

Fluid Milk Production

state's human population up 300%
but dairy cow population up only 50%

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Fluid milk must be produced near the point of consumer markets.

It is increasingly difficult for California—with a continually growing population—to furnish enough market milk and cream to provide an adequate diet for her people.

Most other dairy products may be purchased elsewhere. During 1948, almost 40 million pounds of butter and slightly more than 40 million pounds of cheese were imported.

Except at times during the late war, the market milk supply has kept pace with increasing demand. This has been possible primarily because of two conditions, of which one may not, and the other cannot, obtain in the future. The milk supply has been enhanced by a marked increase in production per cow and by the diversion of milk from manufacturing purposes, primarily butter making, to market milk.

In 1920 about 50% of all the milk produced in the state was made into butter, 20% went into other manufactured products, and 30% was used for market milk and ice cream. Today, only about 10% is used for butter, 20% for other

products, and 70% for market milk and ice cream. It is doubtful whether further diversion of milk from the manufacturing of butter, cheese, condensed, and evaporated milk is possible. From a practical standpoint, 70% of the state's milk supply is probably about the maximum that can be used for market milk purposes.

Nineteen twenty marked the beginning of a concerted state-wide program, which was designed to increase, through better breeding, feeding, and management, the average production of California's dairy cows. There were 834,000 dairy cows of milking age in California on January 1, 1949. They had averaged during 1948 a little over 7,190 pounds of milk per cow or 2,390 pounds more than the 1920 average, when the annual average production was about 182 pounds of butterfat. Thus in 1948, there was available for California's tables, almost a billion more quarts of milk than there would have been, had our cows produced at the 1920 level.

Since 1920 the state's population has increased seven million, or almost 300%, whereas the number of dairy cows has increased about 50%. Yet, the market milk needs of the state have been met.

DELTA

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Burning the top soil has undoubtedly contributed appreciably to the subsidence of the peat lands although probably not to the same extent as that occasioned by natural oxidation.

The burning of peat lands, for whatever purpose, is one of the most destructive processes involving this area. This is the only one of the destructive processes which can be prevented and the total abolition of burning will undoubtedly prolong the life of the peat by several years.

Wind erosion plays a part in the lowering of the surface soils in the Delta area. Dry peat soils are very light and fluffy and clouds of dust are easily aroused. Miniature whirlwinds can be seen any summer afternoon carrying dust high into the air.

If the ashes on a burned field are not plowed under while the surface is still moist, there will be considerable loss by wind erosion. Peat dust and ashes are

carried many miles by wind. Although no actual measurements have been made of the amount of soil lost by wind erosion, it may be as much as one-quarter to one-half inch a year.

The layer of peat overlying the mineral soils varies from nothing around the edges of the Delta to more than 30 feet in places near the center of the area. The average depth of peat remaining is probably about 10 to 12 feet.

Reclamation and the destruction of the native cover of tules and reeds, prevents any further accumulation of peat in this area and there are no compensating influences.

When reclamation of the Delta began in the 1850's peat soils extended almost to Stockton. At the present time there are no truly peat soils left east of Holt which is about seven miles west of Stockton. The soils which remain after the peat is gone are, however, of higher organic content than most soils of the state and still very productive.

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The devices through which this has been accomplished have been the increased production per cow and the diversion of milk formerly used for manufacturing purposes into market milk channels.

Authorities on population statistics predict another seven million people for California in the next 25 years. By 1975, they anticipate a population of 17 million. Last year, Californians consumed about 3.8 billion pounds of market milk and cream. If, as predicted, the average Californian in 1975 consumes 425 pounds of market milk, more than seven billion pounds will be required. Figuring market milk at 70% of the total supply, California's dairy herd must produce about 10 billion pounds of milk, almost four billion more than the present production.

This increase may be accomplished in three ways: 1, by increasing the number of cows; 2, by increasing the productive capacity of our present cows; or 3, by a combination of these two.

The first means is the most obvious, but the most expensive method. To produce four billion pounds of milk, 560,000 cows, with the same productive capacity of the present California cow, will be required.

For their replacement an additional 300,000 heifers and calves would be needed. To maintain this new herd, there would be required 3½ billion pounds of total digestible nutrients—the equivalent of 3,600,000 tons of hay or the product of six or seven hundred thousand acres of land. If the cost of maintaining these extra cows can be avoided the result will be more efficient milk production.

Last year in California more than 150,000 cows in cow-testing associations averaged 9,842 pounds of milk per cow or 2,652 pounds more than the 7,190 pound average for all of the dairy cows in the state. When the productive level of the 834,000 dairy cows of milking age has been raised to that of those in cow-testing associations, it will mean another two billion pounds of milk, half of the needed amount with no increase in cow numbers.

Cows in the herds of nine dairymen cooperating with the University in the dairy cattle breeding experiment averaged last year 475 pounds of butterfat. In terms of 3.8% milk, this is 12,400 pounds per cow—5,410 pounds more than the present production of the average California cow.

It is within the realm of possibility that the average production by 1975 could be made to reach this figure, in which case the entire market milk needs would be met with no additional maintenance cost, thus releasing 600,000 acres of land for other purposes.

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