

CITY MILK SUPPLY

The Milkier as a Source of Contamination

By W. D. Frost, University of Wisconsin. THE milkier is no doubt the most serious source of contamination, since through him come the pathogenic germs which produce the most dangerous and widespread epidemics attributable to milk. These epidemic diseases are typhoid fever, scarlet fever, diphtheria, and septic sore throat. There is no reason to doubt that the cause of these diseases in milk epidemics is always entered through the handling of the milk by diseased persons, by "carriers" of these diseases, or through the water supply. To show that the danger from this source of infection is not simply theoretical but has its practical importance, one has only to turn to the literature of the subject.

Our knowledge of milk-borne epidemics was summarized by Traub, in 1904, and from him we learn that about 500 epidemics have occurred and that 317 of these were typhoid fever, 125 were scarlet fever, 61 were diphtheria, 77 were septic sore throat, and 10 were typhus. The number of cases in these various epidemics have ranged from one or two to over 800. The largest number of cases in any one epidemic was typhoid fever, 362, in 1891, and in 1913, in diphtheria 264, and in septic sore throat 7 (but it should be remembered in this connection that there were over 2,000 cases in the Boston epidemic of 1911).

The Hidden Danger. The elimination of this cause of contamination is the most serious problem confronting the conscientious dairyman of today. It is quite easy to get rid of milk handling workmen who are actually sick and it would seldom happen that well marked cases of disease would be the source of infection, especially in the larger plants. The trouble comes from the fact that during the prodromal stages of diseases, such as scarlet fever, they are quite as infectious, if not more so, than when these diseases are well advanced. Still more difficult is it to detect the "bacillus carrier" which are common in all these diseases. In the present state of our knowledge their detection is impossible.

What should be done and possible all we can reasonably expect that it will be to minimize the danger from this source by allowing only well people to milk; to temporarily debar those who are handling the milk any time they are ill, especially if such individuals be in the nature of a sore throat and particularly of this symptom appears in a young person who is suffering with diphtheria, or scarlet fever. A person should not be allowed to milk who has a fever or who has a sore throat. Nor should anyone be allowed to handle milk who comes in contact with anyone sick of an infectious disease. Where possible all employees should be periodically examined by a competent physician and should be allowed to milk only when the usual compensation, otherwise he will quit with the slightest, but nevertheless, dangerous indispositions.

Common Preventions. It seems also well within bounds to require that all milkers should have clean, clean clothes, clean hands, and good habits; such, for example, as to keep him from wiping his nose with his hands as I have seen men do in milking bottles. Milk bottles should be kept out of milk and should be so sealed, as to prevent infection during delivery, for it must be supposed that all of the contamination occurs on the farm—it may

occur en route to the city, in the city plant, and on the premises of the consumer. Finally, fine equipment of farm, dairy and pasteurizing plant is always demanded, but by the same token, it is always to be remembered that intelligent and painstaking care are the important essentials in the handling of milk.—From address at the annual meeting of the U. S. Live Stock Sanitary Board.

The Toronto Situation.

M. R. P. HICKS, of Newtonbrook, Ont., when interviewed by an editor of Farm and Dairy regarding the city milk supply of the city of Toronto from the producer's standpoint, stated that he was a member of the Farmers' Dairy Company. Most of the dairymen in this company were shareholders in his district and disposed of their milk through it. The present price obtained is \$2.10 per 24 lbs. can. The milk is retained throughout the city at 18 pints for the dollar.

There does not appear to be any friction at present existing between producers and dealers. The situation seems to be that it is becoming recognized that the increased cost of production over that of former years, warranted the recent advance in the price of milk secured from the dealers by the Toronto Milk Producers' Association.

HORTICULTURE

A Magazine for Horticulture

THE companion publication to Farm and Dairy, The Canadian Horticulturist, in its October issue just out has a splendid line-up of timely articles, well illustrated. The cover cut shows a method of bleaching celery employed on an Ontario farm.

