Markets for United States Rice

stable domestic market and increasing world supplies pose problem of export outlets and U. S. farm price

George L. Mehren and Nicholas Thuroczy

Rice production in California and the southern United States in 1954 is expected to exceed the record level of 1953. At the same time, total world export availabilities for 1954 are estimated at 7.8 million short tons, milled basis—three million tons greater than in 1953.

The market for United States rice may be roughly divided into *1*, the continental United States and territories, and *2*, the export outlets of Cuba, Canada, and Asia. The potential Asiatic market for United States rice is Japan, Indonesia, India, and Ceylon.

Approximately 60% of the U. S. production is now utilized in foreign channels. In 1954, a still larger percentage may be available for exports. Because the United States and territorial demands are rather stable, no major increase in domestic use can be expected even if domestic-territorial prices should decline. Canadian and Cuban outlets are also stable. Other foreign markets are relatively unimportant. Consequently, the Asiatic outlet becomes dominant in determining market outlook.

The Asiatic market has developed since World War II. Its growth reflects a series of crises occurring in that area. United States exports to Asia have been financed to a large extent by foreign-relief operations or military and occupation outlays. Continued demand for American rice will depend upon political considerations, military emergencies, methods of financing exports and imports—along with changes in production by Asiatic export nations. For example, the budget for the Japanese 1954 fiscal year calls for a smaller quantity of American rice, although budgeted total imports of rice by Japan have been increased. This reflects increases in Asiatic export surpluses and deterioration in the dollar-exchange position in Japan. Importation by Japan of United States rice may not be maintained at 1953 price levels despite the preference of Japanese for American short-grain rice—produced principally in California.

Almost all of the expected 1954 increase in export availabilities is in the Asiatic area. Of the Asiatic exportable surplus of 7.8 million tons, however, 1.2 million tons are of a rather low-quality rice of the 1952–53 carry-over. Much of this carry-over has now been sold by Burma and Thailand. Deducting this low-quality rice from the total world supply still leaves 1.8 million short tons more available for export in 1954 than in 1953.

Reported Asiatic and world export availabilities exceed import expectations at 1953 price levels. There is little likelihood of increases in Asiatic purchasing power being sufficient to offset the increased export availabilities. It appears that world price for rice may therefore decline somewhat from the high levels which prevailed after World War II.

With declining world prices, the United States farm price may decline to or near the support price on rice, which is expected to be about $4.92 per hundredweight in 1954—about eight cents above the United States average level of support for 1953. Differentials for varietal classes and for grades will also be issued. Domestic and territorial utilization would increase about 3.5 million sacks, rough basis, if the world price drops to support-price level. Heavy diversion to storage under the support program might then occur.

Rice—a basic commodity—is supported at 90% of parity under legislation in effect this year. Mandatory support at 90% will terminate after 1954 under present legislation. The flexible support-price provisions of the Agricultural Act of 1949, which become effective January 1, 1955, providing no new legislation is passed, make price support mandatory at 90% of parity if the ratio of actual-to-normal supply does not exceed 102%. The minimum level of mandatory price supports drops 1% of parity for each 2% increase in the ratio of actual and normal supply until the floor-level for price-support of 75% of parity price is reached. If marketing quotas are proclaimed but not approved by growers, the support-price level would drop to 50% of parity.

The Presidential message of January 1954 proposed *1*, elimination of a maximum value of $2.5 billion of surplus stocks from the calculation of actual supply in determining supply percentages—the division of the sum among commodities not being indicated; and *2*, maximum annual decrease in support prices of 5% on certain commodities not relevant to rice. There seems to be little immediate prospect of prompt passage of price-support legislation acceptable to the Senate, the House, and the President. If the 1949 Act comes into effect, the level of the support price on rice will depend, after 1954, upon the supply percentage.

If heavy diversion to storage occurred in 1954, the Secretary of Agriculture would be required to establish acreage allotments for 1955. Through March 15, 1954, growers in the United States placed about 4.5 million hundredweight of rough rice under loan or purchase agreement, a far greater quantity than in 1953. Only a negligible percentage of the 1953 California crop was placed under price support and apparently has already been redeemed.

If controls are established, acreage allotments will be based upon the average acreage for the past five years. Growers with a one-year history would receive an allotment of only about one fifth of their 1954 plantings. The distribution of the California allotment to counties and to farms would be determined by the California Agricultural Conservation and Stabilization Committee, which could also consider such factors as past acreage, crop rotations, trends in production, and costs in setting quotas.

