Foxtail Barley - Weed Of The Year

- Foxtail barley is a perennial bunchgrass, thrives where reduced tillage or no-till is practiced, is native to North America, is found in wet areas, and is tolerant of saline/alkaline soils.

- Foxtail barley can germinate in the fall or spring. Fall-germinating plants resume growth early in the spring and have a competitive advantage over spring-seeded crops if not controlled through tillage or chemical control (EPP or PRE).

- Foxtail barley seeds primarily spread by wind or can attach to birds or animals for distant distribution.

- Foxtail barley 1-2 feet tall and forms a pale green, bushy spike. Leaves are soft to the touch due to very short, but dense hairs which appear a bluish-green or grayish-green.

- Foxtail barley is easily controlled with tillage because it has a shallow fibrous root system and does not spread by rootstocks or rhizomes like some other perennial weedy grasses.

- Glyphosate applied EPP, PRE, or post-harvest is critical for long-term control of foxtail barley. The graph below shows the effectiveness of late-summer glyphosate applications. Assure II has been shown to be very effective in broadleaf crops (see graph). In wheat, Group 2 herbicides will provide foxtail barley suppression. See control ratings at the end of the wheat section.

Optimal Glyphosate Application Timing for Foxtail Barley Control (Conn and Deck 1995)
- Tested glyphosate at 8 applications from May to September.
- Two rates (~0.5 and 1 lb/ha).
- Foxtail barley control at 0.5 lb = 40% in 1992, 60% in 1993.
- Foxtail barley control at 1.0 lb = 50% - applied during seed fill.
- Foxtail barley control at 1.0 lb = 72-98% - applied Aug-mid-Sept.
- The best and most consistent long-term treatment = glyphosate applied at 1.0 lb/ha after foxtail barley seeds had matured.

POST Foxtail Barley Control in Spring Wheat and Flax (Blackshaw et al. 1998)
- Applied POST herbicides to 3- to 4-leaf wheat and 1- to 3-tiller foxtail barley.
  - Maverick = good control.
  - Sencor = suppression, but injured wheat.
  - Achieve, Discover, and Puma = did not control.
  - Assure II = excellent control.
  - Poast and Select = suppression but less effective than Assure II.
  - Fusilade and Fusilade + Puma = suppression.

Integrated Weed Management Approach to Managing Foxtail Barley in Conservation Tillage Systems (Blackshaw et al. 1999)
- Tested combinations of cultural and chemical control to manage foxtail barley in a 4-year study.
- Studied crop row spacing, seeding rate, and application rate and timing of glyphosate in a spring wheat-flax cropping sequence.
- Glyphosate applied preseeding at 0.36 or 0.72 lb ae/ha killed foxtail barley seedlings, but suppressed established perennial plants.
- Glyphosate applied post-harvest at 0.72 lb ae/ha killed 60-70% of established plants.
- Combinations of preseeding and postharvest glyphosate provided the best control.
- Including flax in the rotation allowed the use of Assure II or Poast to control/suppress foxtail barley.
- An increase in wheat seeding rate from 67 to 103 lb/ha reduced foxtail barley growth and increased wheat yield in 3 of 4 years.

- Studies combined effects of tillage, N rate, N placement and glyphosate application timing
  - Wide-blade tillage in fall and spring reduced foxtail barley all years and increased yield 4 of 5 years.
  - N placed mid-row in 4-inch-deep bands reduced foxtail barley in 2 of 5 years and increased wheat yield in 3 of 5 years compared with broadcast N.
  - Glyphosate at 0.72 lb/A applied preharvest or postharvest provided similar foxtail barley control in 2 of 3 years.

Established Foxtail Barley Control with Glyphosate Plus AMS (Donald 1988)
- Spring-applied glyphosate at 0.50 lb/A provided good late-season foxtail barley control in only 1 of 3 years.
- Adding AMS to glyphosate significantly increased control to good to excellent late-season control in all three years.