Farmer, Stockman and Dairyman

Pure Water for Milk Cows—

Typhoid fever has often been ascribed to a contaminated milk supply. As during the summer and fall when this disease prevails cows are frequently forced to get their drinking water from sloughs and stagnant ponds which may be contaminated with the germs of typhoid fever, it is important to know whether such germs find their way into the milk supply through the cow or by contamination of the milk after it is drawn from the cow. This matter has been the subejct of very careful investigation by E. F. Pernot, of the Oregon Experiment Station, who administered various germs, including that which causes typhoid fever, to a cow and examined the milk and excreta obtained for the presence of the germs. It was found (1) that a pure culture of typhoid bacilli mixed with water and given to the cow to drink did not pass into the milk; (2) that they did not pass from the cow alive with the excreta, and (3) that they did not pass from the cow alive with the urine. Although the results in this experiment have been negative in transmitting the germs from polluted water to the milk supply through the cow, it does not follow that the danger from cows using such water does not exist.

As cows frequently stand in the water to escape flies or to cool themselves, and their udders may thus become contaminated with the polluted water, investigation were made to determine to what extent germs in this way enter the teats and contaminate the milk. The cow used in this work was a Jersey about four years old, with fair-shaped udder, good teats of medium size, reasonably easy to milk. The teats were dipped in water containing the germs and allowed to dry naturally. After the lapse of several hours milk was drawn and examined for the germs, but none were found, showing that they were not taken into the udder by capillary attraction through the teat orifice.

There is no doubt that there is a great variation in the tests of different milk cows. A teat possessing weak sphincter muscles is imperfectly closed at i's extremity and must necessarily be more accessible for bacteria to enter through the duct and invade the contents of the udder, while another teat having good muscular contracting power would be less likely to admit germs. Yet it seems almost impossible that any moist muscular orifice could so contract as to shut out an organism of such minute dimensions, especially those like typhoid, which are actively motile.

It is generally believed that microorganisms gain access to the milk in the cow's udder through the teat, but in this case they do not, although the result might not be the same with all cows.

Even if it should be proven that milk is not contaminated in this way, the danger is not removed, because the body of a cow which has been wading in impure water is itself a source of contamination, since it is impossible to milk such a cow without particles of material falling into the milk and carrying with it innumerable germs. This we know occurs to such an extent that it is customary to strain the milk to remove the particles of foreign matter. When a bacteriological study is made of this sediment the number and kinds of these germs found are truly surprising. If all the germs entering the milk would remain in the sediment it would be all right, but, unfortunately, dropping into the milk with this foreign matter, the germs are liberated through constant agitation incident to milking. The warm milk is a very suitable material for germs to grow in, especially typhoid fever germs. The number which would multiply in twelve hours from the few introduced at the time of milking would be enormous and dangerous. On this point, R. H. Forbes, of the Arizona Station, says:

"When a cow wades belly deep into a filthy pool festering in the heat and fouled with excretions, her milk will inevitably suffer. Not only will the foul odors of the water she drinks be imparted in some measure to the milk, but millions of bacteria, adhering to her hair and udder, will, when she is dried off and milked, find their way as dust into the milk pail. Quick souring of milk in warm weather and undesirable changes in butter and cheese, caused by bacteria, result."

It would seem that these are sufficient reasons why milk cows should be prevented from having access to foul water, but there is the additional reason of danger to the health of the animal from disease germs which may be present.

Sprouted Oats for Poultry—

The poultry raiser who has not yet adopted sprouted oats as a part of the hen's bill of fare, especially during the winter months, is not only depriving his hens of feed that would be relished and which is most valuable in feeding for egg production, but is also overlooking one of his best opportunities to save on the cost of feeding. Town folks who keep only small flocks have been quicker to realize the advantages of feeding sprouted oats than have farmers, yet the latter are the ones who should be first to understand the food value and the results that might reasonably be expected from sprouted oats, because the oats sprouter is to the poultryman what the silo is to the dairyman. A few poultry raisers operate their oats sprouters the year around, they having found sprouted oats to be an excellent feed for both laying hens and growing stock. This can be done very profitably when the chickens do not have free range, but is not necessary with the farm flock during that part of the year when there is plenty of natural green feed. The real advantage in feeding sprouted oats is that it provides succulent green feed when none other is available. In the sprouted form none of the grain is lost or wasted. The hens eat all the tender green sprouts, roots and soft hulls. Every poultry raiser should add an oats sprouter to his equipment. It is just another one of those things that is needed in order to make the poultry equipment complete. It means only a small investment, but large returns.