Outlook

Reported export surpluses in Asia are beginning to approximate pre-World

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Fruit Set in Melon Breeding

hand pollination found to be less effective than pollination by honeybees in experiments at Davis

Louis K. Mann

That field-grown Powdery Mildew Resistant Cantaloupe No. 45 drops fewer pollinated flowers when insect-pollinated than when hand-pollinated was confirmed in a recent comparative study of fruit set on thinned vines.

This is of interest to the cantaloupe breeder who usually finds that over one half of his laboriously hand-pollinated flowers fail to form fruit. While the breeder may not be able to use bees directly in his program, the superior technique of the bee is worthy of study.

Throughout these experiments, all pollinations, hand or open, were made on thinned vines—vines from which all previously set fruit had been removed—and the flowers in each treatment were randomized throughout the area of vines being used.

To protect perfect flowers from insects prior to pollination, they were covered with one half of a size 00 gelatin capsule the day before full bloom. On the day of pollination, the capsules were removed, and for open pollination—principally by honeybees—the flowers were simply tagged. For hand pollination, the flowers were emasculated, tagged, pollinated, and then covered with a paper bag or with one half of a size two gelatin capsule.

On July 15, buds of about 40 perfect flowers, which were to open the next day, were capsuled, and all fruit was thinned from the vines. On July 16, between 10 a.m. and noon, approximately half of these perfect flowers were emasculated by splitting the corolla in two or three places and removing the stamens with forceps. Each flower was then pollinated—using previously capsuled staminate flowers—and was covered with a bag and tagged. The remaining perfect flowers were decapsuled, tagged, and left for open pollination. Seven days after pollination, all untagged fruits were again thinned from the vines.

The above test, which is described for July 15 and 16, was set up and repeated on eight successive days. The averages from the nine replications were 39% set for hand pollination and 67% set for open pollination.

Fruit set from hand pollinations in three additional experiments were 60%, 30%, and 48%, as compared with open-pollinated fruit set of 91%, 50%, and 78%. The set from open pollination was much more uniform from day to day than from hand pollination.

The mature fruit from open-pollinated flowers averaged 0.17 pound per fruit heavier than fruit from the hand-pollinated flowers—a significant difference. Seed counts showed an average of 180 more seeds per fruit from open-pollinated flowers—a highly significant difference.

The data collected in these studies indicate that fruit is set on thinned vines more successfully by bees than by hand pollination, but there is no suggestion as to why this is so.

Studies of bee activity on cantaloupe flowers showed that each flower was visited repeatedly during the one day it remained open. During this day, perfect flowers were visited an average of 53 times and staminate flowers 42 times. This frequency difference may be associated with the larger corollas of perfect flowers, which averaged 1.3 times the diameter of corollas of staminate flowers. Bees remained on perfect flowers an average of 1.5 times as long as on staminate flowers.

Individual perfect and staminate flowers produced about equal quantities of pollen, ranging from 8,000 to 13,000 grains. During the day, bees removed all but 2,000 of these pollen grains with removal most rapid in the morning hours.

In hand pollination, the flowers are usually pollinated but once, are injured by emasculation, and in the control tests in this study, were pollinated with pollen from the same plant.

In experiments designed to check the above hand techniques, flowers which were hand pollinated three times set no more fruit than when pollinated once; mutilated flowers left for open pollination gave significantly higher set than those hand pollinated and less—but not significantly so—than uninjured open-pollinated flowers. Flowers cross-pollinated by hand set no more fruit than when self-pollinated.

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War II levels. Export outlets in Canada and Cuba for American rice appear stable and no drastic change in domestic-territorial demands seems imminent. Of the Asiatic nations to which American rice has been exported since the war, the major immediate potential demand is in Japan. Efforts are being made in that nation to substitute wheat and barley for imported rice. There is little effective demand at present in other Asiatic importing nations for United States rice at the price levels which prevailed for 1953 production.

All evidence indicates a long-run potential for American rice in Asiatic markets. However, two issues are dominant with respect to the immediate market in Asia: *1*, possible decline of world prices, and *2*, difficulty in maintaining dollar exchange in the face of continuously unfavorable trading balances with the United States and the decline in extraordinary expenditures by the United States in Asia.

The long-term issues appear to be the degree to which the apparent long-run per-capita deficit in Asiatic rice supplies can be met by United States exports—at world prices in the face of a domestic support-price system, which may hold United States farm prices above world prices.

Two contingencies can not be predicted. Price-support legislation may be amended or the flexible provisions of the present law may become effective. Second, if war in southeast Asia should be extended, both the demand for American rice and the supply of competing rice may be drastically affected.

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