

## ANNUAL REPORT OF THE STATE DAIRY COMMISSIONER FOR THE YEAR OF 1923.

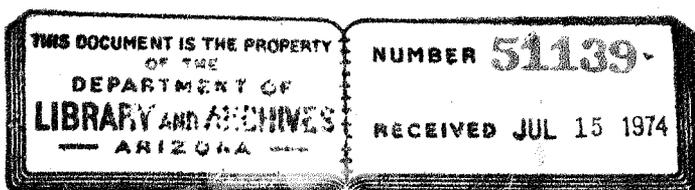
This report covers the year 1923, beginning with April 1, at which time the vacancies in this department were filled. A very thorough and complete inspection of the dairies and milk supplies of the entire state has been made during this time, in so far as it has been possible for two, the Commissioner and one deputy - to do the work. However the County and City Health Officers throughout the state have, in most cases, given very good co-operation, and conditions are greatly improved over a year ago.

## OUR POLICY

Our slogan has been cleanliness and coolness, which we consider by far the most important things to feature in the handling of milk. In our initial inspection trips we have laid great stress upon these points, and in our subsequent follow-up trips we have found that our instructions have been carried out to a very encouraging extent. Our campaign for steam sterilization of milk bottles and dairy utensils is meeting with good response, and our efforts to establish coolers and areators among producers have resulted in entire communities putting them into use.

This is especially gratifying since the keeping qualities of milk are greatly benefited by their use. Government investigation of twenty eight representative dairies showed that milk from clean cows, aired, and cooled immediately to a temperature of fifty degrees Fahrenheit, and put into clean bottles would keep in good condition for one hundred and eighteen hours. Without these precautions the milk from the average of these twenty eight dairies kept for only twenty three hours.

We have also assisted a number of dairymen in construction plans for dairy barns and milk houses. In our checking up work we have found considerable improvement in the sanitation about the corrals.



## TABULATION OF INSPECTION OF DAIRIES, AND ANALYSIS OF SAMPLES.

The following is a statement of the number of inspections made of dairies by this department, the number of samples analyzed, and the number of those examined by the different City and the State Laboratories in co-operation with this department:

Towns Visited	77
Dairy Inspections Made	532
Milk or Cream Samples Analyzed by the Dairy Commissioner	825
Milk Samples Analyzed by the Different Cities, and by the State Laboratory	1750
TOTAL SAMPLES ANALYZED	<hr/> 2550

In addition to this a few samples of ice cream and of butter have been analyzed.

### OUR FIELD LABORATORY

This department maintains a field laboratory which is used by the Commissioner on inspection tours through various parts of the state. This is of valuable assistance in our inspections, as microscopic examinations may be made of milk in each town, not only as it comes in from the dairies, but also as it is found in the restaurants. The microscopic (Breed's Method) has some advantages over the plate method in prevailing use, in that the presence of puss cells from sources of infection may be detected and to a considerable extent the kind of bacteria present in the milk may be determined. In some cases pathogenic bacteria have been found by the use of the microscope.

### REGULATION OF MILK SOLD IN RESTAURANTS

There has been rather specific regulation in regard to the way a dairyman must handle milk and the condition in which it is delivered to the con-

sumer, while but little attention has been given to the way in which it has been handled by the restaurants. Extensive investigations of the restaurant milk have been made throughout the state. Conditions were found to be very bad; the butter-fat or cream content being as low in many cases as one per cent, and the bacteria count running into the millions. Often the cream had been skimmed from the milk and sometimes water had apparently been added, thus robbing it of a large portion of its food value. The high bacteria count, while in many cases endangering public health, is chiefly detrimental in its deteriorating action on the quality of milk. With a view of remedying this situation the policy of serving the milk by restaurants in the individual bottles has been adopted. Most of the larger towns and cities of the state now regulate this by ordinance, and the prospects are good for having it adopted throughout the entire state. We believe that it should be a state law.

#### INSPECTION OF MILK AND CREAM DELIVERED TO CREAMERIES

It has been the policy of this department toward the patrons of the creameries to make inspection of the individual dairyman's product at the creamery receiving platform. An attempt to cover the entire field, inspecting each dairy which supplies the creameries, would be expensive and impractical, and, under our present travel appropriation, impossible. By checking up on the milk and cream at the receiving stations, the product of poor quality can be caught, condemned if necessary, and the offender given personal attention. All the receiving stations in the state have been checked a number of times and several hundred sediment tests made. By condemning the product of the careless and dirty dairyman a few times it makes him much more careful in his methods.

#### CREAMERY INSPECTION AND OUR POLICY IN REGARD TO COMPOSITE SAMPLES

So far as sanitary methods and equipment are concerned the creameries of Arizona are in fairly good condition, but owing to the seeming irregu-

arity of their various methods in taking composite samples of milk and cream for a butter-fat test, to determine the price to be paid to the patron for his produce, it was deemed advisable for this department to thoroughly investigate the methods and equipment thus used by each creamery. In accord with this policy a studious check was made, special emphasis being placed upon a comparison of an average of daily tests and composite sample tests. In many of these comparisons there was such a wide margin of difference that the necessity for a more uniform system was readily seen. In fact there were instances of a variation of as great as fifteen per cent of the entire amount of the butter-fat in a single test.

