

Inoculated with a pure culture of the *Bacillus oleraceae* from

---	Cauliflower.	Turnip.	Cabbage.
Cauliflower	x	x	x
Turnip	x	x	x
Cabbage.	x	x	x

Positive results were obtained in each case, with the characteristic symptoms of the disease, viz., rotting and blackening of the leaves and stem.

These plants were all kept under favorable conditions for the spread of the rot. These conditions are described at length later on in this paper.

4. *The diseased, or rotted, tissues contained the Bacillus oleraceae in huge numbers.*

While their distribution and effect on the tissues was the same as that met with under ordinary field conditions, and re-isolation proved beyond doubt that it was identical with the organism which was inoculated.

5. *The chemical products of the organism also produced the characteristic symptoms of the disease.*

The bacillus was grown on raw turnips and cabbage until all the tissues were completely rotted, and the rotted material was then pressed and the juice extracted and forced through a Chamberland filter. This filtrate, which was found to be sterile, produced softening and rotting when placed on cut surfaces of raw potato, turnip, cauliflower and cabbage. Control cultures of these vegetables, kept under the same conditions as the inoculated slices, remained sterile.

PATHOLOGICAL HISTOLOGY.

A microscopical examination of the soft pulp from cauliflowers and turnips showed the presence of enormous numbers of bacteria. No mycelium or fungus spores were present. The bacteria were actively motile. In fresh preparations, free plant cells were visible and many were much disorganized.

A large variety of diseased tissues were fixed in a saturated solution of corrosive sublimate in 94 per cent alcohol, and subsequently imbedded in paraffin. Some 400 sections were cut from various