

# Commercialized Farming

## requires better management

Arthur Shultis

INCREASED APPLICATION OF SCIENCE and equipment to agriculture has resulted in increased control over biologic and climatic yield factors.

This has resulted in higher agricultural yields per acre or per animal and greater dependability of production from year to year. Total gross farm output from 1942 to 1945 averaged 28% above the 1935-39 average, with little increase in acreage and despite a decrease of 8% in farm workers.

The trend is toward more highly standardized, high-quality products, and toward efficient commercial production, on a sufficiently large scale to permit or justify the most economical methods and equipment.

### Mechanization

The substitution of mechanical power for men and animals continues.

California agriculture is well adapted to future progress with large, level fields, large-scale production, and large-scale, efficient marketing organizations.

The pickup baler, the pickup chopper, the beet topper, the cotton picker, the vacuum almond harvester, and now the pneumatic pruning shear and portable tower, are examples of changes of great significance in agricultural progress.

### Labor

The trend is toward a smaller, more highly skilled and specialized farm labor force receiving comparatively good wages. Increased mechanization and crop shifts will reduce total labor requirement.

This will require better housing and continuity of employment for the regular farm hand and less housing for mass hand workers.

Current high wage rates are expected to decline somewhat but never to low pre-war levels. Worker efficiency at many jobs that cannot be mechanized can be further increased by better work methods, equipment, and worker training.

### Capital

The capital required for commercial farming is currently very high, with higher values for good land, greater investment in mechanical equipment, and a considerable operating capital requirement.

The trend of capital required for an adequate farm will continue upward in spite of a decline in land values from the recent high wartime peak. This greater capital requirement could indicate a greater proportion of the returns from farming going to capital, rather than labor, but interest or returns to capital may be at lower rates.

### Management

The need increases for better farm managers with greater technical, mechanical, and business ability.

An increased proportion of the returns from farming will go to management and less to labor and perhaps less to capital. Without good management there will be little net income.

Farmers without the requisite knowledge and managerial ability must lean more heavily on technical advice from public agencies and commercial farm management services.

There will also be more cooperative employment of managerial services through cooperative marketing and farm management associations.

### Agricultural Services

Many medium- and small-sized farms can economically utilize expensive, specialized machines only through joint ownership or custom hiring. Both will continue to increase.

In addition to recent great increases in contract hiring of hay baling, combine harvesting, spraying, fertilizer application, etc., we see new services developing in specialized technical fields, such as artificial insemination and animal disease control.

Marketing organizations are playing a larger part not only in preparing products for market, but also in production.

The modern farmer must frequently obtain highly skilled mechanical, technical, and business services from outside his own farm.

### Land Values

Some decline from current high land values, with any substantial decline in the price of agricultural products, is generally expected.

It looks as though land values have already passed their peak in California.

The Bureau of Agricultural Economics index of value per acre of farm real estate in California was 102% above the 1935-39 level in April and July of 1947, and down to 99% in December, 1947.

Good land adapted to high and large-scale mechanized production will be valued at levels farther above poor land than ever before. Poor land, not suitable to modern methods, may suffer drastic declines in value, while good land declines little.

Even with more of the net return from farming going to management, good lands capable of producing net income will have high value and any reduction in returns to capital will be in rate of return on investment.

Less hazardous investments can attract capital with a lower rate of return.

The future capitalization rate on good land is expected to be lower and hence will result in a higher land value for the same return. Future land values are expected to be about halfway between pre-war levels and the current high level.

### Size of Farm Business

The advantages of adequate-scale commercial production point toward a continuing upward trend in the average size of commercial farms.

This will come from a consolidation or absorbing of farms that are too small rather than a growth of very large farms. Small farms that are under an increasing competitive disadvantage will be absorbed or drop out of the commercial farm group. Family-sized commercial farms have been increasing in size and this trend will continue. Many single-worker farms will be enlarged to two- and three-worker farms, which enjoy certain advantages.

We don't yet see any significant trend in number or size of very large and corporation farms. They enjoy little advantage over two- or three-worker farms and in some types, particularly livestock, may be under a disadvantage in labor relations and securing interested worker and managerial services.

### Suburban Homes

The number of suburban and rural homes and part-time and subsistence farms is increasing rapidly. They are

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# Quick Decline

## experiments seek control of virus-caused disease of orange trees

L. D. Batchelor and J. M. Wallace

*A brief report of a joint discussion before the California Fruit Growers Exchange meeting in Los Angeles.*

ORANGE TREES affected with quick decline develop symptoms which follow one of two courses.

