

Mr. Dunlop—I think the question about frost is asked with a view to finding out if any means can be taken to prevent damage being done to fruit blossoms. Last year we had some very late frosts, and probably the damage done to our blossoms was greater than for many previous years. I was always under the impression that the varieties which blossomed earliest were most injured; but I found, and particularly with plums, that those which blossomed early escaped better than those which the frost took during their blossoming; that is to say, the larger and stronger growing varieties, which had set their fruit well, escaped with little damage, and those where the fruit had not set were most injured. I think we all suffered from frost last year to a greater or less extent; even the apples in some counties were hurt. With regard to the situation of orchards, I found that a very few feet of elevation served to save varieties which suffered in a lower situation. It has been suggested that we might save our blossoms by smoke, by lighting smudge fires on frosty nights. I have no doubt if it were not too windy, it could be done to a greater or less extent. But, generally speaking, we have let things take their course. There is no question about the effects of smoke. If we had small smudge fires, we could avoid a great deal of damage to apples.

Mr. Barnard—There is very little wind on a frosty night. It is not a fire you want, but a creation of smoke.

Mr. Dunlop—If you have a regular fire, it consumes all the smoke; you simply want it smouldering.

Professor Craig—I was quite interested this spring in noting the effects of frost on blossoms of fruit. The only variety injured at Ottawa was the Wealthy, and the only blossoms injured were those that had just been fertilized. The injury was noticed on the fruit by the presence, when the fruit was about half-grown, of a layer of a sort of corky matter, and which had the effect of quite distorting the natural form of the apple. If you examine, you will notice the outer layer of organs, representing the male portion, are raised on the receptacle, and it seemed just about here that, with us, the frost injured it. The cold was not sufficient to injure the ovary; but it did injure the portion upon which the stamens rest, and the injury was manifested by the effort the apple made to repair it by the deposition of this thick corky layer over the skin of the apple. In Ontario the same effect was noticed on pears, and especially on Bartletts, the lower half of which was covered with a deep rust, and also, to some extent, on Flemish Beauties. I had specimens of these pears sent in from different localities, the persons who sent them asking what new disease it was that had attacked them.

The President—It was attributed to spraying by some.

Professor Craig—But as the pear hung down, it was at the other end, where the spray did not strike it most heavily. Just after fertilization, when the petals had fully opened, the effect was greater; if before the enclosing petals had opened, the blossoms were not injured. That was the result of my observations at Ottawa. With regard to preventing frost by smudge, although the results of experimenters in France have been encouraging, it was a very live and burning question (without making a pun) in Manitoba some years ago,