Being convinced that much of this was due to the poor containers in which the composite samples were kept - ordinary milk bottles with ill-fitting paste-board caps, which by permitting evaporation rendered the samples in very bad condition - it was decided by this department to require the use of the Mojonnier Sample Bottles by all the creameries which rely upon composite samples for a butter-fat test. Consequently an order to this effect was sent to each of the creameries, and became forceable December 1, 1923. In addition to this the creameries were required to test composite samples no less than four times per month.

#### STATE WIDE MILK CAMPAIGN

During the week beginning May 27, and ending June 3, 1923, a state wide milk campaign was conducted under the direction of the State Dairy Department for the purpose of creating a wider demand and use of dairy products, having Arizona products used, and with a view to improving the quality of Arizona products. The news papers all over the state responded very generously to the movement, some of them having special editions on milk. Articles contributed by the State Dairy Department, the State Board of Health, The Live Stock Sanitary Board, City Inspectors, Home Demonstration Agents and many civic organizations were sent each day to the various papers throughout the state.

This Department purchased three milk films: "Milk, the Perfect Food", "The Milk Fairies", and "The Four M's", from the University of Wisconsin

for one hundred twenty five dollars (\$125.00). These were shown in all of the show houses of Maricopa County free of charge during the week. The United States Dairy Laboratories also furnished a set of slides which were used to a good advantage. Several illustrative lectures on the comparative food values of milk were given by Mrs. Flossie Wills Barnes to Parent-Teachers associations. A cartoon card illustrating the food value of milk was gotten out by this department and distributed by the retail dairymen. Large quantities of these were sent to all of the larger towns for the Health Officers to give to the retail dairies to be distributed among the the consumers.

The restaurants assisted by featuring dairy products and milk deserts, while the drug stores and soft drink fountains featured milk drinks of various kinds. Milk and ice cream posters were put in windows for display in various places. A talk on the subject, "Why Milk is Our Best Food", was broadcasted from Mc Arthur Brothers' Radio Station. To the boy or girl under sixteen years of age who wrote the best reproduction of the talk, a prize was given. In this contest the boys and girls responded well as was evidenced by the number of reports received by this department.

A survey was made of the larger schools of Phoenix to determine the number of children who were not getting milk either at home or in school. It was found that just a little over half of them were getting any milk at all. As a result of this survey this department has taken the initiative in a movement to have milk universally served in the schools of Arizona. Encouraging headway has been made along this line, and now several of the city schools are serving milk to the pupils.

To improve the quality of the milk products several articles were written for the papers, films on the sanitary production of milk were run at the theaters, and a rigid campaign of inspection has been carried on throughout the year. Many good reports from the campaign have come to our attention and we believe it was very much worth while.

## THE WORLD'S DAIRY CONGRESS

The National Dairy Inspectors Convention held in Washington, September 28 to October 1, 1923, and the World's Dairy Congress held in Washington, Philadelphia and Syracuse, October 1st. to 10th. were attended by the Commissioner.

The most outstanding features of these conventions, and the thing that was given the most attention was the part pasteurization is playing, and the part it should play in America's milk industry. The agitation for pasteurization is so strong that the majority of the states, especially the Eastern States, measure the success of the milk inspection programs by the per cent of the milk they are able to have pasteurized.. It is very probable that laws to regulate this will be enacted in the near future. The proportion of milk pasteurized in Arizona is very small but the sentiment favoring it is rapidly becoming stronger. A number of systems and methods brought before the congress have been and will be very useful to us in our program of work. It was also during this congress that the Federal Exhibit from the Department of Agriculture was selected, and secured for use at the Arizona State Fair.

## STATE FAIR

The dairy exhibit at the State Fair this year was by far the biggest and best ever had in Arizona. A relatively small portion of the dairy building has been used for dairy exhibits here-to-fore. This year the entire building was filled with dairy exhibits. In response to the generous cash prizes offered by the Fair Commission, and the number of trophies offered by business firms, a wide variety of dairy produce of excellent quality was exhibited by both ranch dairies and creameries. A large variety of dairy feeds, equipment and apparatus was attractively displayed by a number of business houses and added materially to the exhibit.

The exhibit which attracted the most attention, however, from the standpoint of instruction, novelty and education to both dairy farmer and the public was the exhibit of the Federal Department of Agriculture. This consisted of a series of booths containing paintings, Drawings, figures, illustrations, mounted specimens and a moving picture booth all of which were gotten up in a scientific way illustrating practically all of the principal phases of the dairy industry. The courtesy of the United States Department of agriculture in extending to Arizona the use of this valuable exhibit for the State Fair is one which we believe has been of marked benefit to the dairy industry of the state.