State's Productive Capacity

shifts in land use and major crops projected for 1955 based on general cropping pattern of 1950–51

Trimble R. Hedges and Warren R. Bailey

The following article is the third of a series of reports based on a study of California's agricultural productive capacity, that can be attained by 1955, which was conducted by the California State Committee on Survey of Agricultural Productive Capacity. The Committee included representatives of the University of California, the United States Department of Agriculture, and State agencies.

California's productive capacity, projected to 1955, depends on maximum land use and on the maximum feasible crop and pasture yields.

Projected 1955 attainable crop yields have more meaning when compared with current levels. For comparison, the year 1950 was chosen and the yields of those crops affected by abnormal weather were adjusted for that year. For example, the 1950 season was relatively favorable for cereal crops, thus winter wheat yields were above average. Grapes suffered reduced yields due to unseasonable July heat.

Variation in acreage of a crop is an important factor affecting comparisons between projected and base yields. The projected 1955 yields allow for this factor as well as expected improvement in practices.

The projected 1955 yields for a number of raw material, seed, and food crops, show important increases over the adjusted 1950 level. The projections for cotton, processing tomatoes, ladino seed, sugar beets, early potatoes, and alfalfa hay and seed are considered reasonable.

Research and technology for a number of field crops, including most of the cereals, dry edible beans, late potatoes, hops, flaxseed, and some minor hay crops, offer little promise of significantly higher yields in 1955 than in 1950. Some improvement is expected to result from normal improvement in general farming practices. However, no specific research knowledge, present or in prospect, seems likely to contribute important yield increases in the case of these crops.

The principal cereal crops—barley, wheat, and oats—are to a considerable extent grown on nonirrigated acreage, hence vulnerable to variations in amount and timing of rain. As a result, cereal yields fluctuate more from year to year than the yields of many of the irrigated crops.

Cotton yields have increased over the years and are expected to increase still further by 1955. The average yield during the 1940–49 period was 564 pounds of lint per acre. The adjusted 1950 yield was 650 pounds—the 1950 yield actually averaged 803 pounds, but on a much smaller acreage of better than average land. The 1955 attainable yield, based on 1¼ million acres in cotton, was projected at 750 pounds. Improved weed control, insect control, better crop rotations, use of wilt-resistant strains, and closer plant spacing are expected to contribute to the increased yield.

The sugar beet average yield for 1955 is projected at 19.6 tons per acre, representing an increase of 1.7 tons over 1950. A number of improved practices are involved, such as nitrogen fertilization, better irrigation, more adequate plant populations, and better crop rotations to control insects and disease. This last practice would be facilitated by the projected decrease in beet acreage.

Improved techniques are widely used in the production of early potatoes. The projected increase in yield from 240 sacks in 1950 to 264 sacks per acre in 1955 was associated with a reduced acreage and use of better land.

The State average yield of alfalfa hay has increased gradually over the years, from improved general farming practices. The 1950 yield was 4.60 tons compared to a 1940–49 average of 4.42 tons. A projected increase to 4.75 tons, attainable in 1955, is expected to result largely from improved pest control.

Yields of the alfalfa seed crop have increased, from a 1945–49 average of 186 pounds to a 1950 average of 231 pounds per acre. Some of the increase has resulted from better pollination due to heavier stocking with honey bees. Further advances in irrigation practices and methods of controlling harmful insects will be major factors in sharply increasing the State average yield to a projected 450 pounds in 1955.

Fertilization and improved harvesting methods that facilitate recovering more of the seed produced, will be important in increasing State yields of Ladino seed from 130 pounds in 1950 to 150 pounds in 1955.

The projected increase in the yield of rice—3,450 pounds in 1955 compared to 3,240 in 1950—reflects an indicated reduction in acreage, which is basic to the policy of producers who would improve their management practices.

No appreciable increases are expected in dry edible beans but research promises to improve market quality, and to minimize problems in disease control. Adjusted 1950 yield was 1,421 pounds and the projected 1955 yield is 1,500 pounds per acre.

The State average yield of flaxseed of 1,322 pounds per acre in 1950 can be compared with 1,025 pounds in the 1940–49 period. No further increase in yield is expected from present varietal work. Steps are being taken to breed fusarium wilt resistance into present varieties. The projected 1955 yield is 1,450 pounds per acre.

The 1950 yield of corn—1,904 pounds—was slightly higher than the 1940–49 average—1,814 pounds. The projected 1955 yield of 2,100 pounds mainly reflects an expected withdrawal of corn from less well-suited areas where it was tried in 1950 by farmers seeking a crop to replace cotton.

Castor beans and safflower are new crops recently expanded in California,

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Fryer Marketing

economies of continuous and batch systems compared in Hayward area

John Abbott

Producers of chicken fryers in the Hayward area of Alameda County have a wide range of outlets through which their fryers can reach consumers.

Of the 1951 crop 8% was killed and dressed by producers on their own premises. Generally, they were sold to customers at the ranch, but some were sold to other retailers. Most of these birds were heavier than the standard 2½- to four-pound fryer. The location of the ranch and personal support of the individual appear to be the major factors governing the success of this type of marketing.

A further 22% of the 1951 crop was sold alive to processor-retailers selling directly to consumers. This type of marketing agency has a regular clientele seeking a certain weight and quality. The processor-retailer seeks regular sources of supply which will enable him to avoid wholesalers' margins and meet his retail obligations with a minimum of waste and delay. In order to get the birds which meet his specifications, the processor-retailer is usually willing to pay a premium over the quoted wholesale price.