The first and most common course is: 1. A heavy set of small fruit which colors prematurely; 2. The older leaves become grayish green or bronzed; 3. Reduced amount of new growth during normal growth flushes; and 4. A further yellowing and dropping of foliage.

These above-ground symptoms are accompanied by: 1. A sloughing-off of the feeder rootlets; 2. Rotting of small roots, from their outer ends inward, and 3. A reduction in amount or complete disappearance of stored starch in the roots.

After losing most of their foliage and varying proportions of smaller twigs, such trees usually reach a stage in which some new top and root growth takes place. Many trees remain alive for a period of several years in a condition of poor growth and production.

The second and most striking type of symptom is that described as "collapse."

Trees that appear quite normal may suddenly wilt. Within a period of a few days the trees may be dead or appear dead while still retaining nearly all the dry leaves and fruits.

Many collapse trees die. A few may later develop short, upright, leafy twigs along the upper surface of those limbs that do not die completely. Such trees rarely are able to maintain themselves and frequently die later during a stress period of high temperatures.

### Rootstocks Studied

Research is being carried out to determine which rootstocks are not susceptible to the virus.

Results of experiments started 20 years ago indicate that besides sour and sweet orange there are four or five other types

of stock which will produce a good orange orchard.

One of these rootstocks is the Cleopatra mandarin. Trees on this rootstock are somewhat smaller than those grown on sweet root but it is thought that by planting them somewhat closer a very good orchard might be attained.

Cleopatra mandarin is used successfully as rootstock for oranges in Brazil, Argentina, Florida, and to a very limited extent in Texas.

One hundred and twenty-five lots of seedlings have been grown and budded with sweet orange. In the spring of 1948 these will be moved to the quick decline area and experimentally infected with the virus of the disease to determine which rootstocks are not susceptible. These experimental trees include all the species, varieties, and hybrids of citrus obtainable.

An attempt to salvage decline trees is being made by the use of inarching and bridge grafting. As yet, sufficient time has not elapsed to prove whether the methods will be successful.

### Special Plantings

At present, between four and five thousand trees have been planted for use in the studies of quick decline. For the most part these are budded trees—Valencia on sour root. It appears that seedling trees will not develop symptoms of quick decline even though certain varieties will, in

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spreading into and reducing the acreage of commercial farming in this state.

A comparison of size classifications by acreage and value of product between the 1940 and 1945 census provides little data on the trend in number of farms of adequate commercial size.

Since the United States Census of Agriculture counts as farms all over three acres, or with \$250 or more value of product if smaller than three acres, and since value of products in California in 1944 was almost three times that of 1939, more small noncommercial farms would have been counted.

The 6,259 more farms counted in 1945 are largely in the small farm group. In fact, farms of less than 10 acres increased by about that same number.

If allowances are made for changes in price level, it would appear that the number of farms of less than adequate commercial size in California has increased in each census since 1930.

These small farms will contribute little to our total agricultural production. Their

principal product will be better lives than their occupants might enjoy elsewhere. They may provide a considerable supply of regular and seasonal labor for nearby farms operating on a modern commercialized basis.

### Land Tenure

The renting of farms and farm lands decreased during the war.

In California, full tenant farmers fell from 19% in 1940 to 12% in 1945, and all land rented, from 41% to 37%.

The high capital requirement and lower postwar profits from farming may reverse this trend.

Some observers believe newer forms of tenure, such as operation by management for the account of the owner, may replace much renting. This practice is more prevalent among orchards in California than renting.

The problem of transferring ownership and managerial responsibility from one generation to the next is becoming more complicated. New types of father-son partnership, profit sharing and leasing agreements, especially made to fit each case, are called for.

The greater values involved in a going farm business also require sound and equitable transfers in both sale and inheritance.

### Net Farm Income

It is generally accepted that the next ten years will bring a reduction in farmers' profit margins even if we escape a severe depression.

Product prices are expected to decline more than costs. Cash costs will make up a larger and still increasing part of total costs.

Net farm income is the result of the wise and productive employment of management, capital, and labor. Management in the selection of land and what to produce, as well as in administration of the production process, must be good if there is to be any net income.

Farmers who have avoided excessive debt, who have adequate capital and size of business, and who operate sound farm units at high efficiency, will usually be able to make a reasonable return.

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