

though I have had no personal experience—that milk is very readily tainted by any smells in its vicinity.

21. You are aware probably, from your experience as a controller of the lending of money, that farmers unfortunately have to borrow, as a rule, up to the full limit—that is, two-thirds or three-fifths of the value of their property—and possibly have to get a little on a second mortgage as well?—In nine cases out of ten they want more money than we can let them have, and they have to get the rest from somebody else.

22. Would not the passing of this Bill have the effect of reducing their borrowing-powers—they could not get nearly so much money?—It appears to me to be so. In my case it would certainly have that effect.

23. With respect to claims for damages, you see the effect on the mortgagee, and you say that the owner would get the damages if they were available. Can you see any means whereby a farmer would get any damages from a flax-miller who was unable to pay? Supposing the flax-miller was practically in a bankrupt state, what would be the remedy?—He would have practically no remedy.

24. And could not stop the pollution of his stream?—No.

25. He must submit to the pollution and get nothing in return?—That would be the effect.

26. Assuming a stream to be badly polluted by flax-refuse, does the pollution extend any distance where the soil is permeable? Does it extend any distance from the drain, do you think?—Yes; in some soils it would extend literally in any direction in which water flows from the channel of the river. The ground-water is frequently supplied from the bed of the river itself. In that case the whole of the ground-water would be polluted.

27. Flax-mills are generally on ground that is not much above sea-level, are they not?—That is so; at the same time it is to the advantage of the miller to get a current.

28. You said something concerning the pollution of water lower down in the ground itself. Do I understand that this refuse would pollute well-water some distance down in the ground?—Yes; it would pollute well-water as far as the polluted water is capable of penetrating—that is, down to the first hardpan. Beyond that the water is classed as artesian.

29. It would not affect artesian water, but would it affect water that is sometimes called artesian?—It would affect the latter, but it would not affect true artesian, because that is from a considerable distance down.

30. Would one flax-mill pouring this refuse into a stream high up the stream be likely to affect the water drunk from wells at a mill lower down the stream?—Yes.

31. So that one flax-miller might be doing damage to another, or even to himself?—Yes. I do not contend that such pollution as this is pollution that is actually bearing pathogenic germs, because those germs are not capable of being spontaneously generated. On the other hand, it is an excellent field for the culture of those germs if they should happen to get in from any other source, and the general source of pollution is human excrement. Sooner or later that gets into polluted streams, and then there is very great mischief.

32. Have you any method to suggest whereby the flax-millers could filter their refuse, so that by taking proper precautions—involving the expenditure of money, no doubt—they could reduce the evil to a minimum?—Yes. I have not the slightest doubt they would have to filter the lighter portions that float, because those are wax. It is erroneous to call them gum. They are wax, and the consequence is they are extremely hard to dissolve. In most cases they are practically insoluble. That would have to be screened.

33. That is injurious also?—It generally bears with it an inside skin which is fermentable, but there is an inside part which is not soluble except chemically. That would have to be screened, and it could be screened quite easily. The rest would settle. The solids can be deposited either by precipitation or by coagulation—all of them. The fluid could then, I think—some of it, at all events—be admitted to the channel. It could all be admitted in times of flood.

34. *The Chairman.*] Can you tell the Committee from your own observation that this wax portion of the pulp would not settle, say, in a perfectly still pond of a chain square?—I doubt if it would settle.

35. It has been suggested that if the mill-water was passed through under the strippers, and deprived of the fibre by ordinary screening methods, the pulp portion then poured into an enclosure, wire-netted, with small mesh, the enclosure being, say, a chain square, and there was perfectly still water, the pulp would settle in the bottom and the water would flow out on all sides and find its way into a drain, and go back into the stream and so be carried away?—That is quite practicable.

36. Then when enclosure No. 1 was sufficiently charged, you could go on to enclosure No. 2, and so on indefinitely, making successive enclosures in which to deposit the solid matter?—That is quite practicable; but that would not be required under the Bill as it stands at present. No man could be obliged to adopt those remedies because they are not in vogue in New Zealand.

37. What the Committee would like to know is, whether, in your opinion, the lighter portion would settle under conditions like that?—It might not settle in a pond where it was capable of being floated, but if it were liberated on any land it would settle down as a solid on the land, and the water would leave it. I have seen flax so deposited. The fluid has left it. It has been simply dumped in a heap like sawdust. The pulp has remained and the fluid gone. I should like to add one thing that I forgot. These by-products are of great value. I have not the smallest doubt that the pulp is of great value if a method of treating it could be discovered. It must contain all the nitrogenous element of the leaf, and that is valuable as manure if the compound can be discovered which will make it agreeable to the vegetation for which it is used—either lime or a phosphate. I have seen linoleum made of it. I have seen paint made of it.