

CREAMERY MEN TAKE MANY PRECAUTIONS TO KEEP MILK CLEAN

Jobbers Exercise Great Care in Passing Product Pure to Consumer.

Upon the shoulders of Portland's creamery men devolves the duty of making sure that clean pure milk is delivered to the thousands of consumers who daily depend upon them for milk. And it is not an easy task.

With milk coming in from dairies scattered throughout the Willamette valley and the Columbia river basin, the creamery man must be ever on guard to see that no impure or disease carrying milk passes into the possession of city patrons.

In this connection they are receiving the hearty support of the overwhelming majority of creamery men. In local creameries thousands of dollars are invested in equipment designed to protect consumers from dirty milk and secure for them a standard product that is safe and wholesome.

Interest of the consumer is further safeguarded by the state and city, which employ experts to do nothing but inspect dairies, creameries and dairy herds and see that the best possible sanitary measures are enforced all along the line from cow to consumer.

More over the milk is thoroughly tested, and any that does not reach a certain standard is condemned and thrown away. Records for each dairy farm and creamery are kept by the officials who rate them in proportion to the purity of the milk, the care used in handling it, and the cleanliness of the surroundings in which it is cared for and handled.

Milk is the only universal food in which all bacteria grow rapidly. As they multiply in an almost incredible number, the modern creamery man has to wage continual warfare against this enemy of mankind and milk.

As many as 200 bacteria have been known to have been produced by a single germ in two hours under favorable conditions; 10,000 in six hours, 10,000,000 in nine hours and 2,000,000,000 in 18 hours. As they multiply they impair the nutritive properties of milk and make it unsuitable for food.

The care that must be taken with milk to keep these cultures down is readily appreciated in the face of such facts, particularly so when it is known that milk is an ideal medium for the propagation of numerous disease bacteria.

Impure Milk Spreads Disease.
Each year epidemics are traced to infected milk and in each case careless handling is the primary cause. Dirt has been allowed to creep in, the milk has been allowed to stand exposed, or water used to wash the cans or bottles which carried disease germs. These are some of the reasons and all of them point to one thing—carelessness.

The mischief done by dirty hands or clothing, unclean utensils, filthy milk-houses, or unhealthy cows, can be appalling. And that is why precautions are absolutely necessary to safeguard the public.

Milk for city consumers—that passes through the hands of creamery men comes from hundreds of different dairies. Sealed in large cans the milk arrives in the city on boats and trains.

It is hurried to the creameries and there cooled to about 55 degrees to stop the multiplication of bacteria. Germs only grow when milk is warm.

This completed it is immediately taken to a receiving vat from which it pours into a machine called the forewarmer. There it is heated to a temperature of 110 degrees—the first step toward pasteurization—a system that kills all disease germs.

From the forewarmer it goes into a clarifier, a machine which looks like a cream separator. This machine clarifies the milk—that is, it removes every atom of dirt from the fluid. Passing out of the clarifier, the milk is strained and restrained through finely meshed

OREGON'S DAIRY OUTPUT

	1912		1913 (Estimated)	
	Pounds.	Value.	Pounds.	Value.
Butter	18,000,000	\$ 5,040,000	20,000,000	\$ 7,000,000
Cheese	8,000,000	1,050,000	9,000,000	1,440,000
	Gallons.		Gallons.	
Milk-cream	24,000,000	10,000,000	26,000,000	12,000,000
Totals		\$18,090,000		\$20,440,000

cloths and then run into the pasteurizer. This machine contains steam coils which bring the milk's temperature up to 140 degrees. From here the milk travels through pipes to the retainer where it is held for approximately half an hour at the same temperature. This absolutely kills all disease germs that might by any chance be found in the milk.

Cooling is the next step toward the consumer's table. Coils of pipes filled with water and brine of low temperatures make up the cooler. Over these pipes the milk falls in tiny streams and when it enters the pipes for its trip to the bottling room, the thermometer registers between 34 and 36 degrees.

