34. Are we to draw the inference that you were afraid of the flax-mill owner, or the flax-mill men, or the smell of the flax—which was it?—It was the men if anything. You get some pretty threats in a public bar in town if you happen to meet some of them there.

35. Do you mean to say that the flax-mill workers resent the action you have taken in regard to the proper methods to be adopted?—Not lately, but when the case first came on they did. Now most of the men are with us.

36. Then, really there was no reason to fear going near these mills, if the men are now in sympathy with you?—It was the photographer. He refused to go.

37. The men recognize now that you are doing something to better their condition as well as your own?—The more intelligent do—and when they are sober.

38. You say that Mr. Tennant is the only miller taking precautions. You mean the only miller on the Oroua River?—Yes, that is what I was speaking about.

39. *Mr. J. Bollard.*] With regard to the stock that you lost—what percentage of your stock, approximately, have you lost since this flax became such a nuisance?—I could not tell you the percentage.

40. Supposing that you had a hundred cows, and had good land and pure water: what percentage do you think you would lose in the year?—It all depends on circumstances. Sometimes you might go through a year with a lot of young cows and lose none.

41. I mean in the ordinary way?—With good cattle, probably 5 per cent. If you buy cheap rubbish, 10 per cent.

42. Do you not think that 10 per cent. would be a very reasonable proportion to lose?—Yes, I think 10 per cent. depreciation and 10 per cent. loss would probably be about it with most men who are milking cows.

BERNARD CRACROFT ASTON, Government Agricultural Chemist, examined. (No. 37.)

1. *The Chairman.*] Can you give us any statement that would be of information to the Committee as to the chemical aspect of what we are discussing—flax-refuse—and the result of decomposition in the way of developing a poisonous element dangerous to the health of stock and human beings?—No, I cannot say anything as to the poisons in or derived from flax, but I can say something as to the manurial value of flax-refuse, and so point to a way of utilizing the waste product. I have prepared a few notes, which are as follows: Flax-refuse is the fleshy portion of the leaf of *Phormium tenax*, with some short fibre. The refuse accumulates as a waste product in process of producing the fibre known as New Zealand flax. Dr. Purchas, of Auckland, in 1868 (Trans. N.Z. Inst., Vol. i, p. 69) stated that the refuse made "most excellent food for cattle." Certainly the well-chewed ends of flax-plants are evidence that stock to some extent find the leaf palatable, but I am unaware that any exact experiments have been carried out to show its food-value. Sir James Hector ("*Phormium tenax* as a Fibrous Plant," 1889) mentions that if cattle have access to a field of flax which has been cut, they will destroy the plants altogether by drawing out the young leaves to chew the butts, of which they are very fond. The same writer suggests that if the sodium-sulphite process be used to obtain the fibre, the rejected portions of the leaves could easily be converted into papermakers' pulp. Professor A. H. Church (now Sir Arthur) some forty years ago (Trans. N.Z. Inst., Vol. vi, 1873) conducted a research of the chemical composition of the *Phormium* leaf, and suggested that the ash of the refuse would make a lye to be used for the partial cleansing of the fibre. Seeking for a substitute for stable manure, a difficult substance to obtain in this country, where there is so little stall feeding of stock, some years ago I suggested to Mr. J. D. Ritchie the advisability of experimenting with New Zealand flax-refuse, a complete analysis of which is given in my annual report for 1900 (see pp. 135–6, New Zealand Department of Agriculture Annual Report, 1900), and a partial one in my 1904 report (p. 137). Experiments were accordingly carried out at the Weraroa (Levin) and Ruakura (Hamilton) and Moumahaki (Waverley) Experimental Farms. On a clay soil resting on gravel at Levin potatoes were planted on the 5th October, and on the 6th November 2·19 in. of rain fell in fourteen hours. In these trials, 5 tons of Up-to-Date sets, sown with no other fertilizer than flax-waste at the rate of 30 and 20 tons per acre, came away fully a week in advance of crops fertilized with artificials only, the former maintaining their growth right through the season. The 20-ton-dressed plot gave a crop of good quality, but not equal to that given by 2 cwt. superphosphate; the 30-ton-dressed plot was very much better, being quite equal to the best of the artificially dressed plots (1907 report, p. 320). The Overseer, Mr. Drysdale, remarked that thousands of tons of this valuable refuse, which could be made profitable use of, were lying about unutilized at the various mills. At Ruakura, on a sandy soil, 20 tons of flax-waste, without any other fertilizer, gave an increase of 2 tons 7 cwt. potatoes over the unmanured plot—a profit of £6 19s. per acre, due to the waste, after allowing 2s. 6d. per ton for cartage. The waste was valued at 2s. 6d. per ton (see Journal of Dept. Agric., Vol. i, No. 4, pp. 275–6), this being the actual cost of carting and distributing. The following are the actual results:—

	20 tons Refuse.	10 tons Refuse, 2 cwt. Bonedust, 2 cwt. Basic Slag.
Cost of manure	£2 10s.	£2 0s. 6d.
Yield per plot	1 ton	19 cwt.
Yield per acre	10 tons	9 tons 10 cwt.
Increase over unmanured, per acre	2 tons 7¼ cwt.	1 ton 17¼ cwt.
Value of increase at £4 per ton	£9 9s.	£7 9s.
Profit per acre, due to manure	£6 19s.	£5 8s. 6d.