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Proso Millet as a Crop Alternative

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Proso millet *(Panicum miliaceum)* has the lowest water requirement of any grain crop. Proso, sometimes called “Hershey millet” or “Hog millet," was at one time grown on considerable acreage throughout the Great Plains. Locally adapted grain sorghums largely have replaced it. Proso is receiving new attention as a short season grain crop because of acreage restrictions and limited crop alternatives.

Proso remains a part of the cereal diet of many people in Asia and Africa and has been exported from the West Coast. It is an important ingredient in many commercial bird feeds. Also, it is being used successfully in cattle-fattening rations. Improved varieties and better cultural practices could increase proso’s importance as a feed grain in the cattle industry of this region.

Results

A 2-year comparison of proso with grain sorghum was conducted at Garden City. Crop performance results are shown in Table 1. Data indicate the average grain yield level of proso to be about half that of the shortest season sorghum hybrid (NK Mini-Milo). However, in spite of similar mid-bloom dates, the prosos have a more rapid grain-filling period so

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Table 1, Proso millet and grain sorghum agronomic data, 1981-82.

	Grain Yield (lbs/A)			Days to Bloom (av.)	Plant Height (av.)
	1981	1982	2-yr. av.		
Proso Varieties					
Cope	1,461	1,689	1,575	50	22
Abarr	1,382	1,360	1,371	50	18
Minco	1,061	1,581	1,321	49	19
Pan-handle	998	1,559	1,278	50	21
Minn 55	972	1,406	1,189	49	16
Cerise	533	1,396	965	48	18
Mean	1,067	1,498	1,283	49	18
L.S.D. (.05)	435	n.s.			
Sorghum Varieties					
NK Mini Milo	2,520	2,865	2,692	50	34
NC + 160	3,081	4,206	3,643	60	43
Mean	2,801	3,535	3,167	55	38
L.S.D. (.05)	502	925			

that they are mature for harvest a week sooner than even the extremely short season sorghum. Thus, the prosos mature in such a short season that comparable length maturity sorghums are not available.

Water use by these two crops is shown in Table 2. The data show that water use by proso is minimal. Proso, like other crops, is most productive where

Table 2. Water use of proso and grain sorghum, 1981 -82.[1]

	Seasonal Water Use (inches)		Water Use Efficiency (lbs grain per inch of water used)	
Crop	1981	1982	1981	1982
Proso	8.1	11.1	132	135
Sorghum	15.8	15.2	177	233

[1]Soil moisture used plus rainfall.

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moisture is fairly abundant, but proso is most competitive with other crop choices when moisture and season length are limited.

Conclusions

In all but perhaps the most dry short season areas of Kansas, proso should be considered for use as an emergency crop but not as a part of a regular rotation. Under average conditions, sorghum will out-yield proso if it can be sown at the proper time with adequate season length available. Proso matures in 60-75 days with very little water. Thus its primary use is that of a "catch crop."

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