The bottling is done by machinery. One big machine fills the bottles, another puts on the sealing caps and the milk, packed in cases, is transferred by conveyors to a big ice filled cooling room ready for the delivery wagons.

Untouched by Human Hands.
From the time the milk reaches the creamery until it is opened for use by the consumer it is not touched by human hands. All along the route it is carefully guarded from possible contamination from any source. The machinery is often scoured and the floors and walls frequently scrubbed. Exact sanitary measures are strictly enforced.

Water is plentiful in a creamery but not for the purpose of diluting milk as our jocosmiths insist. Instead it is there for the very definite object of insuring the maximum of cleanliness.

So much for the mechanical end of the business. But there are other sources of danger—the cans, bottles and delivery wagons.

Care must be exercised to make them and keep them clean also. Soap, water and live steam are used in large quantities for this purpose. For instance, take the bottles. Going into a large number of homes where there are opportunities for them to gather all manner of bacteria, the modern creamery man who has the welfare of his patrons at heart pays particular attention to washing them.

Bottles Washed by Machinery.
In the large creameries where thousands of bottles are handled each day a washing machine is used. It is made of galvanized steel and is about 20 feet long. Inside it is divided into four compartments, and each contains a different washing water. The bottles, suspended in a steel case, enter the washer at one end, emerge clean at the other, and then are carried by a conveyor direct to a bottle cooling room where they remain until needed.

The washing machine is an ingenious piece of mechanism. When the bottles, upside down, enter on an endless chain, scores of small fountains throw cold water into the interior of the bottles, washing away any milk stains or dirt.

From this container the bottles pass into another compartment where other fountains shoot warm water heavily charged with a cleansing alkaline soap into them. From here the bottles pass into the third compartment where they are given another cleansing by water heated to a temperature of 150 degrees; thence they pass into the rinsing compartment heated to 190 degrees. After that they receive a bath in live steam which effectually sterilizes them, before they pass into the cooling room.

Cans in which the milk is brought to the creamery are subjected to the same sort of sterilization before they are returned to the farmers and dairymen.

Very Well Defined.
From Judge.
"I love to hear Maud, when she's in full song; her articulation is so distinct."
"So do I; but I hate to see her in full dress, for the same reason."

VISITING NURSES IN CONSTANT CONTACT WITH MILK PROBLEM

Their Suggestions for Improved Home Methods Meet With Ready Response.

By Emma E. Grittinger, Superintendent Visiting Nurse Association.

Since milk is an essential, one might almost say an indispensable article of diet for babies and children and most valuable in the diet for the sick, there can be no question as to the importance of its purity.

Recognizing that the problem has many sides we find that the lack of care in the homes we visit is oftentimes responsible for dirty, disease carrying milk and the question then resolves itself, rather, into the difference that the home makes in pure milk. Generally speaking the condition of the home, especially the kitchen, is a fair indicator of the way in which the housekeeper will care for the milk. In an untidy kitchen one finds the bottles open, possibly a collection of several day's bottles in varying stages of age, often on the table in the sun or near the stove, or perhaps, in a dirty pantry, in company with onions and turnips, a small army of flies attending, the same milk to be given later to the baby and smaller children.

Again we find the utmost care and cleanliness concerning its keep, even going so far as to throw away milk into which a fly has fallen. People are usually willing and anxious to follow suggestions, especially when they realize the relation of milk to the health of their children. In one instance, that of a family including several children, the father had been ill a long while with tuberculous abscess, and which required daily dressings by the mother.

Some kind friends had given them a cow, making it possible for the entire family to be supplied with milk. The mother was found to be doing the milking and though she disinfected her hands, it didn't need a rigid investigation to find probable danger to the children. The reason why, she was the wrong member of the family to do the milking was explained to her, with the result that the oldest child takes care of the cow now, the mother proving more eager to help "do the right thing."

The education of the consumer in the value of getting pure milk and the importance of its proper care in the home will do much to prevent the diseases of infancy and childhood. To quote D. Roseman: "The milk question pervades the whole domain of preventive medicine—it is a vital problem, touching humanity in every phase of its social fabric."

