

# Two-Price System for Barley

analytical study of economic and administrative aspects of a probable dual pricing program indicates increased returns

Nicholas Thuroczy

**California barley** represents nearly 20% of the total United States output and about 2.5% of all cash income from agriculture in the state.

Statistical analysis suggests that demand for barley in the malt outlet—one of the two main markets for barley—is relatively stable and largely independent of price. Barley malt appears to have no substitutes in malt beverage making. In addition, barley malt represents only a minor proportion of the total retail cost of beer—the principal malt beverage. Thus, raising the price of barley in this outlet within a reasonable price range would not affect the annual volume utilized in this market. In contrast, demand in the livestock feed outlet has been highly responsive to price, mainly because barley, as feed, has good substitutes in other feed grains. Also, barley represents only a small proportion—about 5%—of the total feed grain concentrates fed annually to livestock in the United States, while corn—a close substitute for barley in most livestock feedings—represents about 75%.

An analytical study—on the probable effect of a two-price system upon gross farm returns to the United States barley growers—was made for the period 1948–1954.

Multiple pricing systems, planned to support prices in designated markets only, have been recently considered for wheat, rice and cotton. Several of the proposed plans could be applicable to United States barley. Responses to prices in the two main outlets—the feed and malt markets—are different, the latter being very low.

Some commodity multiple pricing plans would divide the total market into a domestic submarket with prices supported in that outlet and a foreign submarket which would remain without intervention. Such division for United States barley would not be practical. Maintaining the domestic price of barley above its normal feeding value in relation to other competing feed grains would drive barley out of the feed market. Foreign demand for barley—as the case is for other grains—is limited by various trade measures by importing countries. Adaptability of barley to a two-price system is a development associated with the repeal of the prohibition

amendment in 1933, which opened up the malt market for barley. During the period of study about 30% of the annual disappearance represented malt use.

Feasible dual pricing for United States barley might be accomplished by fixing of a minimum price at about 110% of parity in the malt outlet. In view of the relatively small proportion of the barley utilized in the malt outlet 110% of parity might be reasonable. There would be no intervention in other channels, which include feed and export use.

Findings in the 1948–1954 study indicate that dual pricing could have increased the total value of the barley crop during that period.

Because feed barley prices can be expected to depend heavily on the prices of corn, any increase in barley output—due to dual pricing, if utilized in the feed market—would have had only minor impact upon the prices of feed barley.

Barley output under a two-price system—if continued since 1948—probably would have increased because the weighted average price received for barley, in relation to other potentially competing crops, would have been raised. Barley would have become a relatively more profitable crop to grow. However, the national output response to higher price expectations for barley would have been relatively low. This and the highly responsive demand in the feed market with respect to price would indicate that a multiple price program would not have engendered violent output response.

Although barley is produced in almost all states, Minnesota, North Dakota, and South Dakota—all located in the West North Central region—produce nearly one half of the national output. A large proportion of barley grown in this area is used by the United States malting trade. In contrast, barley grown in the 11 western states—where California is the leader—is used primarily as feed and, to some extent, for export. Only small quantities of western barley are used by the malting trade. If a dual pricing program required that the malt market constituted the supported outlet, special provision would be necessary to distribute any benefits equitably among all barley producers.

One of the considered plans—the fixed

value certificate plan—would be particularly adaptable to United States barley. The Secretary of Agriculture, prior to the beginning of the marketing season, would estimate the amount of barley to be utilized in the production of malt beverages. This amount would represent the industry allotment in the supported submarket. Apportionment of this allotment to the states, counties and individual producers could be based on past production history, with the exclusion of those years in which acreage restrictions on wheat were in effect. Thus each producer would share proportionately the higher priced malt market. Before the marketing season each barley producer would receive marketing certificates covering the amount of his allotment, or about 30% of the output expected to be obtained from the base acreage. The total amount of the certificates issued—about 80 million—would correspond to the number of bushels expected to be used by the malting trade during the season. The per bushel value of the certificate would equal the difference between the malt market target price of about 110% of parity and the expected feed market price. The producers then would cash the certificates at the regional Commodity Credit Corporation office.

Presumably the processors of malt beverages would purchase certificates

Concluded on page 15

## CALIFORNIA AGRICULTURE

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Soil fumigant chemicals are poisonous—and dangerous—unless reasonable care is exercised. If the manufacturer's directions are followed carefully—and accurately—handling fumigants should not cause trouble.

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## BARLEY

Continued from page 2

from the federal government at a per unit value cost identical with the per bushel value issued to the producers. Periodical deposition of certificates with the government by processors—according to the amount of malt beverages produced—would provide an effective control.

