

of the soil to protect it from the wind. The mouldboard plow which inverted the furrow slice is a thing of the past in the Prairie provinces. There are plenty of people farming now who have never used a mouldboard plow, and there are many who have never seen one. This is as it should be. We do not recommend the plowing of these lands; we recommend a minimum amount of tillage, going over a summer-fallow with a cultivator or blade-weeder, which slices underneath the surface of the soil and cuts off the weeds and leaves stubble and trash, as it is popularly called, on the surface, that is recommended.

The success of a farmer used to be measured by how black he kept his summer-fallow. Now we point the finger of scorn at the black summer-fallow; we say this man is predisposing his fields and those of his neighbours to hazards of the black blizzards.

The point we would like to make in this connection is that eternal vigilance is the price of success in the control of soil drifting. Because we have had a number of years of higher than average rainfall and lower than normal wind velocity, we perhaps are inclined to become a little loose in our handling of these soils. But we feel certain, based on past records, that we will hit a dry cycle again, and we will have a repetition of the soil drifting menace we had in the 1930's. Generally speaking the recommended practices which have been worked out are not being followed at the present time.

That is the story of soil drifting. Are there any comments or questions on it?

The CHAIRMAN: I am sure you are quite right in what you say about farmers in western Canada getting a little careless because of the great amount of moisture we have had in the past few years. But 1957 indicated that they are again running into a dry cycle. Those who do summer-fallow and leave the trash on the top have got away this year without any drifting; those who have gone on with the black summer-fallow, lost their crops and much of their land.

Dr. HILL: That is a very good point, Mr. Chairman. In the areas where soil drifting was most serious in the thirties, there was none this year because these farmers had learned their lesson well.

Senator HAWKINS: There is one other statement I wish to commend you on: that we should have eternal vigilance. That is the principle of good production in any field, not only farming. I do not think it is necessary to make any further statement in connection with the small farmer. Nobody deplores his passing more than I do, but I fail to see how we can maintain a little farm and the standard of living that the farmer's family, and indeed the farmer himself, demands. Furthermore, I think he is entitled to a better standard of living; he is foolish to stay on a small farm and try to get along the way he does.

Dr. HILL: May I make a brief comment about weeds? As chairman of the National Weed Committee under the Advisory Services of the Department of Agriculture, I should like to point out that the loss from weeds in Canadian agriculture exceeds the combined losses from all insect pests and all plant diseases. The losses due to weeds in Canada are in excess of \$400 million annually. This averages out to more than \$1,000 per farm. Incidentally, the figure is the same on the Prairies as it is in the eastern provinces. It is about \$1,000 a farm, but of course it is less per acre in the West because the farms are larger. Despite this fact there are fewer than two dozen full-time scientists working on weed research in Canada, with fewer than a dozen employed by the Government of Canada. Yet it would appear that this is a fertile field where much could be done to lower the cost of production and improve the unit production per acre of land. The figures are available as to how much the yields are reduced by weed competition. There are many other things. I am