogen or increase in light but does not appear to compete well with crops present (like soybeans). Lastly, JCF tends to form dense patches and appears to have some allelopathic properties; both traits leading to the inhibition of native vegetation.

Control Methods:

- Prevention: If spotted in the area, be sure to check clothing and use a boot brush to get rid of the seeds before potentially transporting them to another area.
- Manual: Small individuals can be pulled/grubbed out. Pulling large individuals is not very effective since they have large, developed root systems. Mowing or cutting could reduce seed production but does not appear to kill the plants.
- Chemical: A foliar application of 2% triclopyr* (the salt formulation) (e.g. Garlon 3A) appears to be the most effective, but other herbicides have been demonstrated to be effective as well. An addition of a nonionic surfactant could increase efficacy, but do not use surfactant if applying near a water body.

*Always follow herbicide label instructions.



References

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