

conditions. But where you have not got these soil conditions it is certainly a very difficult thing to get rid of, and if it was a retentive clay soil it would be quite impossible to do so by subsoil absorption.

19. Do you know of any case where the effluent has been rendered innocuous by ploughing patch after patch—irrigating this effluent, in fact?—I have not met with any such case in connection with dairy factories, but, of course, it is done in some cases in connection with slaughter-house drainage, which could become even more objectionable than dairy-factory drainage.

20. Waingawa?—The place I have in my mind more particularly is Pakipaki.

21. Have they got rid of their effluent at Waingawa successfully?—Yes, we have never had any trouble with it there.

22. It has occurred to me that in the case of the dairy factory about which I have been speaking, with eight miles of drainage, a tilting-tank might be of very great use. By a tilting-tank I mean a tank that would periodically, when full, discharge its contents with a big rush, sufficient to carry everything before it, and making a stream sufficient to carry everything away?—Of course, you would have to have some place to discharge it into. You would have to discharge it into a drain of some kind.

23. Undoubtedly?—That would undoubtedly be of some assistance; but if your dairy factory had a sufficiently plentiful water-supply, you would still further improve matters by a stream of pure water running into your factory-drain all the time, so as to increase the volume that was going down. I have, however, not gone into these matters very much, because it is my friend Mr. Cuddie who deals with dairy factories. But I think it is quite possible that some cheap material could be found which could be placed in the drain, or have running into the drain, which would have the effect of even still more minimizing the possible trouble that might result from it.

24. Some chemicals?—Yes, some simple chemicals. Dairy-factory drainage is usually of an acid nature, and if you had some alkaline element, like carbonate of soda, for instance, it might possibly prevent it from becoming a nuisance when it gets into the stream. I do not think you could do anything profitably or conveniently which would prevent an accumulation of dairy-factory drainage from becoming detrimental. Unless you get it away as fast as you produce it it would not be much use.

25. *Mr. Buick.*] In your experience as a veterinary surgeon, do you think that the fact of the dairy cows drinking from a polluted stream with either flax or dairy refuse would affect their milk either in quality or quantity?—Well, it might, providing the pollution were sufficient to upset the cow's health in any way.

26. It would affect the taste of their milk?—Whether it would affect the taste of the milk would depend entirely on the character of the contamination. But, speaking as a general principle, of course, it is very bad for a milking-cow to drink polluted water. There are so many varieties of pollution that one cannot well lay down any definite result as to what would happen with polluted water generally. But, of course, it is a bad thing for them, both on account of their health and the quality and quantity of the milk.

27. *Mr. Sykes.*] In your opinion will decomposing flax-mill refuse tend towards engendering typhoid bacteria?—No. It has nothing to do with typhoid fever. You can never get typhoid fever occurring as a result of flax-mill refuse.

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WEDNESDAY, 16TH OCTOBER, 1912.

JOHN PEARCE MORCOMBE, Farmer, Rangiotu, examined. (No. 35.)

1. *The Chairman.*] Would you like to make a statement?—Yes, sir. I have about two miles of river frontage altogether, on the Oroua River. Just lately I had six cows die—about a month ago, I suppose. One or two I saw just before they died, and that was all. With the last one I got the Government Veterinary Surgeon down.

2. What name?—Plimmer. He looked at it, and said it was poisoned, he thought. It was two or three days after the cow died before he could come. He said it had been poisoned, but would not exactly say what kind of poison it was. There were pools of water where the river had flowed, and this flax-refuse would get in and settle, and the cattle would drink it. So I changed them from the Oroua River, and put them over the other side, and since then I have had no more trouble. Another thing: when they were on the Oroua River they were continually scouring. Directly I changed them over to the other side they stopped scouring. We put them back the other day, and they started to scour again. I used to live alongside the river in summer-time, and I found it impossible to bathe in the river or to use the water for any purpose whatever. I have seen fish in the river in the winter—trout—but have never seen them there in the summer when the mills have been working. I was down here last week, and when I went back I was walking along the Manawatu River, and I could still see flax and stuff going in from the mills. I spoke to one or two millers about it before I came down, and they said, "The best thing you can do is to fence off the river." They admit themselves that this water is poisonous if it lies in pools. They said, "Clean those holes out yourself, and put artesian wells down." I do not see why I should be forced to do that.

3. *Mr. Sykes.*] You say you have had six cows die recently?—Yes.

4. Were you dairying last year?—Yes, on the same land.

5. And had you the same experience last year?—No, I never had that experience before.

6. Is the nuisance more accentuated this year than last year?—It will be, because another one or two mills are being started on the Oroua River, and if they put two or three strippers in each mill it means a greatly increased output of this refuse; and if they work sixteen hours a day it makes it worse still.