

# Oklahoma's Milk Production Program



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**COOPERATIVE EXTENSION WORK  
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# Oklahoma's Milk Production Program

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Milk must flow through the arteries of a nation continually. This is because milk is an essential body builder—one of the seven basic foods. For this reason the production of milk is a constant job.

The blunt truth is that Oklahoma has fallen short of its quota of milk every year. The situation now is that more and more milk is needed. This simply means we must have more and better production from each dairy animal. Included herein are recommendations to support and carry Oklahoma's share of the National Milk Production Program.

There are 7 points which should be considered not only as an emergency approach to the greater production of milk, but as a sound, sensible and workable program at all times.

This publication is designed to answer the questions of the farmer who milks between four and nine cows and desires to know, "How can I increase milk production under my present conditions and look for a reasonable return when selling the product?" All in all, this publication is devoted to producing more milk economically.

## Point 1

### **GROW MORE LEGUME HAY, PASTURE, SILAGE AND GRAIN**

*Legume Hay:* Legume hay is one of the best sources of protein and minerals, which are usually lacking in most feed mixtures prepared on farms. Alfalfa is one of the best legume hays, and there should be at least a small acreage of alfalfa on every dairy farm where suitable land is available. Summer legumes, including cowpeas, mungbeans, soy beans, and lespedeza are used extensively for legume hay production. Cowpeas and mungbeans are adapted throughout the state. Soy beans and lespedeza are best adapted in the eastern part of the state. Peanut hay is also a popular legume hay for feeding dairy cows.

*Pasture:* Pasture is the most economical feed for dairy cows, and a sufficient acreage of good pasture to provide a continuous supply of forage throughout the normal grazing season should be available on every dairy farm. Native grass pasture, sweet clover, lespedeza, rye grass, small grains, Bermuda, tame grass mixtures, and Sudan are all valuable pasture crops in their respective areas of adaptation.

Weed growth in pastures should be controlled by mowing if necessary. Mowing in June and early August will usually give satisfactory weed control.

Applications of lime and phosphate will greatly increase the yields of tame grass and legumes on many soils in central and eastern Oklahoma.

Sudan is the best crop to plant for summer and early fall pasture. It will supplement native and tame grass pastures and will provide an abundance of palatable and nutritious grazing at a time when it is most needed. Drill or broadcast 30 to 35 pounds of seed per acre between May 1 and June 15.

*Fertilizer:* Pasture and hay crops grown on depleted soils are low in minerals and protein and do not supply these nutrients in sufficient amounts to meet the requirements of dairy cows and other livestock. Many diseases and ailments of dairy cattle are due to mineral deficiencies in the soil. Applications of lime and phosphate on pastures and meadows will greatly increase the yield per acre on many soils in eastern Oklahoma. Fertilization will also stimulate the growth of the more palatable and nutritious grasses and legumes and will increase the mineral and protein content of the forage.

*Silage:* When properly prepared, silage is one of the most palatable and nutritious dairy feeds. It is rich in vitamins, carotene, and other nutrients. Silage is a succulent feed and is especially valuable for feeding in winter and during summer droughts when pasture is not available. Many dairymen keep a reserve supply of silage to be used in periods of feed scarcity when it is most needed. Adapted varieties of corn, forage sorghums, and grain sorghums are all excellent crops for silage.

*Grain:* A cow can eat a ton of grain a year and only get about 6 pounds a day. This is a very moderate feed. Oats is one of the best feed grains for cows. Corn, kafir, and barley are also essential feed grains for the dairy herd. One or more of these grains can be grown on every dairy farm in the state and home-grown grains are the cheapest source of grain in the dairy ration. The dairy herd will also provide a profitable market for grain crops grown on the farm. A cow will consume approximately 25 bushels of oats and 15 bushels of corn or kafir in a year. Additional amounts of grain will be needed for feeding heifers and calves.

