

THE FUTURE OF THE CHINO MILK SHED IN THE LOS ANGELES BASIN

Nyles G. Peterson¹

ABSTRACT

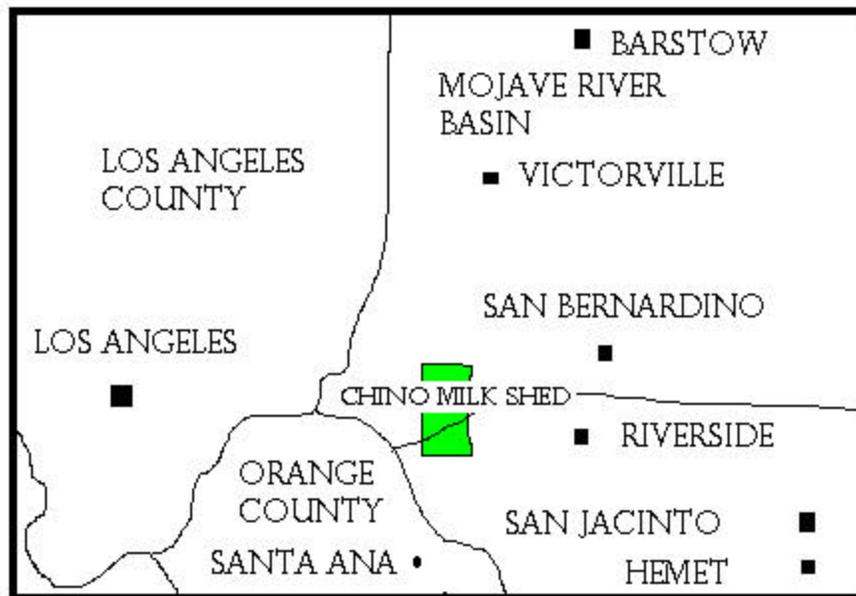
Los Angeles and Orange Counties were once home to a large dairy community. In 1950 these herds began to relocate to the Chino-Ontario area. This area, located in the southwest corner of San Bernardino County and the northwest corner of Riverside County, is now home to the highest concentration of dairy cattle in the United States. This high concentration of animals magnifies the normal dairy environmental problems. There is pressure on the industry to leave, but conditions in other areas are equally unfavorable. Recent developments in the valley will help keep seventy percent of current cow numbers in the area for the next ten years.

Key Words: chino, dairy, over-view, future, developments, concerns

INTRODUCTION

Dairying in Southern California is specialized and advanced. High land prices caused by competition for land prohibit dairy producers from growing their own feed. There is a substantial investment in production facilities, which adds to the high cost of milk production.

Historically the Los Angeles milk shed was divided into two major areas: a local producing region and several outlying valley regions. The local region included the southeast portion of Los Angeles County and the adjacent Northwestern section of Orange County. In 1950 herds began relocating from this area to the outlying valley regions, the largest being the Chino-Ontario milk shed.



¹ N. G. Peterson, UCCE Farm Advisor, San Bernardino County, 777 E. Rialto Ave, San Bernardino, CA 92415-0730; Published In: Proceedings, 2000 National Alfalfa Symposium, 10-12 December, Las Vegas, Nevada

The Chino-Ontario milk shed is located in the southwestern portion of San Bernardino County and the northwestern corner of Riverside County. Distance from Los Angeles processing plants is approximately 40 miles, but freeway routes minimize transportation problems. Two lesser areas are the Mojave River Basin in the Mojave Desert north of the San Bernardino Mountains, about 120 miles from Los Angeles and the Hemet-San Jacinto area in western Riverside County, about 90 miles from Los Angeles.

The Chino-Ontario milk shed is reported to have the highest concentration of dairy cattle in the USA and perhaps the world. 280,000 cows are housed in 300 dairy herds located in a 20 square mile area. Approximately one third of those herds are located in Riverside County and two third in San Bernardino County.