Among the more important fruit articles are two dealing with the subject, standardization of fruit articles. Mr. C. W. Baxter, Chief Fruit Inspector, at Ottawa, writes on "Small Fruit Packages and Packing," and Mr. A. H. Flack, Chief Fruit Inspector of the prairie provinces, "The Canadian vs. the American Standard Apple Box." "Points to Watch when ordering Nursery Stock," by H. S. Fry, B.S.A., will be found valuable to growers who intend increasing the size of their orchards. E. W. Wartman, Dominion Fruit Inspector, Montreal, tells us "The Merits of the Dutchess Apple." Other fruit articles of interest are: "Methods of Fruit and Apple Growing," and "A Forward Step in Co-operative Marketing," which deals with the agreement between the fruit growers of Ontario and the grain growers of the west. Notes from an "B.C. Vineyard, Okanagan Valley, B.C. Vineyard District, Ont., and Annapolis Valley, N. S." will also be of interest to many.

Among the articles in the floral section will be found three very timely ones on the fall planting of bulbs—"Simple Facts about the Growing of Tulips," by Dr. H. M. Speechly, "Do Not Forget the Lilies," by B. C. Tillett, and "What Bulbs to Grow," by E. G. Henderson. October Work in the Garden, and Preparations for Winter, by Geo. Baldwin, F.R.H.S., are also of interest.

Beekeepers will find useful information in "Feeding Bees from Supers," "Methods of Wintering Bees," "Experiences in Cellar Wintering," "The Honey Resources of Canada," notes on Marketing and other timely articles. The Canadian Horticulturist will be sent for the balance of this year and the whole of next for \$1.00, or sub-

scriptions may be sent with renewals for Farm and Dairy, the two papers for one year for \$1.50. Write either Farm and Dairy or Canadian Horticulturist, Peterboro, Ont.

Planting Fall Bulbs

MANY of our folks take great pride in their lawns, and will, at this time of the year, be much interested in the planting of fall bulbs. Some very reasonable suggestions are contained in the following extracts from an article by E. B. Tillet in The Canadian Horticulturist, the companion paper of Farm and Dairy, which circulates amongst the fruit growers of Canada as it does amongst our dairy farmers. Mr. Tillet says in part:

Notwithstanding the war in the great bulb-growing countries and the countries affected by it, especially for Holland, there has not been all this time so far any real difficulty in obtaining most of the best-known flowering bulbs. For that we should be truly thankful. Those who have not already planted their bulbs should lose no time now in getting them in. The object, of course, in getting bulbs in so good time is that bulbs kept out of the soil for a long time shrivel and lose their vitality. Moreover, early-flowering bulbs, such as snowdrops, crocuses and acornite do better if planted early. If bulbs are not in during September or October there is no reason why they should not succeed, provided they are planted in suitable soil and at the depths mentioned.

Hyacinths and tulips take no harm till October, or even November. Nearly all the lilies should go in in October. Gladioli in April. Now, about the depth of planting: This depends on size and soil. Bulbs vary greatly in size. Snowdrops should be put in three inches, crocuses two inches, daffodils and narcissi four inches, hyacinths and tulips four inches.

These depths, remember, are given merely as a general guide. At the same time they are the depths best suited for these particular bulbs. As regards the soil, it need only be pointed out that in heavy soils it is well to plant quite so deeply, and on the other hand, to give full measure in very light soils. The distance apart, too, is regulated by the growth of the bulbs; snowdrops and crocuses should not be planted closer than two or three inches; hyacinths, tulips and narcissi six to eight inches; lilies twelve to eighteen inches apart.

The best tool to use when planting bulbs is a dibber—a blunt end, or a trowel. For the small bulb a dibber is much the better tool. A dibber can readily be made from a stake. It should be cut so as to be about twelve inches long, and should be about one and a half inches thick. A short piece can be fixed across at one end for a handle. An old spade or fork handle is a most convenient thing of which to make a dibber. Holes should be bored through the handle at intervals of one inch, large enough to admit of a small pe. If the bulbs to be planted have to be planted three inches insert the peg in the third hole and push the dibber into the soil as far as the peg. In this way every bulb is planted at the same depth. Do not point the dibber, as that will leave a vacuum at the bottom of the hole.

Nowhere do the bulbs flowering in the spring look so well as in grass. Indeed, many bulbs do far better in grass than in a cultivated border. When planting them in grass scatter the holes about and dibber them in where they lie. After planting fill up the holes with good soil and tread down firmly with the foot. The most pleasing effect with fall bulbs is where they are planted broadcast or in informal groups. Planting them in rows closely packed together spoils the effect.

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