



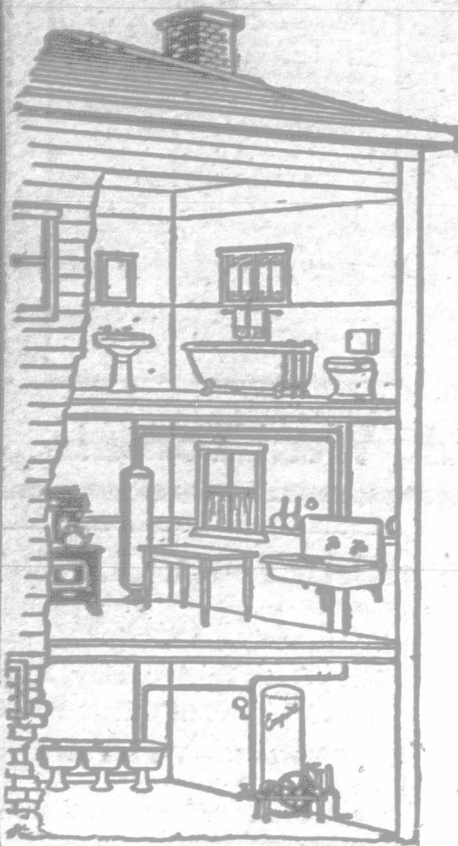
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## Our School Department.

### Attendance at Summer Courses.

By J. B. DANDENO.

The attendance at the summer courses in agriculture for teachers, in 1919, was the largest on record. From the indications in 1918, it was expected that there would be a considerable increase in the year following; consequently, in view of the fact that the Ontario Agricultural College had reached the limit of its accommodation, an effort was made by the Department of Education to see if another centre or other centres could not be secured to accommodate the overflow from Guelph. The Ontario Ladies' College with its ample dormitories and dining halls, in addition to farm and garden, offered a suitable place for such a course. An arrangement was, therefore, made between the Department of Education and the Governor of the Ontario Ladies' College by which the overflow from the O. A. C. could be taken there in 1919. This has been carried out with gratifying success, and a similar arrangement is likely to be made in 1920.

During the summer session of 1918 and 1919 the public and separate school inspectors were invited by the Minister of Education to take the course leading to an Intermediate certificate in agriculture, in view of the fact that they would be required to inspect the agricultural classes in their inspectorates, and also to encourage and assist teachers in their efforts to introduce and carry on the work especially in the rural schools. Nearly all the inspectors of the public and separate schools have completed the course referred to, and will be granted full intermediate certificates in agriculture.

An interesting feature of the summer course in 1919 was the presence of 37 "Sisters," teachers from Roman Catholic separate schools. Though handicapped somewhat in the garden work, by their method of dress, they accomplished manfully all the regular work, in class, laboratory and garden, with praiseworthy success.

On account of the large number in attendance, dormitory or boarding accommodation could not be provided for the men, consequently, the courses for all concerned lost much of their charm and something of their efficiency. Going back and forth down town consumed much time, and in most cases this prevented attendance upon evening meetings. As was the case last year, the swimming tank provided an opportunity to learn to swim, and also a means of enjoyment to those who had previously learned.

Special lectures were given as follows: An address of welcome by President Creelman on "The Functions of the College;" by Professor Harcourt on, "The Essentials in Human Food;" by Professor Crow, on, "Birds;" and by the Honorable Dr. Cody, Minister of Education, on "The Educational Outlook." Quite naturally all of these addresses were highly appreciated.

The Minister of Education spent a day visiting the classes at work in garden and laboratory, realizing that the way to get first-hand information with respect to the work being carried on is to see for himself the students at work.

### Producing Clean Milk.

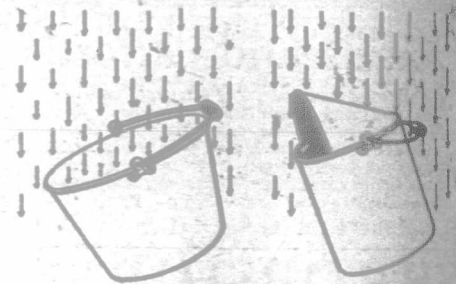
It is becoming increasingly necessary for dairymen to produce clean milk. Powder factories and condenseries enforce strict regulations in regard to the way milk must be handled. Health officers in towns and cities are constantly criticizing the milk supply and insisting that it be cleaner and free from bacteria. It is also a well-known fact that dairy products, such as butter and cheese, are of much higher quality when made from clean milk than when made from unclean milk.

The quality of milk can be pretty well determined by the bacteria it contains.

These bacteria are also known as micro-organisms. They are too small to be seen by the naked eye, yet there are thousands of them in a very small drop of clean milk, and millions in a small drop of dirty milk.

One type of bacteria cause milk to sour and they are not considered a very bad kind, although dairymen endeavor to keep their numbers as low as possible. Others cause blue milk; some red milk; while still others will cause the milk to become bitter and ropy. In addition to all these there are bacteria which cause diphtheria and typhoid fever outbreaks, and many an epidemic of these and other diseases have been traced directly to milk.

Some may think it peculiar that so much talk centres around bacteria in the relation to milk. It should be understood that because of its composition milk offers an excellent medium for the development and growth of all these bacteria. Sugar, found in milk, is very suitable for some bacteria; the protein in all milk nourishes them, and the fats make a splendid home for various kinds of molds.



Good and Poor Types of Milk Pails.

To follow up the necessity for clean milk and understand why it should be produced under as favorable conditions as possible, these facts should be considered: With clean milk there is less danger to the consumer of contracting disease; clean milk keeps sweet longer than unclean milk; it makes a higher grade of products; it brings a better price; and it makes satisfied customers.

We might now consider how impurities get into milk, and how to prevent the contamination of milk. The amount of impurities in milk depends on the care of the cow and her health, condition of the udder—external condition, whether clean or dirty—and on such other various items as grooming, washing, clipping, bedding, disposal of manure, feed, and water.

The arrangement of the stable, its location, ventilation, and other items are important.

Many impurities get in milk through the utensils, such as milk pails, separator and milking machine.

In milking, too, if one is not careful, dust and particles of dirt will get into the milk and add very materially to the bacterial content.

The accompanying illustration shows how dirt will drop into the open-topped milk pail with greater ease than into one which is partly closed over the top. Much dirt can also be prevented from getting into the milk by properly preparing the cow before milking—that is, by brushing and grooming and finally wiping off her flanks and udder with a damp cloth. Some milkers wet their hands with milk when beginning. This is a dirty practice and should not be done at all. If it is necessary to moisten one's hands when milking, it should be done with vaseline. In large dairies, men with any kind of a disease are not permitted to do the milking, neither are they allowed to chew tobacco while engaged at that particular job.

Just as a little experiment, take two clean bottles and in one milk from a cow whose flanks and udder have been cleaned, and into the other bottle milk from a cow that has not been cleaned. Set these two bottles together and notice which sours the more quickly. There are other little experiments that can be conducted by you at home or at school, and if you carry them out to the end you will never again want to drink milk, unless you know it is perfectly clean.