Cleanliness Paramount Demand.
In the manufacture of ice cream the same care to secure a standard product, clean and pure, is taken as in the creamery business. The sources of supply are carefully guarded against contamination, and the best possible sanitary conditions are insisted upon. Frozen milk

NEW METHODS MARK DEVELOPMENT OF THE ICE CREAM BUSINESS

Improved Means of Manufacture Utilized in Turning Out Popular Product.

By Fred W. Vincent.

The ice cream business in Oregon is a near-million dollar infant industry. During the average year approximately 500,000 gallons of ice cream is consumed within the boundaries of the state and about two-thirds of this goes to satisfy the sweet tooth of the people of Portland and nearby communities, according to statistics who keep track of such things.

In Portland there are two systems of making ice cream, viz. the time honored freezer which turns and churns around in a bed of ice, and the newer system—homogenizing, for homogenized ice cream is a comparatively recent invention. When it was first put on the market there was much agitation against it owing to a mistaken idea that homogenizing made it possible for manufacturers to turn out inferior goods with a taste equally as good as the original product.

There is nothing mysterious about homogenizing in the least. It is simply a process that breaks up the butter fat globules of cream into infinitesimal atoms and mixes them with the milk so thoroughly that they stay mixed. Although the system is not followed by Portland ice cream makers to any extent, it is possible to take butter, and skimmed milk and reduce them to the right consistency for ice cream by homogenizing. But after all this is nothing more than returning to the milk its original richness and no possible harm can be done.

Following exhaustive tests, several of the larger ice cream factories of Portland have adopted the homogenizing system and declare they are enabled, as a result, to turn out ice cream that tastes better, has smoother texture and in which the butter fat and other nourishing portions of milk are more evenly divided.

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Sweet! Fresh! Delicious! Milk
Straight from the cow to your table—
That is what you get when you patronize the

Shorthorn Dairy OF HILLSDALE
Prompt delivery anywhere on Portland West Side
GABRIEL BROS. Proprietors
Phone Main 9599

can carry disease germs as well as the fluid, and this fact is fully realized. That is a reason why a visitor to any of the large Portland ice cream factories in Portland will always find the place scrubbed and clean and ready for inspection.

In most of the factories ice cream in the making is not touched by human hands. The moment the cream and milk is received it is taken into a cooling room near freezing temperature and there kept until needed. Meanwhile it is tested for purity, flavor and butter fat.

Where the homogenizing system is followed the next step is to place the cream and milk in the homogenizer. The chief point in this machine is a valve made of agate. Under a pressure of 5000 pounds to the square inch the fluid is forced into a small pipe at the end of which the agate valve rests. The tremendous pressure forces it through the narrow valve space and breaks up the fat globules.

It is then hurried to the mixing vats where the proper proportion of sugar, flavoring and sufficient gelatin to give the finished product "body" are poured in.

From the "mixer" the cream is sent to the freezers, ingenious machines which bring the cream down to a semi-fluid consistency and pour it into the tins which are later packed into the ice cream boxes for delivery.

Modern Freezing Plants.
From the freezer the cream is taken to refrigerators where the temperature is kept 10 degrees above zero the year around and there it hardens and remains until needed for the market.

In this business ordinary ice is not cold enough to bring about the desired effect. In its place is used the ammonia system, for freezing. This necessitates the employment of either steam or electric power to drive the machinery. By the ammonia system coldness can be regulated to any desired temperature in the refrigerators and the ice necessary for packing the finished product made on the ground.

Close attention is given to sanitation. The cans are carefully washed and sterilized by live steam baths, and the machines used in making the ice cream given frequent scrubbing.

Clean! Rich! Pure! MILK and CREAM.
We make two Portland deliveries daily.
Our herd of tested cows is fed on clover. This insures the sweetest milk, the most delicious cream.
Unrobbed of its flavor by machinery, calculated to make old milk seem new, our milk is delivered fresh in sterilized bottles direct from cow to customer.
Multnomah Dairy
Phone Main 5318.