Of all agricultural commodities in San Bernardino County, milk ranks first in total annual income. In 1999 it accounted for 65.3 per cent of the county's \$722 million agricultural income. Milk prices have declined since 1998, but production has reached a new record level of 3.5 billion pounds. The number of dairies in the County has declined as herds have relocated to other areas subsequent to the dissolution of the agricultural preserve in Chino. As these dairies leave, the lessened demand for feed is expected to impact forage growers and related industries.

HISTORIC COW NUMBERS

<u>Year</u>	<u>San Bernardino</u>	<u>Riverside</u>	<u>Total</u>
1969	90,900	45,000	135,900
1979	144,000	92,200	236,200
1989	183,000	107,000	290,000
1999	163,304	116,131	279,435

CHINO-ONTARIO HERD PROFILE

The average dairy milks over 900 cows and is family-owned and managed. The owner lives on the dairy. Employees live off the dairy. Individuals of Dutch ancestry own about sixty percent of the 300 herds, while 35 percent are owned and managed by those of Portuguese ancestry. The industry relies very heavily on a strong support industry.

Cows are housed in dry lot corrals year round, all feed being placed before them. Shades are placed in each corral to protect animals from hot temperatures. The dairy pays to have manure scraped and hauled away at a cost often exceeding \$60,000 annually.

Feed is the highest single expense in the production of milk in southern California. High quality alfalfa hay is the basic ingredient of all dairy rations. The principle sources of southern California alfalfa hay are Imperial, Palo Verde, and the lower San Joaquin Valley. Baled hay is fed free choice on flat cement mangers two or three times per day. The hay broker places hay bales directly in front of the manger. When it appears hay prices are going to rise, storage sheds located away from the manger are filled with a several month's supply.

The grain and by-product portion of the ration comes from the San Joaquin Valley, the mid-west and local sources. The commodities in this portion are commonly rolled barley, whole cottonseed, dried beet pulp, wet citrus pulp, hominy, and cottonseed meal. These ingredients are stored in large commodity barns, from which they are mixed and fed twice a day. Cows are grouped and fed according to production. Three to four production groups are common on each dairy. Nutritionists formulate computer rations to assure requirements are met. Trends are pointing toward computer monitoring of feed mixing and distribution. There are dairies mixing roughage and concentrates together in a complete rations.

Cows are milked twice a day at twelve-hour intervals. Grain is fed in the barn to help cow flow and provide additional opportunities for high producing cows to consume as much feed as possible. One milker handles twenty milking units with automatic take offs. Cows are dried with individual paper towels, having been sprayed in the wash pen. No conscious effort is made to "stimulate" cows. After the units are automatically removed, each cow is dipped with a one per cent iodine solution to protect the udder from bacteria entering the streak canal.

The dairy manager makes a decision every day either to continue milking, dry, or cull every cow in the herd. If milk production is high, and the animal is more than sixty days away from calving, and physically healthy, the answer is milk. If the animal is sixty days away from calving and still alive, the answer is dry. This is done by treating each quarter with a commercially available dry cow treatment and placing her in the dry pen. If milk production is below break-even and she is several months away from calving, the answer is cull. Since one third of the herd is culled on an annual basis, a constant flow of replacements is critical.

Heifer calves leave the dairy as day old and are taken to a calf nursery until they are eight weeks of age. They are then brought back to the dairy and fed for six months and then shipped to areas with cheaper feed. Some animals travel as far as northern Idaho to be raised. They return to the dairy at 23 months of age and calve at 25 months of age.

The number one health concern in the Chino Basin continues to be mastitis. Mastitis is an inflammation of the udder caused by bacteria or virus infection. The actual loss from the disease is not known, varying from small losses in some herds to complete loss in others. Losses include decreased production from the destruction of mammary gland tissue; discarded abnormal milk, unfit for market; the cost of treatment; additional labor and trouble involved in caring for infected animals; and in severe cases, death of cows.

The southern California dairy industry relies heavily on a support industry. These services include everyone from the equipment dealer who changes their milking liners at regular intervals to the veterinarian who would pregnancy check the herd every two weeks. The dairy owner manages this support team and monitors their service.

