

ment, some of whom doubtless own one, but most of them certainly do not. All of these farmers, however, had previously been requested to gather what data they could in their township along the lines of these questions.

The fact that the use of a surface packer has so pronounced an effect in aiding even germination would appear to be an additional motive for its use after the drill rather than before, and immediately after the drill rather than (or as well as) after the grain is up.

### *The Packer and Rapid Growth.*

Early fall frosts constitute quite a menace to the crops in a number of districts and anything that has the effect of shortening the growing period of the crop, without detriment to the yield, is worthy of consideration. We now know that shallow cultivation tends to early ripening, while deep cultivation of the soil just before seeding tends to delay the crop. We also know that some varieties of grain mature in a shorter time than do others. Then, too, thick sowing tends to earlier maturity. If the crop can be hastened at the beginning of its life in any way, that is equivalent to hastening the ripening process. Therefore correspondents were asked whether the use of a packer promoted more rapid growth of the crop in its early stages. Almost all the replies were to the effect that the result of packing was to promote a more rapid and stronger growth. The plants on the packed fields were characterised by more vigour and had a healthier appearance. A few men thought there was no difference to be seen while others went into detail and stated that the crops on packed land in their township were from four to ten days further advanced than those on unpacked land.

### *The Packer and Soil Moisture.*

On this point the testimony of correspondents was that the use of a packer tends to bring the soil moisture nearer to the surface and more will be found in the top three inches of soil than if none is used. Consequently there is more plant food in solution available for the use of the young plants of the grain crop. Some were of the opinion that the same result could be reached by the use of the harrow, and that in this respect the packer did not justify its cost. Others stated that they could find no difference in the moisture supply on packed and unpacked land, because it was all too dry. (It is certain that if the soil is almost destitute of moisture the packer cannot bring moisture nearer to the surface.) In other districts there had been such copious rains that all the ground, packed or unpacked, was well supplied with moisture. The emphasis in some cases was laid upon the fact that the surface packer can only do its best work in this or other directions when the land has previously been well cultivated and worked down.

In concluding this summary of the reports received on the packer question it is only fair to say that some correspondents were unable to answer the questions because there were no packers in their township, while others were of the opinion that there was not sufficient difference between crop conditions on packed and unpacked land to justify any attempt to analyse the subject. The overwhelming bulk of testimony,