

**FISHER'S GLEN BOYS' CAMP**  
July 5th to 17th, 1920

For boys over 13 years of age in Western Ontario, at Fisher's Glen, in Norfolk county, Lake Erie. Nearest station, Vittoria, G.T.R. Promoted by The Fisher's Glen Camp Committee, representing the co-operating units of the Ontario Boys' Work Board. Applications must be completely filled in and reach Mr. F. G. Poole, District Y.M.C.A. Secretary, London, Ontario, between June 1st and June 15th, 1920. Come in auto if possible, otherwise to Vittoria, G.T.R. If necessary arrangements will also be made to meet the L.E.&N. electric cars. Program by the Co-operative Committee, and on the request of the Co-operative Committee, a Committee representing the Y.M.C.A.'s of Western Ontario will conduct the business management including equipment, commissary, etc.

What should a boy bring? Rubber or oil cloth ground sheet, blankets, cushion, bed-tick 3 x 6 ft., open at one end, safety pins for open end, Bible, granite plate, cup and saucer, knife, fork, spoon, tooth brush and paste, soap, two bath towels, bathing suit, comb. Extras—Camera, baseball glove, mouth organ, fishing tackle, etc.

Fees—\$15.00 in full, payable \$2.00 with application, \$13.00 on arrival at Camp. Rebate made only in case of sickness. Application blanks and further information may be obtained by writing Mr. F. G. Poole, District Y.M.C.A. Secretary, London, Ontario. Physical fitness for camp life should be certified to by a physician or Y.M.C.A. Physical Director.

**BACTERIA IN THE MILK**

**Bacteria, Yeasts and Moulds Greatly Influence Milk.**

Most Bacterial Changes Are Harmful—How Bacteria Gets Into Milk—How to Prevent Injury to the Milk.

(Contributed by Ontario Department of Agriculture, Toronto.)

**B**ACTERIA play a very important role in the milk and dairy industry. Practically all the natural changes either good or bad, that take place in milk from the time it is drawn until the time it is consumed, or otherwise used, are due to the action of the various species of bacteria that gets into it, though sometimes yeasts and moulds are involved.

If the milk is to be consumed as milk, then most of the changes that take place in it, as a result of bacterial action, are injurious. Exceptions to this are found in the prepared fermented milk, as Kephir, Koumiss and Bulgarian milk; in these, however, the bacterial action is controlled and cultures of certain species of bacteria are added to the milk to bring about the desired

everybody knows that if a sample of ordinary milk is kept for a few days, particularly if it is not kept cold, it will sour or become gassy or rosy or putrid. This souring, ropiness, gas production and putrefaction, is brought about by different species of bacteria in the milk. As the changes in the milk which these bacteria produce are injurious and undesirable, everybody who has anything to do with the handling of milk should know how to prevent their occurrence.

In the ordinary methods of obtaining and handling milk it is impossible to prevent some bacteria from getting into it. With proper care, however, a large percentage of the bacteria that ordinarily get into milk can be prevented from getting in, and with proper handling of the milk the few that do get in can be prevented from producing any marked changes within a reasonable time. It is desirable, then, that those who have to do with the production and handling of milk should know how to prevent, as far as possible, the bacteria from getting into the milk and also how to prevent those that do get in from bringing about the changes which result in the spoiling of the milk.

**How Bacteria Get Into Milk.**—Unless the cow's udder is diseased very few bacteria are present in the milk as it is drawn, and those that are present are of very little consequence. Thus the bacteria found in raw milk get into it during the milking operations and during the later handling of the milk.

Bacteria of many kinds are present in large numbers in a dusty atmosphere, on bits of hay, straw, cow hairs, manure, flies, dirty hands, dirty clothes, and in milk pails, cans, bottles, strainers, and other milk utensils that are not thoroughly washed and scalded. Consequently, if we are to keep bacteria out of milk we must prevent the above-named substances from getting into the milk, and we must pay particular attention to the washing and thorough scalding of all milk utensils and in having clean hands and clothes.

It is generally considered that provided the milk is passed through a strainer when being filled into the cans from the milk pail all the objectionable materials are removed from the milk, as dirt, bits of hay, straw, manure, cow hairs, flies, etc. This is a great mistake as the bacteria which were present on these when they dropped into the milk pail are washed off into the milk, and these bacteria pass readily through the finest strainers used. Consequently, steps must be taken to prevent these materials getting into the milk.

1. The atmosphere of the stable must be free as possible from dust during the milking operations. Any feeding, bedding down or cleaning up should be done at least an hour before, or left until after milking.
2. Cover-top or sanitary milk pails should be used instead of the wide open-top pails.
3. Doors and windows should be fly screened.
4. Cows should be kept clean and groomed so that bits of dirt, manure, hairs, etc., shall not fall from the cows' flanks into the pail during milking.
5. All milk utensils should be thoroughly washed and scalded every time before use.

**How to Prevent Bacteria From Spoiling the Milk.**—Even after all reasonable care has been taken to prevent bacteriological contamination of the milk as outlined above, some contamination will occur, that is, a few bacteria will get into the milk in some way or other. If these are allowed to multiply in the milk they will spoil it.

The best way to prevent their rapid multiplication in the milk is to chill it immediately in the cooling tank or refrigerator, and keep it cold until used. A small amount of bacterial multiplication will take place, even at refrigeration temperatures, and this will show itself in the condition of the milk in course of time. But milk that has been obtained under clean conditions and has been kept cold should be in excellent condition even after forty-eight hours.

**Summary of Milk Contamination Preventive Measures.**—Prevent dust, cow hairs, bits of hay, straw, and manure, flies and drops of dirty water from getting into the milk during milking operations as outlined above. Thoroughly clean and sterilize all pails, cans, bottles and other utensils. Cool the milk at once down to refrigeration temperature and keep it cool and covered until used.—Prof. D. H. Jones, O. A. College, Guelph.

Caustic potash rubbed on the skull where the horns will appear will prevent their growth.

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THE voters' lists used in the Provincial election in October, with possible revisions to bring them up to date, will be used in taking the coming referendum on the liquor question. This is in accordance with the Dominion Franchise Act which provides for the use of provincial voters lists with revisions where necessary in Dominion elections.

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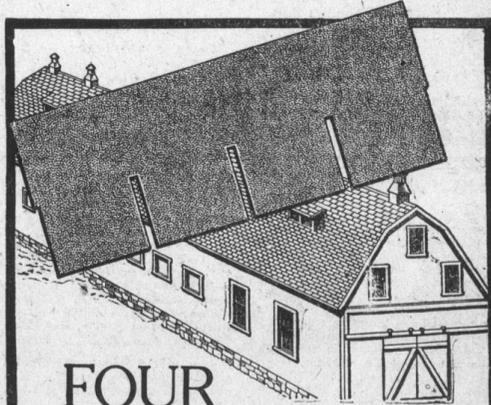
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