

**INCREASING THE PRODUCTION OF GRAIN SORGHUM
IN ELLSWORTH COUNTY
BY A UNIQUE ROTATION SYSTEM**

by P235

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INTRODUCTION

Wheat, a Historical Grain Crop

The crops produced in this area are largely determined by their dependability of production and economic advantage. Wheat has been the major grain crop of Ellsworth County for many years. It has maintained this position in the past primarily because of its dependability and economic advantage. Wheat also provides somewhat more protection against soil erosion on the sloping fields of Ellsworth County than row crop production of sorghum.

Its economic advantage in the past has been associated with its importance as a major energy food for people of the United States and parts of the world. As the energy requirements of people in the United States have decreased, and our exports to foreign countries have decreased, the demand for wheat also has decreased. This has resulted in a substantial decrease in the price of wheat. The current and foreseeable price is approximately the same as feed grains.

Although wheat is well adapted to the climatic and soil conditions of Kansas, the increase in yields has not increased as in other states and so, has lost its competitive position.

Crosses and selections of dwarf wheats developed from Japanese wheat have produced tremendous increases in yields in some other states and areas of the world. One variety, Gaines, holds a record yield of 216 bushels an acre in the state of Washington. Other dwarf varieties in the corn belt and southern states are yielding from 90 to 100 bushels an acre. Kansas has bred the dwarfing trait into a number of wheats but has not yet found one that will out yield our present varieties.

The yield of wheat, in Ellsworth County, for the past three years, has

averaged 25.4 bushels per acre. The yields for each year follow:

1967 - 23.0 bu., 1968 - 24.2 bu., 1969 - 29.0 bu.^{1/}

Therefore, wheat farmers are now faced with a very serious cost-price squeeze, as costs of production increase, the price of wheat is low, and the yield of wheat has not kept pace with other areas and with other crops.

Grain Sorghum, a Replacement Crop

Wheat farmers are looking for more profitable crops to grow in place of wheat. One crop that shows great promise is grain sorghum. Its dependability is not as great as wheat, as it grows during the summer months and can suffer from lack of moisture during extended periods of hot and dry conditions. However, its average yield, over a period of years, is considerably better than wheat. The yield of grain sorghum, in Ellsworth County, for the past three years, has averaged 38.3 bushels per acre. The yield, being quite variable, is as indicated by the following yearly yields: 1967 - 29 bu., 1968 - 32 bu., 1969 - 54 bu.^{1/}

Development of hybrid grain sorghum has increased yields to give it a competitive advantage over wheat. Highest average yield of grain sorghum, in Kansas history, before hybrids, was 23 bushels an acre in 1950. Each of the last four years, the state average has been at least 46 bushels per acre, according to Brandner (1969).

The demand for grain sorghum as a feed grain has continued to increase, in Ellsworth County, and in Kansas. The increase in livestock feeding, in the county, and the rapid expansion of commercial feedlots in adjacent

^{1/}The 1969 yield is a preliminary estimate and may be revised in the annual statistical bulletin prepared by the Kansas Crop and Livestock Reporting Service.

counties, should maintain the demand for grain sorghums at an increasing level. Therefore, the price outlook is more favorable for grain sorghum than for wheat.

In spite of the apparent economic advantage of grain sorghum over wheat, an increased production of grain sorghum has not happened in Ellsworth County.

As compared to wheat, Ellsworth County farmers have actually decreased grain sorghum acreage since 1960. (Table 1)

Table 1. Comparison of Wheat and Sorghum Production in Ellsworth County^{1/}

Year	<u>Harvested Acres</u>		
	All Sorghum	Grain Sorghum	Wheat
1960	34,000	20,000	110,000
1968	18,400	8,000	117,000

^{1/}Farm Facts 1960-61 and 1968-69. Kansas State Board of Agriculture

Factors that Resist Change

Why are Ellsworth County farmers not changing from wheat to grain sorghum?

The writer suggests the following reasons:

1. Wheat has been the traditional and dependable cash grain crop. Many landlords require their renters to plant the full wheat allotment.
2. Ellsworth County has a limited number of feed-grain consuming live-stock programs. The major livestock programs are beef cow-herds and backgrounding programs which utilize the large acreage of native grasses and harvested roughages. Therefore, many individual farmers have limited need for a feed-grain crop.
3. Methods of grain sorghum production are changing more rapidly than