

## Alfalfa and Wheat Lead in Yield Per Acre Gains

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Average yields for most of Arizona's forage and grain crops have increased, but progress for alfalfa and wheat has been especially good, Table 1. High-yielding pest-tolerant alfalfas and improved cutting management have been the cornerstone for this crop. High-yielding, stiff-strawed, quality wheats have provided the foundation for advances in wheat production.

Barley is more salt-tolerant than wheat. Medium maturity varieties of barley mature 1-2 weeks earlier than medium maturity varieties of wheat. Use of very early maturity varieties of barley, double-crop with cotton, may result in dramatic increases of barley acreage during the 1980's. The potential average yield of double-crop, very early barley is at two tons or more per acre, and yields of cotton may be increased when barley precedes it.

Sorghum is a warm-season crop competing directly with cotton for scarce water at the lower elevations. In earlier years about half of Arizona's sorghum was grown in southeastern Arizona where high-yielding, full-season, hybrids are used. Much of this sorghum has been replaced with corn. All of the corn for grain in southeastern Arizona is irrigated and yields are high. Average yields tell only part of the story of Arizona's field crop production. Each year some growers obtain yields from most Arizona crops that are more than double the state average. Much of the technology for further increases in field crop yields is already available.

Table 1. Acreage and yield of principal Arizona forage and grain crops by five-year intervals, 1966-1980 <sup>1/</sup>

	Alfalfa		Wheat <sup>3/</sup>		Barley		Sorghum		Corn <sup>4/</sup>	
	Harvested (A <sup>2/</sup> )	Yield (T/A)	Harvested (A)	Yield (lb/A)	Harvested (A)	Yield (lb/A)	Harvested (A)	Yield (lb/A)	Harvested (A)	Yield (lb/A)
1976-1980	168	6.6	210	4480	48	3620	29	4225	43	5490
1971-1975	206	6.2	198	4055	90	3515	111	4135	12	1860
1966-1970	198	5.5	70	3265	146	3476	199	4280	18	1745

<sup>1/</sup> Source: Arizona Crop and Livestock Reporting Service

<sup>2/</sup> 1000 acres.

<sup>3/</sup> Includes durum. Durum accounted for 69% of Arizona's acreage 1976-1980.

<sup>4/</sup> Much of Arizona's corn for grain was produced without irrigation, 1966-1975. Cochise and Graham counties accounted for nearly 75% of Arizona's corn for grain acreage in 1980. All of this acreage was irrigated and the average yield was 6,170 lbs/acre.

### FUEL ALCOHOL FROM ARIZONA GRAIN: RESULTS OF A RECENT FEASIBILITY STUDY

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#### SUMMARY

A feasibility study supported by a Department of Energy grant considered the construction of an alcohol production plant in Central Arizona. The proposed plant would employ existing ethanol (anhydrous ethyl alcohol) production technology and use locally grown barley and/or wheat as primary feed stocks.