

WOOLLY CUPGRASS

Eriochloa villosa



Overview:

Woolly cupgrass is an erect annual that is commonly a problem in ditches, disturbed sites, and agronomic fields.

Identification:

One side of the leaf blade has a distinct crinkle that is flat, linear, to lanceolate-linear. The rachis is densely covered with soft hairs. Spikelets are arranged in 1 to 2 compressed rows on 2 sides of the rachis. Prairie cupgrass is similar in appearance but its inflorescence is not covered with hairs and has a twisted awn at the tip of the fertile lemma.

Hairy ligule, leaves covered with very short, dense hairs (may need hand lens to see). Erect plants reaching heights of 3 to 4 ft. Branched inflorescence with individual spikes having two rows of seeds.

Seedlings: Large seed attached to root; short first leaf parallel to soil.

Sheaths: Covered with short hairs.

Leaves: Leaves are hairy with one side of the leaf blade crinkled. Blades are flat and lanceolate-linear and measure 2-12mm in width. A ligule is present and has a fringe of hairs that vary from 1-1.5mm in length.

Roots: A fibrous root system.

Flowers: Consists of a panicle of racemes and spikelets are arranged in 1 or 2 compressed rows. The rachis is covered with soft hairs while the pedicels are densely covered with long hairs.

Control:

Cultural: Woolly cupgrass can be managed if a rotation that includes small grains and forage crops is introduced. Woolly cupgrass is best adapted to a corn-corn or corn-soybean rotation. The growth characteristics make cupgrass most competitive and successful when grown with other annual crops of similar growth habit. Breaking this rotation cycle with forages or small grains can help reduce woolly cupgrass populations. However, the longer the field does not include a full-season annual crop, the greater the

impact on woolly cupgrass populations. Rotating away from corn or soybeans for a single year will not significantly affect cupgrass populations.

Mechanical: Mechanical weed control with rotary hoes and cultivators is extremely important for the successful management of woolly cupgrass. Primary tillage also promotes the effective control of this weed. However, severe tillage should not be used as a management strategy if the potential for soil erosion is significant.

Rotary hoeing should be done before the woolly cupgrass has emerged but after germination has occurred. Given the ability for woolly cupgrass to germinate when soil temperatures are cool, rotary hoeing may need to be accomplished sooner after planting than with other annual weeds. Further, as woolly cupgrass is capable of numerous germination flushes, multiple rotary hoe trips will improve results compared with other weeds.

Cultivation is an effective technique for woolly cupgrass management. Depth of cultivation may not be as important as with other weeds, given the ability of woolly cupgrass to successfully emerge much deeper than many other annual weeds. However, when the effect of deep cultivation on crop growth, soil moisture, and herbicide dilution, it is suggested that shallower cultivation are more favorable than deep cultivations for the management of woolly cupgrass.

Timeliness of cultivation trips is important. Woolly cupgrass management is more effective when the weed is smaller. As with rotary hoeing, several trips with a cultivator may be necessary for woolly cupgrass management due to the multiple germination flushes. This need for multiple cultivation trips is enhanced when the ability for cupgrass to successfully emerge when soil temperatures are generally hotter than is acceptable for other weeds is considered. Thus, a layby cultivation trip is critical for the effective management of woolly cupgrass.

Chemical: Generally, herbicides commonly used for weed control in corn have not provided consistent nor effective woolly cupgrass management. When control was achieved, the treatments included herbicide combinations applied preplant incorporated and postemergence overlay applications. Examples of treatments recommended for woolly cupgrass control in corn included EPTC (Eradicane and Eradicane Extra) applied in combination with cyanazine (Bladex). Preemergence or early postemergence treatments included pendimethalin (Prowl) plus cyanazine. The latter treatment has not provided consistent woolly cupgrass control due to the effect of the environment. Further, this herbicide combination demonstrated a significant potential for crop phytotoxicity, depending on the environmental conditions.

Herbicidal control of woolly cupgrass in soybeans has been quite effective and efficient. Dinitroaniline herbicides such as ethalfluralin (Sonalan), trifluralin (Treflan), and pendimethalin have provided consistent woolly cupgrass control. Postemergence herbicides such as fluzafop-P butyl (Fusilade 2000), quizalofop (Assure), and sethoxydim (Poast) demonstrate excellent woolly cupgrass control. However, given the potential for multiple flushes of woolly cupgrass, timing of postemergence applications is critical for effective management. Generally, a combination of preplant incorporated treatments plus postemergence applications is necessary for most consistent control.

A new herbicide in corn has excellent woolly cupgrass efficacy. Nicosulfuron (Accent) has recently received registration in corn for postemergence application. Research has demonstrated excellent and consistent woolly cupgrass control for this herbicide. Application timing of nicosulfuron, in relationship to stage of woolly cupgrass growth, is not as critical as with other herbicides. However, nicosulfuron does not have significant residual activity. Thus, while providing excellent control of existing woolly cupgrass, other management strategies will be needed to provide residual control.



Provincial Designation:
Prohibited