Statistical estimation for the period of study implies that such a plan under like conditions—a price target of 110% of parity on the malt market and with no intervention in other channels—would increase returns to the industry by about 10% with fixed supplies and perhaps by a larger percentage with variable supplies. Benefits could be distributed equitably with no production control necessary. A producer could grow barley in any amount, but that in excess of his allotment would be worth the feed price only, because support would be limited to the allotted portion of the crop.

Free market prices for barley would not be materially affected by increased barley supplies, so the differential between target price and free market prices—the value of the certificate—in any given year would not be significantly changed. Thus, the direct cost involved to finance the program would remain fairly stable and largely independent of barley supplies. In contrast, year to year changes in the value of the certificates would be largely attributed to changes in the price of corn.

During the period under study, the interest of producers of competing commodities—such as corn—would not have been seriously affected. Increased barley supplies at the end of the period would not have significantly changed the relative proportion of barley and corn in the total feed grain concentrates. Sales of malt beverages, as a result of increased costs, would have dropped less than 0.5%. With respect to administrative feasibility, there would have been no major problems encountered.

Some inequity—as a result of probable production expansion—undoubtedly would have resulted under dual pricing. Statistical supply-response analyses indicate that output response to

higher price expectations would have been different in the various areas depending largely upon alternative crop availabilities. Supplies of barley in the North Central States appear to have been more responsive to higher prices than in the Pacific region.

Long run benefits from the malt outlet during 1948–1954 would have been identical for all barley producers because the value of the certificate would have been the same for all growers. If this benefit were distributed over the whole crop, the resulting weighted average value of the crop—the price per bushel—would have been relatively smaller in areas where production expanded more than in areas where output under the impact of dual pricing expanded only little. This also implies that the certificate plan under consideration would have had some constraining influence upon output expansion.

A two-price system with an assumed 110% of parity in the period under study would have affected between 25%–30% of the California barley crop and would have increased the gross value to the producer over 10% in most years without significantly affecting prices on the feed market.

*Nicholas Thuroczy was Junior Specialist, Giannini Foundation of Agricultural Economics, University of California, Berkeley, when this study was made.*

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## GRAPE LEAF FOLDER

Continued from page 10

Phosdrin and a pyrethrin-roteneone mixture. Also tested were pyrethrin additions to a 2% parathion dust. The pyrethrin supplements did not appear to improve the performance of parathion.

In a third brood plot applied on August 30, the following reductions of larval populations were obtained as compared to a check: 2% methyl parathion, 92%–98%; 4% Diazinon, 89%; 2% parathion, 85%; 4% Trithion, 47%. In another vineyard, 2% parathion and 2% Phosdrin dusts were compared. Parathion gave the greater reduction. Neither Diazinon, Trithion, Phosdrin nor endrin are currently licensed for use on grapes.

The work on this project has not clarified all of the problems involved. One can not suggest that all grape growers apply chemical treatments for the control of first brood larvae since, in some vineyards, there is generally little or no first brood infestation. Moreover, the application of chemical control measures in the first brood offers no certainty that control measures will not again be necessary in subsequent broods. Good control of the first brood will reduce the size of

the second brood. It is believed by many in Tulare County that second and third brood applications are to be preferred over first. In this locality, 2% parathion dust has provided 70%–90% reduction in leaf folder infestations in second and third broods. In comparison, cryolite dust has been inferior.

None of the presently available materials has given complete control of any brood of larvae. Obviously, larvae that are not killed will cause some further damage. Moreover, leaf rolls and other parts of the leaves upon which the larvae have fed will continue to turn brown and dry up even though the application of an insecticide kills the larvae and prevents further feeding. Thus, unless the vines are growing vigorously, they will continue to show increased leaf folder injury for some time after any chemical treatment is applied.

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*D. F. Barnes, Marketing Research Division, Biological Sciences Branch, USDA, Fresno, established the dates of the grape leaf folder broods.*

*Hiroshi Kido, Senior Laboratory Technician, University of California, Davis, and Jack Fleming, Farm Advisor, Fresno County, assisted in the studies reported here.*

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## SCALY BARK

Continued from page 11

6.8% to Stage 4, and 23.5% had been pulled.

Of the 413 trees previously designated Stage 3, 57.6% showed no change, 9.2% had declined to Stage 4, and 33.2% had been pulled.

Thus, by the end of the nine-year period, 14.45% of 6,056 trees examined were affected with symptoms of psorosis. The disease accounted for the complete loss of 3.32%, while an additional 6.49% were reduced to a state of unprofitable production. The new cases—174—which developed during the study period amounted to 2.87% of the total number of trees examined. If these trees continue to decline at the same rate as the earlier cases, 40% of them will have become firewood in another ten years.

Notwithstanding its slow advance—which, however, may be more rapid than is generally believed—psorosis should be recognized as a major cause of declining production in many of the older orchards.

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