

At the Black Creek factory, near Stratford, the waste water is forced through pump-logs into a ditch some distance from the factory, at which place the water filters through the natural soil into a creek. This plan is said to work very well. The danger of polluting the water or grass if dairy cows have access to the stream or pasture makes this plan, without filtering, very objectionable, although experiments made at Rugby farm, England, showed that the productive capacity of an acre of grass was increased three or four fold by applying sewage, and no bad effects on the milk given by the cows was reported.

2. By Irrigating a Field near the Factory or Creamery.

To do this properly a storage tank is needed in order that the sewage may be applied when needed by the crop. In cases where the building is above a sloping, sandy or gravelly field the sewage may be profitably applied for the growing of such crops as corn, potatoes, mangels, beets, grain, fruit trees, nursery stock, grass, hay and garden truck. Italian rye grass is said to be specially benefited by the application of sewage, and this grass has the power of absorbing large quantities of it.

3. The sewage may be run into a tank and thence be pumped and applied to the soil. In most cases this is too expensive. Where the soil is sandy or gravelly much of the liquid may soak away, but owing to the danger of polluting the water in the well, and the air about the factory, this plan is not to be recommended. Makers should be very careful not to use impure water for setting the vats, washing butter, or for any other purpose, if it can be avoided. It is a safe plan to have the sides of the well cemented, to guard against possible pollution from impure water in the surface soil. If there is any doubt about the purity of the water send a sample to Guelph or Ottawa to be analyzed.

4. The sub-earth system works well for private houses and is used at some public institutions. A portion of land is thoroughly underlaid with a system of drain tiling. The sewage is conducted into these tiles, and allowed to soak away in the sub-soil. As there is danger of polluting the well, unless the tiling is a long distance from the building, this plan can be recommended only where the water supply comes from a distant spring through iron piping, or where the water supply comes from town or city waterworks.

5. The filter bed system seems to be the best and most practicable plan where drainage from the bed can be obtained. After the sewage has been properly filtered it is safe for animals to drink. Town sewage water, after being filtered, has been found to be purer than the water in wells of the same town which was used for drinking purposes by some of the people. A properly constructed filter bed is more than a strainer. In addition to causing mechanical changes in the sewage, the process of filtration involves biological and chemical changes whereby the water becomes purified. The intermittent downward filtration system has been proved to be a success.

POINTS TO OBSERVE IN THE CONSTRUCTION OF A FILTER BED.

1. Make a tight connection between the gutter and the drain outside.
2. Have a "trap" on the drain to prevent smells coming from the drain.
3. Ventilate the drain.
4. Make the drain as straight as possible

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