Verticillium Stripe Disease Cycle
(Caused by the fungus Verticillium longisporum)

Germination of Fungal Propagules
Fungal propagules called microsclerotia are present in soil or dead plant tissue. Root exudates stimulate microsclerotial development.

Systemic Invasion and Multiplication
Microsclerotia enter the plant vascular system through fungal hyphae and multiply.

Distribution of Disease
Hyphae and single cell spores called conidia are produced locally in the xylem and move up the vascular system.

Release of Microsclerotia
The pathogen moves into non-vascular tissue where multicellular microsclerotia are formed. The stem tissue is fragile, allowing for it to easily shred. The stem epidermis peels back to expose the microsclerotia. The microsclerotia are released in the soil and the cycle repeats.

Diseased Canola Plant
The fungus (Verticillium longisporum) inhibits regular flow of nutrients and water, causing the xylem to eventually turn black and collapse.

Canola plants display symptoms of leaf chlorosis, early ripening, stunting, necrosis, and shredding or striping of stem tissue. See photos below.

Symptoms of verticillium stripe disease spotted in canola plants: (A) microsclerotia, (B) half stem senescence (unilateral streaking), and (C) striping of the stem tissue.