

of the land other channels were cut, and at stated periods they made an alteration and allowed the water to run down one channel for a few days, and then changed it to another channel for a few days. By that means they were able to cultivate that land, and they got a lot of grass from it and also crops.

25. In other words, sewerage irrigation?—Yes, but that would only apply where you had a natural and graded fall.

26. You can offer no suggestion by which the greasy solids could be neutralized chemically?—The volume of liquid to deal with is so large that it would be impossible to handle it in that way. About 90 per cent. of the drainage from a dairy factory is clean water. There is a little fat, a little milk, and other solids.

27. Take a cheese-factory, the routine is this: the milk comes in the morning, and the previous day's whey is carried away in the cans, and there are only the vats and the floor at the factory to be washed?—Yes.

28. That is all the effluent there is?—Yes, and it is not harmful so long as you can get it all away and do not allow it to accumulate.

29. Have you read the Bill, Mr. Cuddie?—I have.

30. Do you think there is any necessity for the Bill as far as the dairy industry is concerned?—I hardly think there is, because we are having very little trouble in regard to dairy-factory drainage at the present time.

31. We have had a large amount of evidence, and the kernel of it is a fear that some cantankerous person will apply for an injunction and create trouble. Have you any information which would help us as to whether or not that fear is likely to be justified by action in the direction of an injunction?—Well, I admit this: that the Bill would, if passed in its present form, be very helpful to some dairy factories who are at present having a difficulty with their drainage; but, on the other hand, the dairy factories are probably liable to suffer some loss through other industries providing the Bill goes through. If the pollution of water is allowed to the extent that one would be led to understand it is from the Bill, it might prove a very serious matter for the dairy factories.

32. In the Manawatu district, a district which is well known to be highly suitable for dairying and contains valuable land, such evidence has been brought before the Committee showing that the pollution of water from flax-mills especially is such that grave difficulties are likely to arise through want of pure water for use by the dairy factories?—Yes.

33. Has anything of that kind come to your knowledge?—No. As a general rule the factories draw their supply of water from wells. There are cases where they have to depend upon streams, and are unable to get a sufficient supply from a well.

34. *Mr. Buick.*] But the water from a stagnant stream would not be fit for dairy factory use?—No, it would not be except for running over a condenser. But if for general use in a factory it would be quite unsuitable. It is imperative to have pure water.

35. The ordinary sluggish-stream water would not be fit for dairy factory use?—No.

36. Without any pollution?—No, it would not be suitable.

37. *The Chairman.*] Have cases come within your knowledge where artesian water is evidently drawn from an old swamp, and is so impregnated with iron and other mineral matter associated with iron as to make the water unsuitable for dairying purposes?—Yes, quite frequently that has come under my notice, where there has been too much mineral matter in the water to use it for boilers or washing out. It corrodes the tinware and metal parts of the machinery.

38. And it might in such a case be that the best the dairy factory could do would be to use the best system of water at hand?—Yes, perhaps the nearest stream.

39. *Mr. Nathan.*] With all due deference to Mr. Cuddie, I think the dairy companies themselves are better able to express an opinion as to the requirements of the Bill or otherwise. The complaints that might reach the dairy companies would not reach Mr. Cuddie's Department. They would, I think, reach the Health Department before reaching the Dairy Department. We have eight or ten men down here representing the whole of the dairy factories, cheese-factories, and butter-factories. Kimbolton and practically every one of those companies can be stopped by way of injunction. The position of the Cheltenham Factory is this: Mr. Bruce is the chairman, and he owns the land immediately below. If somebody buys Bruce out—and he is to be bought out in a few years—Cheltenham can be stopped, because the water flows through Bruce's land, and they have no other drainage whatever. We were stopped at Makino, and we had to find £800 for the Feilding Borough Council for drainage, and if not we would have had to throw our £6,000 factory away. The people refused us drainage. Take Bunnythrope: Mr. Wilcox is entitled to stop us there. He said he was going to but did not, and when asked why he did not he said it would pay him better to get damages from them every month; and yet the man does not live there. Take Awahuri: there is an injunction out against them?—The drainage is very bad there.

40. *Mr. Buick.*] As a dairy expert, you have travelled round a good deal?—Yes, all over the various districts.

41. Have you seen any scheme by which it was practicable to take away all the deleterious matter from dairy factories?—It is a difficult matter to deal with. I have not seen any scheme that would give you just ideal conditions. It can be modified a good deal.

42. *Mr. Sykes.*] And having travelled throughout all the dairying districts of the world, have you seen anything outside the ordinary drainage methods?—No. We have tried septic tanks, but they have been a failure.

43. What system obtains in Denmark?—They handle it by sewerage system.

44. And how about England?—There is not much dairying on the factory system done there.

45. Are there no factories in England?—There are some factories, but they are mostly con-