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## G83-648 Wild Proso Millet (Revised April 1992)

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## Wild Proso Millet

This NebGuide describes wild proso millet and its life cycle and provides recommendations for control.

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*Robert G. Wilson, Extension Weed Specialist*

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- [Description](#)
- [Control](#)

Wild proso millet (*Panicum millaceum* L.) is one of the fastest spreading weeds in the corn belt. In the early 1970s, wild proso millet was found in a few isolated corn fields in Wisconsin. By 1987 wild proso millet had infested over one million acres in Wisconsin, had infested most of the southern corn-growing counties in Minnesota, and was present in Iowa, North and South Dakota, Illinois, Colorado, Wyoming and Nebraska.

In Nebraska, wild proso millet was found first in a small area in Scotts Bluff and Morrill counties in 1978. Since then the weed has spread rapidly in the North Platte River Valley, and has progressed into central Nebraska. The seed of wild proso millet can be distributed by irrigation water, harvesting equipment, waterfowl, and livestock. With these avenues of seed dispersal to spread wild proso millet, it is conceivable this weed could spread throughout the state.

### Description

Wild proso millet differs from cultivated millet in two principal ways:

1. The seed color of wild proso is various shades of olive, gray or black, while the seed of most varieties of cultivated millet is yellow, white, brown or cream colored.
2. The seed of wild proso tends to shatter readily about two to four weeks after heading; cultivated forms tend to hold their seed.

A characteristic of millet, whether wild or cultivated, is persistence of the remnant seed legumes on the root of the growing plant. This remnant seed could be the key to a growing plant's identification.

#### **Figure 1. Typical bushy inflorescence of wild proso millet,**

Wild proso millet is an annual, reproducing by seed. Seed germination will occur in the spring and throughout the summer when soil temperatures reach 68°F. Seeds will germinate and



emerge from soil depths as low as 4 inches to depths near the soil surface. Once in the soil, wild proso millet seed can remain viable for five or more years.

Wild proso millet plants range in height from 1 foot in dry areas to 4 to 6 feet on irrigated sites. As plants grow larger, they lodge and put down additional roots wherever stem joints touch the ground.

**Figure 2. Wild proso millet seed.**

Plants can begin flowering in July and continue throughout the summer. The inflorescence produced by wild proso millet is large and bushy and resembles the seed head of witchgrass and fall panicum. Seed matures in late August through September. Once mature, it readily shatters when the plant is disturbed.

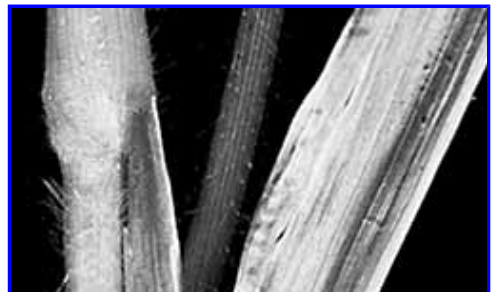


Wild proso millet plants can produce 400 to 12,000 seeds per square foot, depending upon the degree of plant competition. One wild proso millet plant per square foot in corn and dry edible beans may produce 400 and 2,100 seeds per square foot, respectively.

Stems of wild proso millet are characterized by an abundance of hairs located at right angles to the stem. If wild proso millet plants are carefully withdrawn from the soil, the dark seeds from which the plant developed can still be found.

**Figure 3. Wild proso millet stem, with abundance of hairs located at right angles to the stem.**

Wild proso millet seems to be most competitive with corn, soybeans, and dry edible beans. Plants growing with irrigated corn and dry edible beans at populations of one plant per square foot have reduced corn yields 17 percent and dry bean yields 22 percent.



Corn yields may be reduced 20 percent if removal of wild proso millet is delayed until six weeks after corn planting. A five-week delay in removal of wild proso millet from dry edible beans can result in a 21 percent yield reduction. Wild proso millet control programs must, therefore, be designed to control the weed during early stages of crop growth.

## **Control**

The best way to control wild proso millet is to prevent the weed from getting started. Select clean, high quality seed free of wild proso millet. Clean farm equipment, especially combines, before leaving an infested field. If land is being irrigated with surface waters, remove weed seed from irrigation water before it is used for irrigation. If you identify wild proso millet infestations, kill the weed before it can produce seed and spread.

Crop rotations can be used to control wild proso millet. Seedings of alfalfa, winter wheat, barley or oats begin growth and gain a competitive edge before wild proso millet seeds germinate.

Alfalfa would seem to be the best choice for long term wild proso millet control. Once established, the regular mowing of alfalfa prevents wild proso millet from producing seed. Four years of alfalfa cropping has the potential to reduce wild proso millet seed reserves in the soil by 90 percent.

When fields are taken out of alfalfa, a small quantity of wild proso millet seed may germinate and should be controlled to prevent the plant density from increasing.

Cultivation, if properly timed, can provide 95 percent control of wild proso millet. Cultivation should begin as soon as the crop emerges, and continue until the crop begins to close the row. If wet soil conditions prevent cultivation during early season crop growth, wild proso millet may become established and will be difficult to control with later cultivations. A more satisfactory approach is to combine cultivation with herbicides.

Planting crops in narrower rows has proven effective in controlling wild proso millet. Corn planted in 30 inch rows was more competitive than corn planted in 40 inch rows. The narrower row spacing usually provided 10 to 15 percent better wild proso millet control.

Preplant tillage before corn planting also can affect wild proso millet with ridge-tilled corn, reducing early season weed density more than preplant tillage methods involving the tandem disc or moldboard plow.

Wild proso millet can be controlled in corn with Eradicane, Sutan or combinations of Eradicane and Sutan with Bladex (*Table I*). Atrazine and Princep will not control wild proso millet. Under normal conditions, preplant herbicides will suppress wild proso millet for four weeks after emergence. Accent plus surfactant applied postemergence when corn is 10 to 29 inches tall and wild proso millet is 2 to 4 inches tall also has provided good control.

<b>Table I. Wild proso millet control in corn (summary of five trials).</b>			
<b>Treatment</b>	<b>Rate commercial product/acre</b>	<b>Time of application</b>	<b>Wild proso millet control</b>
Eradicane	5 pt	PPI	70
Lasso	3 qt	PPI	49
Sutan	4.75 pt	PPI	70
Dual	1 qt	Pre	36
Prowl + Bladex	1 qt + 1.25 lb.	Spike	45
Accent	0.6 oz	Post	82

Combining early season cultivation with either preplant or postemergence herbicides has resulted in the most consistent wild proso millet control. After this period, late germinating wild proso millet may be controlled by applying Prowl or Treflan as a layby treatment at the time of the last cultivation or ditching.

Wild proso millet can be controlled in dry edible beans with Eptam or Eptam + Sonalan combinations applied at planting, or with postemergence application of Poast. Poast also will control the weed in sugarbeets. In soybeans, high rates of Treflan have provided early season wild proso millet control. Roundup will provide excellent nonselective wild proso millet control in non-cropland areas.

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***File G648 under: WEEDS***

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Elbert C. Dickey, Director of Cooperative Extension, University of Nebraska, Institute of Agriculture and Natural Resources.*

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