

than others, and some held the rain that fell, while others lost it through natural drainage. The damper soils would be cooler, the constant but slower surface evaporation resulting in reduction of temperature, whilst the drier soils would be hotter and would disperse volumes of moisture as vapour after a shower. The superabundance of water-vapour in the atmosphere after the heavy thunder-showers just prior to the outbreak is one of the suspected contributory causes of the trouble, the hot sunshine about the same time being a necessary accompaniment.

(2.) The soil noticeably varied in different parts, some being reputed as much better wheat lands than others. The constitution of wheat-plants would undoubtedly vary according to the suitability of the land for this crop, and their susceptibility to damage by rust-infection would consequently be greater or less according to their weakness or vigour, their backwardness or precocity.

(3.) Rotations play an important part. Land out of lea is well recognized as inferior for wheat to land previously carrying turnips. Crops whose development was advanced by good rotations had produced better-filled grains by the time the fungus arrested their progress.

(4.) The date of sowing certainly seemed to have been directly connected with the amount of the yield of affected crops. Quite a number of instances were forthcoming: Early-sown crops gave comparatively good yields. Some growers who sowed in July or early in August got over 40 bushels from a rust-affected crop. Later sowings in general gave relatively smaller yields, while some who sowed in September found it quite unprofitable to thresh.

The explanation is very apparent. The outbreak in this district was very sudden. The fungus seized upon the stems and leaves of the wheat, intercepting the flow of plant-juices to the grain. This (with perhaps the exception of a certain crop sown in the autumn) happened practically simultaneously throughout the district, and the early-sown crops, having greater grain-development than the late-sown ones, were consequently able to ripen a better yield. The late-sown crops, being more milky when attacked, correspondingly produced a greater percentage of poorly filled or much-shrunken grains.

CENTRE OF INFECTION.

Throughout the district were one or two autumn-sown crops which, had they been affected at about the same time as those sown in the spring, and had other conditions been equal, should have yielded better than any of the spring-sown crops—the grain development of the former, theoretically, being greater than that