

# Introduction

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Grain sorghum is one of the most versatile crops, capable of growing well under contrasting climatic conditions. Although grain sorghum is mostly grown in the U.S. for animal feed, it is the dietary staple of people in more than 30 countries. Some types are also used in making unleavened bread, cakes, wallboard, starch, dextrose, syrup, brooms, ethanol, high quality wax and even vodka and other alcoholic beverages.

Yield records in Arkansas go back as far as 1929. Generations of Arkansas farmers have seen their yields increase from 17 bushels per acre to a high of 86 bushels per acre in 2001, or nearly 1 bushel per acre per year (Figure Intro-1). Records show that grain sorghum acreage has ranged between 4,000 and 940,000 acres during the last 72 years, with an average close to 200,000 acres per year. Planted acres peaked in the mid 1980s, perhaps due to a weak demand for soybeans as well as attractive prices (Figure Intro-2). Since then, grain sorghum acres have come down to the long-term normal.

Prices higher than normal, rotational benefits for nematode control, as well as biomass production for the management of precision-leveled fields, have all contributed to the increase in acreage observed during the 2002 and 2003 seasons.

Grain sorghum acreage expanded in most of the traditional grain sorghum producing counties in 2002. Phillips, Lee, Crittenden, Mississippi and St. Francis counties saw their grain sorghum acreage increase between 72 and 177 percent as compared to the 2001 season. The mentioned counties are also the largest producing ones, with Phillips ranking first with close to 30,000 acres (Figure Intro-3).

Although state average yields are in the 75 to 85 bushels per acre range, it is not uncommon for many Arkansas farmers to obtain yields in excess of 100 bushels per acre, provided they manage their grain sorghum crops properly. Yields from fields under the verification program have ranged between 100 and 112 bushels per acre.

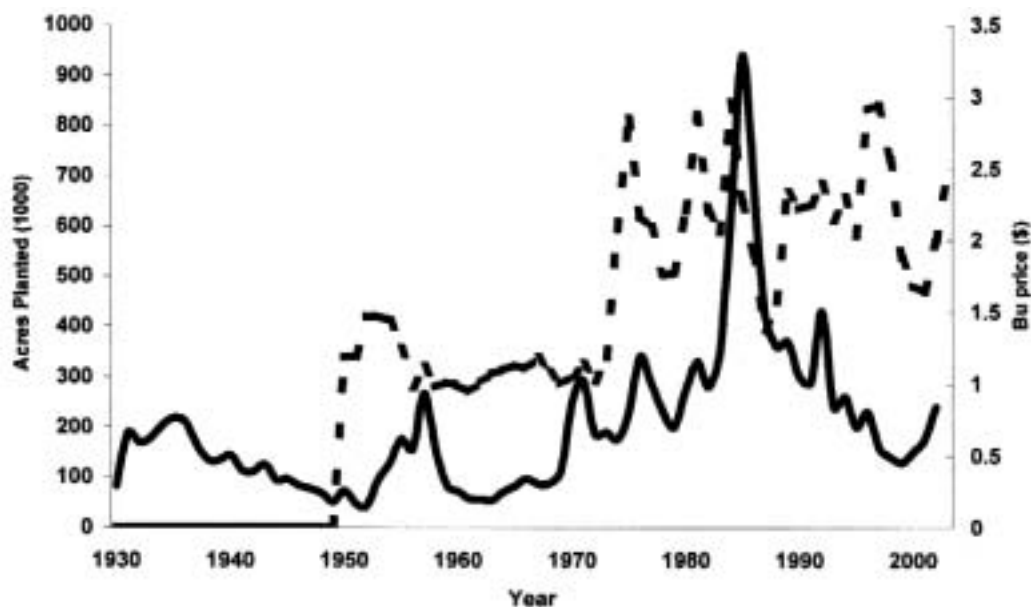


Figure Intro-1. Grain Sorghum Yields Between 1929 and 2002 and Associated Price. Arkansas Agricultural Statistics Service

The Corn and Grain Sorghum Research Verification Program (CGSRVP) began in 2000, funded almost solely by Arkansas growers through check-off contributions. The CGSRVP uses Extension management recommendations to produce a high yielding, economical grain sorghum crop. Information from the CGSRVP fields is used to improve and refine recommendations to meet the needs of Arkansas grain sorghum farmers and identify areas which need additional research. Economic information is collected on each CGSRVP field to estimate crop expenditures and returns.

Extension specialists and researchers with the University of Arkansas Division of Agriculture

developed this handbook, with the financial support of Arkansas grain sorghum growers through the Arkansas Corn and Grain Sorghum Promotion Board.

The materials presented here should be used as a reference guide to increase the reader's understanding of topics such as hybrid selection, soil and water management, plant nutrition, integrated pest management, harvesting and safety considerations in the production of grain sorghum under Arkansas conditions. Due to constant changes in laws that regulate pesticide use, the reader is encouraged to contact the appropriate Extension office for the most current information.



Figure Intro-2. Average Grain Sorghum State Yields Between 1929 and 2002. Arkansas Agricultural Statistics Service.

### 2002 Grain Sorghum Acres Planted

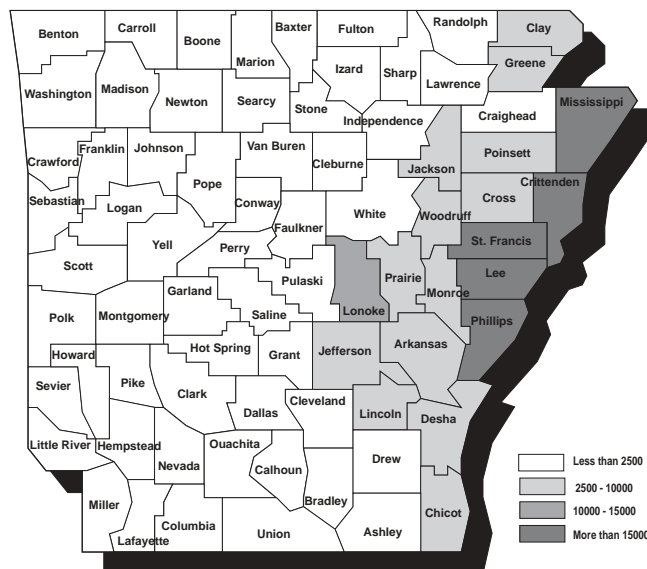


Figure Intro-3. Grain Sorghum Acres Planted During the 2002 Growing Season.