41. *Mr. Hindmarsh.*] The difficulty is to break down the pumice, compared with other rock?—It is not difficult. The pumice is virgin soil; it is a rock that has not been eroded by water: that is the difficulty. Humus is the best factor in breaking down pumice, undoubtedly.

42. And therefore the object is to get as much humus as possible?—Certainly.

43. *Mr. Dickie.*] You think the more this land is ploughed the better it will become?—Provided you crop and manure it when you work it.

44. It takes about half a ton of basic slag to dress it properly?—I did not say that. Half a ton of basic slag was put down to ensure our getting positive results.

45. Do you think this land is suitable to enable a man to get a living on 400 or 500 acres?—I cannot answer that question—I am not a farmer.

46. You have been experimenting there: do you think it is suitable for cultivation?—Yes. In after-years it might be found advisable to top-dress with, say, a hundredweight of nitrate of soda or sulphate of ammonia.

47. *Mr. Wilson.*] How often, say, for pasture?—It is easy to apply a top-dressing every year.

48. *Hon. Dr. Pomare.*] It has been adduced in evidence before this Committee that about 800 acres would be sufficient for a man to live on?—Yes.

49. I am not asking your opinion as to what acreage would be suitable for a man to farm, but in your evidence you say it would cost about £3 15s. per acre for basic slag?—Half of that.

50. So in the course of twenty-one years a farmer who has taken up 800 acres would have to pay out £4,500 for manure?—No. In the first place, I did not say half a ton is necessary. I said we used half a ton. Probably a few hundredweight would be sufficient. I will read the evidence again, to save misapprehension: "In order to obtain positive results in our experiments, which were undertaken not so much to find out the increase in yield of pasture as to find out the increase in feeding-quality, it was necessary to give a maximum dose of top-dressing—in fact, to make sure of overdoing it in order to get positive results. I am not therefore in a position to speak with certainty as to the most economical quantity of fertilizer to apply. From the experience of farmers in the same district it can, however, be predicted that a comparatively small dressing—a few hundredweight merely—will prove successful."

51. *The Chairman.*] What do you mean by "positive results": put it into ordinary laymen's evidence?—We wanted to find out whether we could get the feeding-qualities of the pasture improved. Supposing we tried 2 cwt. before and found it not successful, we would not know whether the failure was due to not giving it enough manure or whether to the class of manure being the wrong one. We were trying to follow out the dictates of theory in these experiments, and theory dictated that the absence of phosphoric acid showed that it would be the right thing to apply. If we were wrong in our theory, and had put on phosphoric acid in the quantity we knew ought to be sufficient, we could not be in any doubt as to the result, and to that end we put on half a ton.

52. *Hon. Dr. Pomare.*] With that granted, ought we to cut the thing down by half?—More than a half.

53. Shall we say, then, a quarter of a ton?—Yes.

54. Therefore the farmer going on to 800 acres of this country would have to spend £2,250 in twenty-one years for basic slag alone?—He might not top-dress the whole of it at once. He would apply different manures to different crops. I am speaking of permanent pasture.

55. Do you think that with this expenditure it would be a paying proposition for a man to take up 800 acres?—Yes, certainly. If he could afford to dress it he would get his money back in the yield.

56. *Mr. Buchanan.*] Supposing by the application of your half-ton to the acre you obtained a certain result, and you reduced the half-ton to 8 cwt., and got the same result as you did with 10 cwt.; then you come down to 6 cwt. and got the same result, you would go on with your reduction until you came to a point which showed the quantity of manure necessary to give the result you wanted?—Yes.

57. Then you would come to the conclusion that you had hit upon the quantity of manure required for that particular soil?—Yes.

58. The only question that would then remain would be this: Taking the cost of applying the manure—not the cost of the manure in Auckland, but the cost of the manure as applied to the particular farm—is this a payable proposition? That would be the position, would it not?—Yes, that would be the position.

59. *The Chairman.*] Of course, the quantity and the amount of the manure that you would apply to this land would be in accordance with the crops you are going to grow?—Yes, certainly.

60. Have you made any experiments as to the best or proper quantity of manure which would be suitable for, say, growing turnips, and the quantity for grain?—No. We have made no experiments except for pasture.

61. And you find that the best results came from using half a ton an acre?—No.

62. The whole position is indefinite: you have not ascertained what is the most economical amount of basic slag to apply?—No, this is what I said: "I am not therefore in a position to speak with certainty as to the most economical quantity of fertilizer to apply."

63. You are not in a position to tell this Committee what amount to apply?—No, except that I know one farmer got an excellent result from 3 cwt.

64. *Mr. Buchanan.*] You presumably start on virgin soil which contains a certain proportion of humus?—Yes.

65. And you rely upon the cultivation of clover to provide further humus?—Yes, with a different nature. Humus provided by clover is of a different nature to that of fern.

66. Or bush?—Or bush.