The remaining two-thirds of the Hayward fryer crop of 1951 were bought by wholesale processors. Redistribution to consumers was through their retail branches, through independent retail stores, hotels, and restaurants.

More than half of the chickens consumed in the East Bay cities—including Oakland, Berkeley, and Richmond—were shipped in alive from near-by ranches. About 40% were trucked in from San Joaquin Valley processing plants in an iced, dressed condition. The remainder of the requirements was filled by cut-up frozen chicken, mainly of out-of-state origin.

Live bird processing plants in the East Bay area are of small size, several in number, and widely scattered in location. In San Francisco, chicken processors are few in number, of large size, and located close together. In the San Joaquin Valley, the principal processors are large in size, few in number, and located in the principal cities.

The processors in the East Bay are mainly in the produce market areas of Richmond, Oakland and San Leandro. None of these plants handles more than 10,000 birds per average week. In 1951, none of them had conveyor machinery. The primary service performed was dressing birds—killing, bleeding, and plucking. In terms of the original live weight, the average margin for dressing and wholesaling was about 7.5¢ per pound. Retailers took about an additional 7¢ per pound as their margin.

Two-thirds of the live birds processed in the East Bay area were handled by concerns maintaining retail outlets of their own. Hence, the wholesaler-retailer is the most important type of marketing agency. In spite of the double margin available to this type of business, its share of the total market is on the decline. To obtain chickens, some of the wholesaler-retailers are establishing their own flocks and supplementing this source when necessary by purchases from hucksters.

In Northern California, most chicken marketing transactions are related to the processors' prices paid in San Francisco and published daily. The quotations cover a range of prices paid for first-quality chickens delivered to the plant. In the initial bargaining process, most buyers and sellers agree that the price of each lot will have some specific relationship to the San Francisco price. This is considered a base price for all subsequent dealing, subject to adjustments for departures from average quality. Many factors influence the relationship to the base price obtained by individual raisers. Some of these factors are the breed of bird raised, the type of buyer, and whether continuous or batch systems of production are employed.

In the Hayward area those fryer producers who use the continuous system received between one and two cents per pound for live birds more than those producers who used the batch system.

Under the continuous system, fryer chicks are started every week or two weeks, and mature fryers are marketed at the same intervals. Under the batch system, a flock is started, grown to maturity, and then sold as a flock.

The batch system is more popular with professional raisers since credit can usually be obtained for feed and chicks during the short period of growth. In addition, the large number of chicks offers certain economies in cost of production. Bulk purchase of supplies, automatic feeding and watering, greater control over disease, and more free time for the owner are some of the advantages.

Most of the producers in the Hayward area use the continuous system which is particularly adapted to the needs of the processors in their area. The producers which sold to smaller buyers are those which sold more frequently. They obtained higher prices than those who used the batch system, and had fryers for sale less frequently. The batch system producer had to find a processor equipped to take his large volume. The only processors able to take the large volume were those in the San Joaquin Valley. Since the Valley processors are farther distant from market, the prices they paid were lower than those close to market.

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but the acreage is relatively small and not yet stabilized. No evaluation of the 1955 attainable yield for either crop was made but important increases in both yields and acreage are possible.

It is a usual thing for some vegetable growers to leave entire fields, parts of fields or a final picking untouched, because the current market will not take the additional quantities at satisfactory prices. That situation leaves little incentive for higher natural yields. The urge is often for improved quality, and much of the research has been in that direction rather than toward increasing yields.

Among the vegetable crops, carrots are the most likely to show important increases in yield by 1955. Higher yields—291 crates per acre for 1955 compared to 240 crates for 1950—are expected from using pelleted seed, increasing plant populations per acre, and improving marketing techniques.

Almonds, peaches, walnuts, and prunes are the fruit and nut crops most likely to attain increased yields by 1955. Better yields of almonds and walnuts will be largely a matter of shifting acreage to more productive areas—a shift now going on. The important factor for prunes will be pulling out marginal acreage and old orchards, thus raising the average yield on the acreage retained.

Yields of pasture and range must be measured in some unit other than the bushels and tons used for harvested crops. The measure deemed most suitable in this study is animal unit month—AUM—the amount of forage required to maintain a mature beef cow for 30 days.

An increase averaging one AUM per acre on irrigated pasture can be attained by 1955 through application of improved

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practices already proven by research. This new level of production—9 AUM compared to 8 AUM in 1950—does not represent the maximum that eventually will be attained. The projected yield represents some increase in production of forage and some progress toward more complete utilization.

Crop residue pasture provides a considerable part of the total grazing available to California livestock. Crop residues include all edible forage not harvested as a crop—sugar beet tops, scattered grain and straw, late season crop regrowth, unmarketable refuse from fruits and vegetables, grass and palatable weeds. Nowhere near all of the acres of crop residue pasture lands are grazed.

The carrying capacity of dry-land open permanent pasture and range in farms is anticipated to increase from .55 AUM to .60 AUM per acre by 1955. This relatively small increase per acre is highly important as California farmers have some 18½ million acres of dry-land pasture and range—about three times the irrigated crop acreage.

Practices to increase forage production include rotation grazing, reseeding, use of fertilizers, and water development. Not all practices would be necessary or appropriate for any given situation.

Practices that appear most promising on woodland pasture are controlled brush-burning, reseeding, rotation grazing, fertilization, and water development.

The potential capacity of permanent pasture and range land is far beyond its present production or that attainable in 1955.

To be continued

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