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Barley

Background for 1990 Farm Legislation

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Abstract

Barley is the third leading feed grain grown in the United States. Production is concentrated in the Northern Plains and Pacific regions. Barley is mainly used for livestock feed and the manufacture of malt beverages. Feed use often accounts for well over half of total use. Barley is the most important grain product used by brewers. Exports are much smaller than domestic use and are highly variable. Barley yields have steadily risen, but production costs have also increased relative to returns. Government loan rates and target prices for barley are based on those for corn. Returns above cash expenses in recent years were considerably lower than during 1975-80. Returns have increased gradually since 1986. Government payments to barley growers, while relatively small compared with corn, have been a significant portion of barley net returns in recent years.

Keywords: barley, barley feeding, malt, costs and returns, exports, farm programs, policies, program benefits

Foreword

Congress will soon consider new farm legislation to replace the expiring Food Security Act of 1985. In preparation for these deliberations, the Department of Agriculture and many groups throughout the Nation are studying preceding legislation to see what lessons can be learned that are applicable to the 1990's. This report updates an earlier version entitled Barley: Background for 1985 Farm Legislation, (AIB-477) by William Lin, Sam Evans, Greg Davenport, and Brad Karmen. Andy Novick updated the report tables. This report is one of a series of updated and new Economic Research Service background papers for farm legislation discussions. The reports summarize in a nontechnical form the experience with various farm programs and the key characteristics of the commodities and the farm industries which produce them. For more information, see the Additional Readings listed at the end of the text.

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Summary

Barley is the third leading feed grain produced in the United States, ranking behind corn and sorghum. In 1987, 530 million bushels of barley were harvested from 10 million acres. The farm value of this output was over \$982 million. Barley normally accounts for about 7 percent of total acres planted to feed grains in the United States and 4 percent of feed grain production.

Barley production is concentrated in North and South Dakota, Idaho, Montana, Minnesota, California, and Washington. Malting varieties dominate barley production in the Dakotas and Minnesota, with over 83 percent of the acreage planted. Feed barley predominates in the West, where only about 30 percent is planted to malting varieties.

Prior to 1960, farm legislation and programs imposed no production controls on barley. However, due to the close substitution between barley and other feed grains, periodic surplus stocks of corn meant not only weak corn prices but also weak barley prices. To stabilize barley prices and to enhance farm income for barley growers, farm legislation since the 1960's has provided price support for barley producers. Price and income support levels for barley are now related to those for corn.

There was a decreasing trend in barley used for feed in the 1970's. However, an upward trend emerged starting in 1981. Feed accounts for the largest portion of total use, from 40-60 percent. The feed demand for barley is influenced by the supplies and prices of barley and competing feed grains and depends upon the number of grain-consuming animals. Barley compares favorably with other grains in terms of feeding value when fed to ruminants (sheep and dairy and beef cattle). The metabolizable energy in barley is only slightly less than in corn and sorghum for ruminants. Over three-fourths of barley is fed to ruminants.

The proportion of barley used for alcohol and alcoholic beverages has increased since the 1960's. Malt beverage use has averaged 24 percent of total supply over the past 5 years. There is not much fluctuation in barley malt use, reflecting a mostly static brewing industry.

U.S. barley exports have fluctuated widely over the past three decades, ranging from 10 million bushels in the 1969 crop year to 137 million in 1986. These major swings in U.S. barley exports have been influenced by changes in U.S. corn production and exports. About 24 percent of U.S. barley production was exported in 1987, primarily to Saudi Arabia, Israel, and Eastern Europe.

Barley farm prices, adjusted for inflation, from 1985-87 have been about 40 percent of the 1950-59 average. This is largely a result of the lower feed grain loan rates enacted in 1985. The

1960-69 and 1970-79 averages were 70 percent and 80 percent. Prices during the 1950's were supported by high loan rates. On average, loan rates were lowered in the 1960's to about 80 percent of 1950-59, and farm prices dropped accordingly. A price increase occurred for all grains in the early 1970's as export demand increased. Barley farm prices in the 1970's averaged about 20 percent above those of a decade earlier, but they still fell short of the inflation-adjusted average for the 1950's. Real barley farm prices in the late 1980's have been about half of the average for the 1970's.

Barley yields increased steadily from 29 bushels per acre during 1950-59 to an average of about 52 bushels during 1983-87, although yields appear to have plateaued since 1978. Revenue per harvested acre has gradually grown. However, since 1985, real revenue per acre (in constant 1972 dollars) has been less than most years going back to 1950.

Returns above cash expenses in recent years have been considerably lower than during 1975-80, in both nominal and real dollars. A gradual increase in returns has emerged since 1986. Cash costs associated with barley production have more than doubled since 1975 but revenue per acre, including direct Government payments, has risen less than 50 percent. Economic (full ownership) costs represent the average longrun costs required to keep land in production. The national average economic cost has fallen from \$149 per acre in 1984 to \$121 in 1987 (or \$2.58 per bushel). Total cash expenses are expected to rise by 7 percent in 1989 due to higher fertilizer prices. Regional returns to management have been highest in the Northwest and lowest in the Southwest (due to high custom operations and irrigation costs).

This report reviews several policy issues for the 1990's, including Government budget costs of farm programs, realignment of grain price supports, planting flexibility on base acreage, effectiveness of the export enhancement program, design of the Federal crop insurance program, effectiveness of the stocks release mechanism of the farmer-owned reserve, and encouragement of grain quality.