Golden Lay of the Hen—

With eggs selling at 5 cents apiece, it is not to be wondered that thousands of discerning men are carefully weighing thir chances for success in this neglected line of industry. That success awaits the man who will go at it right and stay with it right, is unquestioned. Like any other business, intelligent application is the surest guarantee of satisfactory results.

While eggs at 60 cents a dozen is somewhat above normal even for winter prices, it is doubtful if ever again at any season of the year will eggs decline to a price that will fail to return a profit to the practical producer.

Some Hints.

In poultry raising if the proper selections and matings are made for the breeding yards, the flock next year will be better than this year. If improper selections are made, the flock will not be as good as this year, and if eggs for incubation are taken from a mixed flock in a haphazard manner, haphazard or uncertain results will be sure to follow.

One mistake often made is to set the first hen to become broody in the spring. The best hen there is on any farm is the hen which lays during the winter season, and she is usually the first hen to go broody in the spring. About the time the winter layer goes broody, the non-winter layer begins to lay. By setting the first hen to go broody in the spring on eggs from the flock, usually means that the good winter layer is set on the non-winter layer's eggs, and, as a result, the good winter layer spends three weeks incubating the eggs and perhaps six weeks brooding the chicks. The final results are that the good hen has spent about nine weeks raising a brood of chickens from the poor hen; therefore, none of her eggs have been used for incubating.

The better plan is to select the good winter layers and place them in a breeding yard with a good male, and by using their eggs for incubation we can raise chicks from the good hens, which will improve the egg production of the flock.

Where incubators and brooders are used, it is easier to get chicks from the winter layers, for incubation can be done earlier in the season, and before the poor layers begin to lay.

In order to secure a good hatch of strong chicks, care should be used to select eggs which have good shell texture, and are uniform in size and shape. One reason a hen which steals her nest usually hatches a good per cent is that the eggs are all uniform. No one can get a good hatch from an incubator if the eggs are large and small, long and round, and have thick and thin shells.

The results of many tests at this station indicate that from ten to twenty females with one male give better fertility than a larger or smaller number—the larger breeds, ten; the medium, fifteen; and smaller ones, twenty females with each male. A sterile hen will produce fertile eggs in about three days after a male is placed in the pen, and the eggs will remain fertile often for twenty days after the male has been removed from the pen. Cockerels mated with hens, and cocks with pullets, usually give best results.

Dairy Herds Increased Ten-Fold—

An increase of ten-fold in the number of registered dairy cattle and breeders of registered dairy stock in the last five years, is reported from Tillamook county by the county agricultural agent, R. C. Jones.

"When Mr. Jones became agent at that time," recounts Paul V. Maris, state county agent leader, "only fifty breeding animals were distinguished by possessing pedigrees. These were owned by eight breeders, now increased to eighty-three breeders, who own more than 500 head of registered dairy cattle. These breeders have organized Guernsey, Jersey and Holstein associations, and are making a close race for breed supremacy."

Each association has imp red high class cattle and conducted auction sales. Ten Jersey men formed a club last summer and bought the Jersey bull, Poppy's Golden St. Mewes, whose dam made a record of 1,120 pounds of butter in one year, for $1,700.

Three Holstein breeders pooled their interests and paid $1,000 for a bull under one year, whose six sisters have yearly butter fat averages of more than 1,000 pounds.

A Guernsey breeder, John H. Williams, paid $800 for the bull May Rose Starlight, whose seven nearest dams have an average of 632 pounds of butter fat in one year.

Organized effort under the leadership of a county agent is said by the county farm bureau to be credited with this progress in dairying.

Profitable Milk Production—

One of the most important questionns for the dairy farmer to consider in his business is how he can feed the cows so that the raw matreial, the milk, is produced as cheaply as possible. The question should not be how little he can feed and still keep up animal life, but what and how much he shall feed to get the best returns and at the same time keep the animals in perfect health. We may get health without profit, but we cannot get profit without health. The use of the Babcock test has taught us that the profitable dairy cow is found not only by selecting a particular breed, but also by paying strict attention to each individual animal. The average cow is the curse of dairying. It requires no great intelligence to see that it is better to milk six cows giving a good profit than to milk ten, four of which reduce, if they do not annihilate, the profit of the other six. It is well to remember though, that it takes a dairyman to care for a dairy cow and the best cow alive may be unprofitable in the hands of an unskillful, careless man.