Fulton Park Dairy Milk

Is So Clean, So Carefully Handled and So Rich in Body-Building and Strength-Giving Qualities That Physicians

Recommend It Particularly for Babies and Persons in Poor Physical Condition

Of the 150 dairies that deliver milk in Portland, the city dairy inspectors have awarded

Fulton Park Dairy the Highest Score

We have won first place because our cows are healthy, our barns and utensils scrupulously clean and our milk pure, delicious and rich in butter fats and solids.

We are proud of our title, "Cranks on cleanliness." Every day the cows are curried, the stalls scrubbed and the milking utensils bathed in live steam to kill all germs.

Our milkers wear white duck suits. The milk goes straight from the cows to the cooling and straining rooms in sealed buckets.

There it is cooled to almost freezing temperature and strained and restrained through sterilized cotton, an absolutely sure means of removing even the smallest dust particles.

Then machines pour it into bottles that have been previously sterilized in steam, and it is delivered to you in Portland fresh, sweet and with none of its exquisite flavor lost.

When you want the best for you and the baby, telephone

Main 9536 The Fulton Dairy

Dealers in Milk and Cream of Quality
Don't Fail to See Our Exhibit at the Dairy Show

Quality Pre-eminent—

There is the reason why

Lucerne Butter

is used in the best cafes and most exclusive homes in Portland.

ALWAYS THE BEST! SWEET, DELICIOUS!

Wholly an Oregon Product.

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A. CARR, Mgr.
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OUR BEST "AD" is the HIGH QUALITY of our MILK, CREAM BUTTER and EGGS

That is why we are growing so fast.

Phone East 231 or C-1343

Auto Delivery

WILLIAM CHRISTMAN Proprietor

Something Unusual SEE Our Demonstration at The Pure Milk Show

F. M. Kiger's Red Cross Certified Milk

Stands the Test---Read These Letters

Mr. F. M. Kiger, Gresham, Oregon.

Dear Sir—We have used the milk from your dairy for a period of over three years and have found it of exceptional quality. Its keeping qualities surpass those of any milk which I have ever used. Two years ago I took four bottles of the milk from Portland to New York City for the use of my little girl and on our arrival in New York the milk was still sweet, obviating the necessity of using such inferior milk as we might find on the train.

Yours truly,
MRS. HORACE MECKLEM.

17 East 83d St., New York, N. Y.

Mr. Kiger,
Dear Sir—The milk I carried with me again this year on our trip to New York kept perfectly fresh and was as sweet on the day of our arrival as on the day we left. I am very pleased to be able to write you this.
Yours truly,
MRS. LEON HIRSCH.

April 25th.
Mrs. Rachel E. McGee, 504 East Fifteenth street, north, writes: "I'm very glad to tell you that your milk stood a very real test of purity and cleanliness in my recent trip from Portland to Greensburg, Ind."

Certified milk means—that the product of the Red Cross Dairy stands the government test. Physicians recommend Kiger's Red Cross Certified Milk for infants and invalids. It stands high in food value as well as purity. This milk is guaranteed good until used. For your family's sake you should investigate the merits of

Kiger's Red Cross Certified Milk

Phone your order—Tabor 1100.

A HOME PRODUCT

In those households where the standard of living is highest—where quality is the first consideration will be found CORVALLIS BUTTER.

Corvallis Butter, made in the largest and cleanest plant in the Northwest, where cleanliness reigns and quality is the watchword. A product of that famous dairy region—the Willamette valley—Corvallis Butter is the most splendid exponent of the creameryman's art.



Home of the Famous Corvallis Butter

The Largest and Best Equipped Creamery in Pacific Northwest

The Corvallis Creamery, located at Corvallis, in the heart of a region justly celebrated for the excellence of its dairy products is a splendid example of the strides taken by the dairy industry in Western Oregon.

Every modern method, making for quality and sanitation is employed in this large plant which daily receives shipments of cream from thousands of farmers. At all times receiving the highest market price for cream they share our pride in the quality of our butter and the growing quantity of our output.

Corvallis Creamery Co.

PORTLAND CORVALLIS