

supplied regarding the source of the water, the work of analysis is done free of charge. The following is a copy of the instructions:—

*"Instructions for Sending Samples of Water for Analysis."*

"Procure from a druggist an empty "Winchester Quart" bottle, which, however, must not have held ammonia. If such be not obtainable, a clean, new stoneware gallon jar may be used. In either case, rinse the vessel several times with the water about to be sent, finally filling it up to the neck. Close tightly with a new cork, and tie over the cork and around the neck a piece of new cotton, which will prevent the cork from coming out and dirt from entering the bottle. Pack the bottle in sawdust or other suitable packing material, to prevent it from shifting in the box *en route*. Ship the sample as soon as possible after taking it, prepaying express charges. At the same time, send particulars as to the nature of soil and subsoil or rock, through which the well is sunk, the depth of well, the usual height of water in well, the distance of well from barn, stable or privy, whether the well has been lately cleaned, material and condition of cribwork, and any other information regarding the water, which may assist in drawing conclusions as to the nature of the source and the normal condition of the sample sent for analysis."

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*By the Chairman:*

Q. They send it in bottles by mail?—A. No, by express. The sender must prepay the express charges.

I have already stated there is direct scientific testimony establishing the connection of outbreaks of epidemics, such as typhoid fever and diphtheria, with polluted water supplies. These diseases are often very prevalent in country parts. I am of the opinion that this matter of pure water is just as important for the farmer to study as that of a good and cheap food supply, and perhaps more so, since health is before profit, and indeed without the former the latter is unattainable.

*By Mr. Bain:*

Q. Don't you think these epidemics often break out when the water is low?—Yes.

Q. That would indicate that the water at one season was not as pure as at others?—A. You will easily understand how that can arise. When the soil is light, the weather hot and the rainfall slight, the water in the wells is consequently reduced in volume; at the same time the climatic conditions are those favourable to the growth of bacteria which produce diseases. These two factors work together, viz., the concentration, or rather diminution in volume of the water containing the bacteria, and the greater development of the bacteria.

Q. They are not produced by the water being concentrated?—A. No, they are not so produced, but there is a larger number. Before the process of evaporation commences, we may assume, for the purpose of illustration, that there were ten bacteria per cubic centimetre; if this water evaporates to one-tenth of its volume, there will be just one hundred bacteria per cubic centimetre.

Q. How will it evaporate under the ground?—A. The evaporation does not so much take place in the well as in the supply flowing into the well. This is much less. The chief reason, however, for the presence of so many bacteria is that the temperature in the dry season is extremely favourable to their growth, and the water already contains nitrogenous organic waste materials for the bacteria to feed on.

*By Mr. McGregor:*

Q. Have you tried rain water, many use a cistern?—A. When the rain is collected in a perfectly pure condition there is no objection to it; but unfortunately, it often contains the washings from a dirty roof and eaves. The soft water cistern should