All foods consist of various elements that are grouped mainly as proteids or muscle producing elements and carbohydrates or fat and heat producing elements. Various experiments have shown that the best results is obtained when these are present in the food in a certain proportion, and that great waste occurs when either is given in too great excess. What this proportion should be is a mooted question and some have proposed to vary it according to the quantity of milk given, but it seems to me that the economical ratio or proportion will depend somewhat upon circumstances, that is, upon the local price of the various feeds. Judgment must be used to decide whether for instance, to sell oats and corn and buy bran and oil meal or not, and the cost of freight and of hauling both ways must also be considered. In our western states the carbohydrates are produced in excess, and consequently the mistake of feeding too much of them is often made, as when corn is given in excess. The rations should be balanced up by adding bran, peas, linseed or cottonseed meals, the latter containing over three times as much protein as corn and only half the amount of carbohydrates. Every dairyman should inform himself as to the cost of various commercial feeds and then calculate the most economical ration for his sows under his own conditions. It is a simple matter to write to your experiment station or your farm journal stating what feed stuff you have and the selling value as well as the local prices of bran, oil meal, etc., and to ask for suggestions, but always bear in mind that chemical analysis of feeds are averages and may not fit in your case exactly.

One thing is certain, where corn will grow no cheaper food basis exists than well preserved silage. In summer the most common mistake which tends to increase the cost of production, is that of allowing the cows to shrink in yield, when pastures are getting poor instead of supplementing them at once with some sort of soiling crop. Many farmers, as well as scientists, labored for years under the delusion that an increase in the feed and especially in that rich in fat would increase the percentage of fat in the milk.

Feeding to excess or feeding very rich food may for a short time increase the richness, but it soon drops into the percentage normal for each cow and the ambitious breeder who tests his cows that way has a fair chance of ruining them for life. Increasing the feed of a cow not fed up to her full capacity will increase the milk yield, the total amount of butter fat produced, but not the percentage of fat in the milk. The cow should be fed all she will pay for, no more and no less. The right cows being secured and the right feed given at regular hours the advantage gained may yet be lost if the animals are kept shivering in the lea of a strawstack or suffocating in a dark, close stable. If left to shiver in fall rains and snow the cow will not only utilize a large amount of her feed as fuel to keep her warm, expensive firewood indeed, but as experiments have shown she will change the composition of the butter fat in her milk so much that her butter is liable to be mistaken for oleomargarine.

In winter dairy farmers often forget that nothing is cheaper and more beneficial than pure air, sunlight and a reasonable amount of exercise.

Special Farm Tractor Courses—

A twelve weeks' course in selection, repair, and operation of farm tractors will begin January 6th at O. A. C. It is intended to meet the unusual demand for tractor operators due to recent heavy purchases by farmers mainly to offset labor shortage and high cost of feed for horses. One month short courses will be given January 6th to February 1st, February 3d to March 1st, and March 3d to March 29th. Tractors for practice purposes will be supplied by large firms.

Dairy Short Course Draws—

Many experienced butter and cheese makers have reported their intention to attend the annual short course for butter and cheese makers at the O. A. C. January 6th to 3st. The old operators went to return and brush up on new methods. Many new men are planning to get their training at the short course to fit them for work ar helpers in various factories. The course is open to both men and women.

Dairymen to Meet at Hillsboro—

Hillsboro has been selected as the next meeting place of the Oregon Dairymen's Association, January 14-15 at the request of many farmers.

County Agent Work Popular—

At least twenty-five of the twenty-six Oregon counties that took up county agent work prior to or within the war period will retain their agents next year. So effective did these agencies prove in organizing the agricultural forces for increased production and strict conservation, that their services are to be retained. Some new counties are also considering the advisability of establishing county agent work. In Linn county the farmers and business men are raising the maintenance fund by subscription.

May Enter O. A. C. in January—

High school students in Oregon expecting to be graduated in February may enter the Oregon Agricultural College in January, provided they bring with them a certificate from their high school principal stating that they will receive their diplomas even though not attending high school the last few weeks. Young men will register January 3d and 4th, while women will register January 6th.

