

Common windgrass in Michigan

Keys to identification and management in winter wheat

Christy Sprague, Extension Weed Science

www.MSUweeds.com
October 2013



MICHIGAN STATE UNIVERSITY WEED SCIENCE

MSUWS04-2013

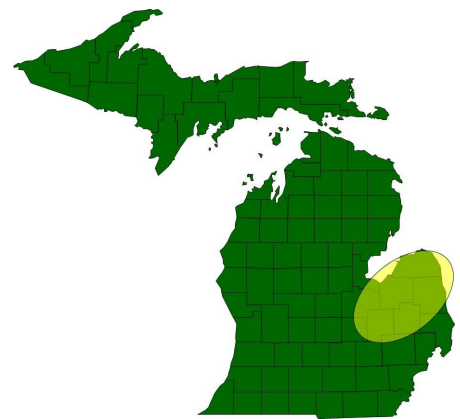
Common windgrass (*Apera spica-venti* L.) is a winter annual grass species that has become more of a weed problem in winter wheat production. In the past the distribution of common windgrass in Michigan has been limited. However, over the last several years this weed has been reported in several counties. Management of this weed can be difficult because the emergence pattern and growth closely coincide with winter wheat, and the availability of selective herbicides is limited.

Identifying characteristics:

- Fall emergence; threadlike appearance after emergence
- Overwinters with 2- to 3-leaves
- Produces several tillers similar to wheat
- Leaves smooth to slightly rough; smooth leaf sheath
- Membranous ligule that becomes jagged and lengthens with age
- Plants can be up to 5 feet tall
- Flowers the same time as wheat
- Flowering structure: open-branched, reddish panicle with fine branches
- Branch ends have a single spikelet with a long, straight awn
- Seeds often mature prior to wheat harvest



Windgrass in a Michigan wheat field



Common distribution of windgrass in Michigan



Threadlike appearance



Tillering of windgrass in wheat



Jagged membranous ligule



Open-branched, reddish panicle

Common windgrass in Michigan

Keys to successful windgrass management in wheat

Proper identification and early detection of common windgrass will improve the opportunity for successful management. The following steps outline the strategies for the best management of common windgrass in winter wheat.

Step 1: Start clean!!

Common windgrass present at the time of winter wheat planting needs to be controlled either by tillage or an appropriate burndown herbicide application. Glyphosate, combinations with glyphosate, or Gramoxone will provide good control of windgrass and other winter annuals that have emerged prior to planting wheat.

Step 2: Plant a competitive crop.

Practices that enhance the competitive ability of winter wheat with common windgrass will improve the consistency of the herbicides programs listed below. These practices include planting wheat at higher seeding rates and optimizing fertility for the crop.

Step 3: Apply an effective postemergence herbicide.

Windgrass is most effectively controlled by postemergence herbicide applications. MSU research sponsored by the Michigan Wheat Program has shown that both fall and spring herbicide applications can effectively manage windgrass in winter wheat (Table 1). However, fall applications have shown the greatest opportunity to reduce windgrass competition.



Approach A: Fall applications

These applications need to be made to **emerged** windgrass and **emerged** winter wheat. Typically applications will occur in early- to mid-November, when winter wheat has at least 3 leaves. Additional spring herbicide applications are needed to control summer annual weeds.

Approach B: Spring applications

These applications should be made when windgrass is 2 to 4-inches tall and wheat is at Feeke's stage 4 or 5 (prior to jointing). Windgrass control with spring applications generally takes 3 to 4 weeks for maximum control. This slower kill may allow for more windgrass competition with wheat. Tank-mixtures with other herbicides will be needed for control of additional broadleaf weeds.

Table 1. Effectiveness of POST herbicides for windgrass control.

| Herbicide | Group # | Rate/A | Windgrass control | |
|---------------|---------|------------|-------------------|----------------|
| | | | Fall applied | Spring applied |
| PowerFlex HL* | 2 | 2 oz | Excellent | Excellent |
| Osprey* | 2 | 4.75 oz | Good - Excellent | Excellent |
| Axial XL | 1 | 16.4 fl oz | -- | Fair-Good |
| Puma | 1 | 10.6 fl oz | -- | Fair |

*Include a non-ionic surfactant and a nitrogen source (AMS or 28% UAN)

Step 4: Additional strategies to consider.

In high windgrass infested areas, consider a change in crop rotation. Windgrass can be effectively managed in many of our spring planted crops. It is also important to avoid spreading the windgrass seed from field to field with tillage and harvest equipment. If possible, harvest these fields last or try to clean equipment between fields. Weed-free wheat seed should also be planted. Using multiple tactics will provide greater control success and prevent the increased spread of windgrass.



Financial support for this research was provided by the Michigan Wheat Program.