

of nutrient substances. Speaking generally, it may be said that the conditions most favorable for the germination of wheat are also the best for the germination of smut spores, but the smut fungus possesses greater resisting powers and is therefore able to develop with more certainty under adverse circumstances than the wheat plant. A sturdy vigorous growing wheat plant possesses a certain amount of resisting power against smut infection, on the other hand a wheat plant from a poor shrunken seed grain because of a lack of nourishment in the kernel, will be deficient in vitality and resistance and is therefore more liable to smut infection. It is of prime importance therefore that all grain used for seed be of the plumpest and cleanest obtainable. The soil should be put in the best condition to receive the seed. Wet low lying soil usually contains an excess of water and is therefore cold and deficient in oxygen and will likely produce a weak sickly plant which will fall an easy prey to the smut fungus.

CIRCULAR OF INQUIRY.

As a help towards ascertaining the cause of the abundance of smut in the wheat crop of the past season a circular was prepared, and sent to about 600 of the grain growers in Saskatchewan, in which the following questions were propounded:

- Was there any stinking smut in your 1905 crop?
- How did that compare with the previous crop?
- Was there any difference in the quantity of smut in the crops on summer-fallow and on stubble?
- Did you notice any loose smut in the wheat crop indicated by the heads having given place to a loose mass of brownish dust readily shaken off?
- Did you treat the seed for the 1905 crop in any way to prevent smut?
- Was the seed for the 1904 crop also treated?
- If bluestone was used how many gallons of water did you mix with one pound? Was the water alkaline?
- Was the seed sprinkled, put through a picker, or dipped?
- If dipped how long did it remain in the liquid?
- From whom was the bluestone purchased and what was the price?
- Who was the manufacturer?
- Please forward 1 or 2 ounces of the bluestone if you have any left?
- If formalin was used how many gallons of water were put with one pound?
- How was it used?
- From whom purchased and what price?
- Name of manufacturer?
- If the formalin is still in your possession forward a small sample?
- Can you give any other information?

A large number of these were returned with the desired information accompanied by a considerable number of samples of bluestone and formalin to be analysed.

There was, in many fields, a noticeable number of heads of wheat affected by the loose smut (Fig. 7) which is not controllable by bluestone or formalin treatment, but which, fortunately, is not a cause of much loss here.