



Pacific Pests, Pathogens & Weeds - Mini Fact Sheet Edition

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Cabbage club root (283)



Photo 1. Cabbage plants wilting from infection by club root, *Plasmodiophora brassicae*.



Photo 2. Leaves yellow, wilt and rot due to club root, *Plasmodiophora brassicae*.



Photo 3. Galls on the roots typical of infection by club root, *Plasmodiophora brassicae*. Not the last of fine roots.

Summary

- Worldwide distribution. In tropics, sub-tropics and temperate countries. On Chinese cabbage, cabbage and broccoli. An important disease.
- Single celled animal, not a fungus or a bacterium.
- Spores in soil swim to roots, infect, galls form (club root symptom). Root damage causes leaves to wilt. Thick-walled spores form that last >10 years.
- Spreads in soil water, soil on machinery, shoes, trade in plants.
- Cultural control: certified plants; nursery hygiene: clean trays, pasteurise soil or soilless mixes; drainage; apply lime (worse in acid soils); weed; remove soil from shoes, machinery; collect and burn debris; 3-year (or more) crop rotation; resistant varieties.
- Chemical control: none recommended.

Common Name

Club root

Scientific Name

Plasmodiophora brassicae. It is not a fungus; it is in a separate kingdom called Protista, and is in a group known as rhizaria. There are many club root strains.

Information from *Diseases of vegetable crops in Australia* (2010). Editors, Denis Persley, Tony Cooke, Susan House. CSIRO Publishing, and from CABI (2016) *Plasmodiophora brassicae* (cabbage club root). Crop Protection Compendium. (www.cabi.org/cpc). Photos 1&3 Gerald Holmes, California Polytechnic State University at San Luis Obispo, Bugwood.org

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