

the Company purposes going in largely for queen breeding, a branch of business in which Mr. Holterman has before been eminently successful; Carniolan and Italian queens will be raised under the most favorable conditions from select stock.

Nothing is done on a small scale at Bow Park. The farm consists of about 1000 acres of rich, alluvial soil, is beautifully situated, and almost surrounded by the Grand River. The farm buildings cover something like seven acres of ground, and are continually being added to as the Company's extensive operations demand. In one of the buildings which we passed through, 100 steers were being fattened. The clerk, Mr. Frank Adams, (who, by the way, was the first to catch the bee fever) informed us, that they have 200 head of cattle, 300 sheep, and 1300 hogs being cared for under the Superintendship of Mr. N. D. Foulds.

Besides the cultivation of roots and vegetables for the livestock on the farm, large quantities of cauliflower, cucumbers, onions, etc., are grown for pickling purposes. Mr. Adams informed us that about 100 acres will be devoted to these this season. This department is ably superintended by Mr. F. W. Austin. We have pleasure in showing, as our antispiece a picture of one of their large fields of cauliflower when under cultivation.

The Company have our best wishes for the success of the new department.

FOUL BROOD.

BACTERIA AND THEIR RELATION TO DISEASES.

When bacteria simply grow and multiply, the growth is said to be vegetative; but if the conditions become unfavorable to growth from lack of food, or other cause, the bacteria commence forming spores, analogous to the resting spores of fungi or algæ. The spores are round bodies of small size, and in photographs they appear little dots among the rod-like bacteria. The spores have wonderful powers of resistance to those deleterious agents that quickly destroy the vegetative bacteria. The spores are, therefore, more dangerous than the bacteria, and in microscopic examinations the stage of the disease and the gravity of the case are decided upon the number of spores found to be present in the matter examined. The spores get into the honey and the bees transfer them to the larvæ, in which they soon commence growing. There is a period of incubation, however, connected with the spore's attack on the larvæ, and the bees seal many of the cells supposing the inmates to be intact. A spore can only cause disease by starting vegetative growth. Germicide remedies are considered to be efficacious in curing foul brood before extensive spore formation has taken place; but it is by no means certain that the continual use of germicides is beneficial to the bees. No germicide is capable of arresting the growth of the bacteria in the larvæ, without killing the larvæ, just as no germicide has been found capable of arresting the growth of the tubercle bacilli in animals without killing the animals. The best and safest germi-