Ten thousand pounds of ether were shipped to France by the Red Cross, so our soldiers might have relief from pain.

Thirty thousand letters a week are written by the Red Cross to the families of soldiers, answering questions.

S.H.S. "THE TATTLER" 1-9-1-8

"A TALE OF A BIRDMAN."

By Maude Gorrie.

"Times up sir; you've only half an hour."

I lazily rubbed my eyes and awoke to the fact that I was about to start on a perilous journey from which I might never return. I had been snatching a couple of hours of sleep and had been peacefully dreaming of home when the orderly called.

We had received our orders a few hours earlier. My squadron was to start at 2 o'clock in the morning to raid a German town. It was just half past 1 and I had to hurry.

Luckily there was no time for thinking; uttering a word I had not learned in Sunday school, I jumped out of bed. I donned my flying outfit of fur and leather, gloves and goggles. After having hastily drank a steaming cup of coffee I sallied forth in the darkness.

We had thought there would be a half moon sailing serenly in a cloudless sky, but the forecast was incorrect, as her ladyship was hovering behind a group of fleecy white clouds. Off to the right star shells were bursting madly. As I made my way across the aerodome, I saw the faint ghostly glimmer of a line of aeroplanes drawn up in front of their hangers. In my ears broke the roar of the engines, rising and swelling into a deafening chorus, which is the sweetest music an airman knows. They were being tested by the mechanics to see if they ran smoothly and well.

"The old bird's going great, sir," shouted my mechanic as I came up. "Steady as a rock." "Great," I answered as I hurriedly examined the machine before climbing to my seat. My observer came running up and climbed into the seat in front of me. By this time all the other machines were manned and we were ready to start on our errand of destruction.

Glancing at my watch I saw it was just 2 o'clock. As the signal flashed the first of the "busses" sailed off into the distance, then the second, third, and fourth machines dashed madly away. At the signal my machine gave the propeller a swing, the engine roared and I waved my hand and the blocks were removed from under the carriage wheels. Then I, too, darted away, swifter and swifter, my flying wheels scimming the ground; then I roared into the night and was off at last into the vast unknown. Trank heaven! there was plenty to think about—the direction, air speed, height petrol, oil pressure, and the running of the engine all claimed my attention.

I hardly settled to my work before we passed over "No Man's Land" and the trenches. The enemy was awake, but not enough to pay much attention to us, and no "Archie" barked his protest against our trespassing. I passed the first danger and sped away eastward. A strange sensation pressed upon me the realization of my fears. The feeling soon vanished and I settled down to my work. This far I had gone entirely by the compass, but now the moon shed her mantel of clouds and I could plainly see the hill, valley and wood of the German people.

We were within ten miles of our objective and had gone forty miles in just half an hour. Seven or eight minutes more and we would be over our target. Then I saw a series of red flashes, which showed my predecessors were already at work.

Suddenly, two long fingers of light began to sweep the sky, and altho' it had been expected, my heart came up in my mouth. They increased until I counted a dozen which lay between me and my goal. Battery after battery of anti-aircraft guns came into action, which formed a barrage around the town. Setting my teeth I made straight for the "Firey Furnace."

In less than a minute I was in the midst. Shells were bursting all around me. I was intoxicated with the thrill of it. I felt a hundred times the excitement of any football "scrum" I had ever seen. So exciting was it that I forgot all about my goal and my mission. When glancing down I saw we were already over the town. "Here we are," my observer bawled, the first words he had spoken since we had started. "Right, ho!" I shouted back, "Down we go." I dived down toward the town lying beneath us. Swifter and swifter in the intoxicating drive until at the height of a thousand feet I flattened out over our target. It was a railway terminus which was a conspicuous place in the town.

It was my observer's turn to act. He got his target spotted and pushed the bomb-dropping lever. I could plainly see the shells bursting below. One burst on top of a train in the station. We turned tail and by flying low passed safely through the gauntlet of death again with but a few shrapnel holes in the wings of the machine. "Hug," I said to my observer, "That was some warm; guess you set them thinking, old man." "Guess I did," came the answer with a broad grin. "Not sorry it's over, are you?" "What about some of that chocolate?"

Then happily munching the chocolate we sped away without further adventure, until the aerodome's flairs of light gave us welcome home.