## Point 2

### FEED TO AVOID SUMMER SLUMP.

Many statements have been made which are very misleading. One of them is that we can stop feeding hay and grain when the grass gets tall in the summertime. Farmers say that the cows suffer from the heat and do not produce much milk. Doubtless the fact is that they do not get enough feed and especially not enough protein. This taller summer grass is not very high in feed value. For that reason cows should receive a small amount of cottonseed meal and some legume hay as soon as the grass gets a little bit tough which is a sign that it is getting low in protein. Many Oklahoma cows produce milk not more than six months in the year. The big reason is the fact that she freshens in the spring which is the least profitable for the farmer. Then she goes on fresh grass giving a large amount of milk for a few months until she gets on a starvation diet of either short grass or grass that is too tough, and then in many cases cows go dry about six months after freshening. However, cows that freshen in the fall could be carried over to produce milk ten months in the year. The big point is to feed hay, especially legume hay, and a grain mixture all the year 'round. This will keep the cow in good condition in fairly heavy production and in-

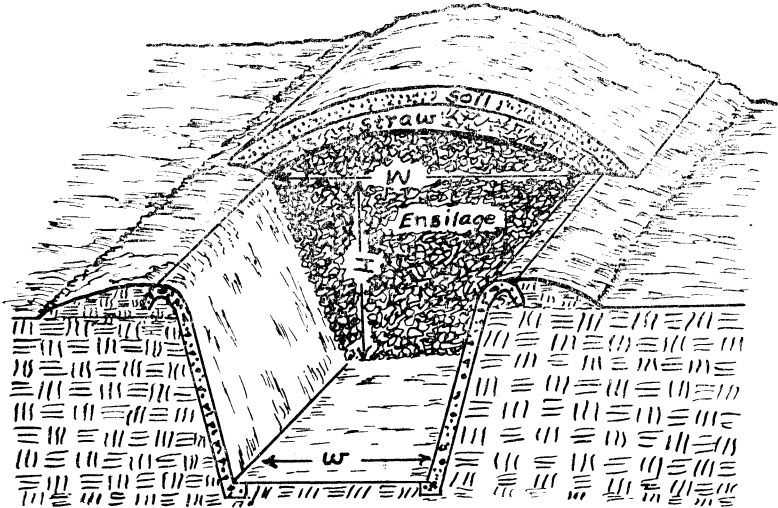


Fig. 1.—Cross-section of a trench silo, showing the concrete lining, foundation and method of covering the ensilage.

stead of producing 25 hundred pounds of milk a year, she can produce 5,000 pounds of milk. The cow that freshens in the fall usually has a fair feed supply until spring grass comes along and then she comes up in her milk and is a dry cow during the hottest months in the year. This cow usually pays best. However, the summer slump can be avoided by better feeding.

### Point 3

#### **FEED COWS LIBERALLY DURING THEIR DRY PERIOD.**

Many dairy farmers feed cows well until the time comes when the cows should go dry. Then the feeding is discontinued, with the exception of pasture and roughage. It is often said that dry cows need not be fed. People mean that the cow can eat some dry grass or some pasture, if there is any available, but should receive no grain and hay. This is a rather serious mistake because cows which are very well fed when they are dry, freshen in much better shape and give up to 15% more milk in their lactation period.

A good way to feed a dry cow is to give her six pounds of grain a day, ten pounds of legume hay and other hay, and thirty pounds of silage or all the good pasture she can eat. If the cows do not get legume hay,  $\frac{1}{4}$  or more of the grain mixture should be cottonseed meal of a high protein content.

Some people believe that it is hard to dry up a cow which is well fed but this is not necessarily true. When it is two months before the cow is to calve again, her feed mixture may be changed very suddenly from a high protein feed to a very low protein feed. This can be done by simply withholding cottonseed meal from her grain feed mixture and feeding grass hay. Then quit milking the cow entirely for five days. At the end of that time, the feed is increased gradually so that the cow is in a rather fat and thrifty condition when she delivers her calf.

### Point 4

#### **KEEP AS MANY COWS AS FEED AND LABOR PERMIT.**

In very few cases do we find that farmers have too many milk cows. However where there seems to be continuous shortage of feed, the following questions may be asked. How many acres of good pasture do I have for each cow? The answer should be two to four acres. How many tons of legume hay can I grow for each cow? The answer should be two. How many tons of silage and grain will my farm produce?