FACTORS INFLUENCING RELOCATION OF DAIRY INDUSTRY

Fifteen years ago the University of California conducted a survey of the Chino-Ontario milk shed to learn the factors they would consider if they were to relocate to another location. The first

factor was a favorable economic environment. The next three all related to the industry's close family ties. They were interested in the availability of churches, schools, and retaining close family ties. The final factor on the list was strong support services.

ENVIRONMENTAL CONCERNS

Every dairy must be concerned with the collection, storage, transportation, and land application of manure. This must be done while controlling runoff and seepage, minimizing odors, controlling flies, and guaranteeing the safety of people and animals. These concerns are magnified when nearly 300,000 dairy animals are concentrated in a 20 square mile area.

Federal, state, and local regulations control air, water, and noise pollution. These regulations are enforced to minimize or eliminate "pollution." Federal regulations apply to all states. Regulations are subject to change, frequently becoming more restrictive.

URBAN-RURAL INTERFACE

When the highest concentration of dairy cattle in the United States is located in the greater Los Angeles Metropolitan Area there are bound to be urban-rural interface concerns. New tracts of \$200 - \$300,000 homes are being built on vacant dairy land adjacent to existing dairies. Some herds are surrounded by homes. Urban-rural concerns will continue to increase in coming years.

RECENT DEVELOPMENTS

The southern California dairy industry generally feels that there is really no place they can go to "escape" regulations and environmental concerns. The central valley remains an unfavorable place for a large migration of cows. It does seem a little less restrictive however since the residents of Bakersfield were unable to secure the number of signatures necessary to keep a large dairy from locating to their area.

A recent development is the concern of residual methane in soil from vacated dairies. The homeowners of these new developments are demanding that the contractor prove that this is not a problem in existing and all future developments. This will add greatly to the development cost and has slowed the construction of new homes in the area for a while.

Researchers presented evidence in Washington, D. C., on August 20 of this year that cars may be the main source of haze-inducing ammonia, rather than livestock, as previously thought. In a recent study of 4,500 vehicles conducted on a southern California freeway ramp, researchers found unexpectedly high levels of ammonia in the exhaust of gasoline-powered cars. The levels were so high they estimate that cars are adding twice as much ammonia to the air of California's southern coastal basin as livestock do. Until now, scientists believed that decomposition of livestock waste was the main source of atmospheric ammonia.

Ammonia plays a role in the formation of very small airborne particles, sometimes called "particulate matter." The U.S. Environmental Protection Agency recently targeted such particles for regulation under Clean Air Act standards on the grounds that they endanger human health.

Opposition to the EPA's proposed regulation has led to a lawsuit that the U.S. Supreme Court will hear this term.

Some theorize that reformulated gasoline, introduced in the mid-1990s to lower sulfur and other emissions, has contributed to the increase in ammonia levels. A recent study in the Aug. 15 issue of the journal Environmental Science & Technology reported that catalytic converters might play a role in rising ammonia emissions as well.

Under the milk shed is an underground aquifer that supplies water for much of the area. This water supply contains high levels of nitrates. The Santa Ana Regional Watershed Project Authority has erected a desalination plant in the southwest corner of the basin. The function of this facility is to pump nitrate-contaminated water out of the ground, remove the salts, and return the water to the aquifer.

The Chino valley slopes from the San Bernardino Mountains in the north toward the Santa Ana River in the south. The land is covered with asphalt and concrete from the foothills to the edge of the dairies. When it rains water runs towards the dairies and the river. This additional water complicates the contamination problems of the herds. In the past, the curbs of the major north-south streets were raised to channel the water away from the herds and into the Santa Ana River. Recently a detention basin has been constructed to hold much of this runoff and keep it from entering the dairy area.

BEST GUESS

When all factors are taken in to consideration, I would project that the number of herds in the Chino milk shed will continue to decrease, but the number of cows will remain above 200,000 for the next ten years.