

22. Then the State here would be doing a wise thing by immediately establishing plantations to enable us to be independent of foreign supplies?—Rather, because you have the country here that will grow timber well. There is any amount of land here that will grow nothing but trees.

23. *Mr. Murdoch.*] Can you give the Commission reasons for saying the quality of our timber has been steadily going down for the last ten years?—Yes. The first trees that were cut were mostly growing on high ground, and were matured trees. As the years have gone on the timber has been taken off land lower down, and there it is not of the same density as the timber that grew higher up. Now it is taken off wetter ground, and the fibres are not so close as those of the timber we used to get in the past. There may be some of the old class of timber left, but we do not get it.

24. Do you not think that the exportation has something to do with the matter: that the best is exported to Australia, and now everything else that comes off the saw is sent to the local market to make things pay?—That is partly the reason.

25. *Dr. Cockayne.*] Have you had any experience in connection with powellized timber?—I have used some of it, but they do not powellize any heart timbers. It discolours the timber, and the original colour cannot be replaced.

26. What class of powellized wood have you used?—Red-pine, for ordinary building.

27. Do you think the timber loses any of its quality by the powellizing process?—It gets slightly rough in the grain.

28. Was it in the building long enough to enable you to form any opinion about it?—Five years, and my experience of it is that you cannot get what you want by that process.

DAVID CUDDIE sworn and examined. (No. 80.)

1. *The Chairman.*] You are the Director of the Dairy-produce Division of the Department of Agriculture?—Yes.

2. Has your Department experimented with any New Zealand timbers for butter-boxes other than white-pine?—Not extensively. We made a small experiment two years ago with poplar, and it turned out very well.

3. Do you think it would be a good thing if some exhaustive tests were made with other New Zealand woods?—I do.

4. Say, with taraire and tawa?—Tawa has been used for making butter-casks, but now casks are not used. It suited the purpose well, and there is no reason why it should not be used for butter-boxes.

5. Have you tried *Pinus insignis*, or *Pinus radiata* as it is now called?—No. I see no reason why it should not be useful in that respect if paraffined or used with parchment paper. Wood of that description when thoroughly seasoned would make a very good package.

6. Are you aware that the Commission has been making experiments in a small way as to other timbers?—I happened to be in Auckland the day the butter was packed, and I would not approve of the test as being reliable, as the packages were too small. You want to pack it under normal conditions, using the same class of butter that is packed in the white-pine boxes, so that you would be able to note the deterioration, if any, between the two lots.

7. Here is a sample of dovetailed white-pine boards turned out at Mananui Mill. Would timber dealt with in that way make a good box?—So long as the dovetailing does not apply to the ends of the package there would be no objection to it.

8. What is the objection in the case of the ends?—A great many of the packages have to be opened for examination prior to shipment, and the lids have to be forced off, and it is possible that with the dovetailed boards the ends would part and the package break to pieces.

9. Then you do not think it would do as regards the ends?—A series of exhaustive tests could be made with such boards to see if they would do, but at present I do not see any serious objection to them being used for the top and bottom of the packages, and perhaps there would be no objection to the ends also.

10. How old was the poplar timber you experimented on?—It was from a tree fifty years old.

11. *Mr. Lethbridge.*] Where did you get it from?—On the Nelson side. It was a Lombardy poplar. The boards showed this little difficulty, that they did not hold the nails as well as the white-pine, but that might be got over by having a barbed nail.

12. *Mr. Murdoch.*] What class of timber do they use in Siberia?—I fancy, Baltic timber. Some years ago a dairy factory in the South Island could not get white-pine for their cheese-crates, so they used birch, or beech, but it was found in the nailing that a great many packages got broken, the wood being more friable than the white-pine.

13. *Mr. Lethbridge.*] Do you know what timber they use in Canada?—Spruce for butter-boxes; bass and elm for cheese-boxes.

14. *The Chairman.*] What qualities are required in timber for butter-boxes?—The first essential is that it will not taint the produce readily. Another is that it has an attractive appearance, white in colour, fairly tough, and not too heavy.

15. In regard to cheese-crates the conditions would not necessarily be so rigorous?—No; I think it would be possible to allow a little more latitude in the case of cheese, as it is not so easily tainted as butter.

16. Are many of the white-pine boxes used here for packing butter in paraffined?—No, very few of them.

17. Why do they paraffin some and not others?—Some of the dairy companies have an idea that a little is saved in shrinkage by paraffining, and others again deem it a sort of insurance against green timber. But it is not really essential if you use two thicknesses of parchment paper.