The answer should be three tons of silage and a ton of grain for each cow every year. Finally, how many cows can we manage with the labor, barn room, and the equipment on the farm? This means that all cows will receive good regular care. These questions may lead to some close culling so that the average farm may have seven or eight good milk cows which in many cases would produce more profit above feed costs than a large herd. On one farm in Oklahoma it was found that seven cows producing three hundred pounds of butterfat a year, produced more profit above feed costs than twenty of the average Oklahoma cows. Here are a few good rules for culling a herd. Take out the cow that produces the least milk under average farm and herd conditions. Cull out the cows that are hard milkers, kickers, and otherwise undesirable to handle unless they are very high producers. Remove diseased and crippled cows. Try to replace the cows by the daughters from your best and most persistent milkers and which are also daughters from a proven sire or a son of a proven sire.

## Point 5

### **MARKET MORE WHOLE MILK WHENEVER POSSIBLE**

Since the war has created such a heavy demand for fluid milk, it may be a combination of a patriotic duty as well as a profitable business to sell fluid milk if at all possible. Five quarts of skim milk will produce about one pound of dry milk solids. This is a convenient form for export and feeding of soldiers abroad.

Many farmers ask how the calf crop should be handled if fluid milk is used. Many farmers feed the calves whole milk 15 to 20 days. Then they gradually substitute dry grain, hay, water, and other feeds so that when the calf is 30 or 40 days old, it receives no milk at all. In many cases, calves will not hold up under this system and the whole milk is fed for a slightly longer period.

## Point 6

### **PRODUCE GOOD-QUALITY MILK AND AVOID WASTE.**

Many farmers figure that a 3% loss in milk and cream is not very large. This has been the average loss for many years. However, when they found that this is worth over \$2,000,000 in Oklahoma, it looked just a little different. The quality of dairy products needs much improvement. The shortage of labor, machinery, and many other things have

been a big factor in reducing the quality. Many plants wish to discontinue the buying of fluid milk because the milk will not pass inspection. The skunkweed, bitterweed, wild onions, and other plants have done their share in hurting the milk quality. Finally, substitutes, especially for butter, are very popular and one of the big reasons is that off-flavors persist in dairy products and are well remembered by people who have been disappointed in the purchase of such products. What should we do about it? Here are some definite points that can be easily carried out. First of all we need a clean cow at milking time. She should be curried and brushed carefully. After that, her udder should be wiped with a damp cloth. If at all possible, the hair on the udder and flank should be clipped every month. Wipe the cow's udder with a cloth dipped in a chlorine solution just before milking.

A clean milker with clean hands and clean clothing is a second, but still a very important step. Clean sterilized utensils, using the small top milk bucket free from rust and seams and a good cotton pad strainer, all help to produce clean milk. However, the cleaning of these utensils is very often overlooked and the vessels often carry a few strong undesirable flavors. A few things should be done to all milk vessels to clean them properly. First, they should be rinsed in cold water to take away the extra milk and other substances. Then they should be washed, scrubbed in hot water and with a dairy washing powder but not a soap. A brush should be used and not a rag. The third step is to rinse in hot water to remove the cleaning solution and sediment. The vessels should be sterilized in a chlorine solution for a moment or in boiling water for at least two minutes. Finally, the milk and dairy products should be stored in a cool place. This cooling tank or ice box should be clean and free from strong odors.

## Point 7

### **BREED FOR BETTER HERD REPLACEMENTS.**

Replacing the present cow with better animals is of such great importance that the profit on the farm can easily be doubled from a dairy herd through one cross in using a proven bull. Too much cannot be said for a herd bull that is either a proven sire or a son of a proven sire. The farmer should build a bull pen which may be equipped with electrified wiring and in that way use older herd bulls whose daughters have been proven to be excellent producers. Regardless of how cheap milk may get, there will always be a demand for better milk cows. Raising them from good foundation cows and proven bulls will pay.

**CONCLUSION:**

These 7 points are in harmony with the National Eight-Point Milk Production Program which was instituted to help win the war. However, every point is sensible and considered good practice during all times. All farmers are urged to study these points. Visit successful dairymen. Call on your county agent and in that way improve the dairy business so with a minimum amount of labor and effort a much greater profit can be earned.