SUNFLOWER AGRONOMY

National Sunflower Association of Canada

Identification and Management of SCLEROTINIA

CanadaSunflower.com

BASAL

- ⇒ Caused by sclerotia bodies in soil coming in contact with sunflower roots.
- ⇒ Initially noticed as wilting of leaves and/or plant before flowering.
- ⇒ At stem base, a tan/ grey or bleached canker can be seen and as disease progresses, dense white mold may form on the surface of the canker.

MID-STEM

- ⇒ Occurs at mid to upper stalk at or before flowering.
- ⇒ Noticed again as plant wilting. As progresses, white mold will form, and black, hard sclerotia bodies.
- ⇒ Stalk lodges at the lesion site and eventually disintegrates and starts 'shredding'

HEAD ROT

- ⇒ Very Obvious as plants matures and dries down. Initially noticed as water-soaked spots or bleached area on back of heads
- ⇒ Entire head may decay and disintegrate, takes on 'witches broom' appear-ance.
- ⇒ Sclerotia bodies harvested with the seed and are a contaminate or will fall to soil and provide infection for future crops

Photo credits: National Sunflower Association of Canada, Manitoba Agriculture, Food and Rural Initiatives

Sclerotinia Disease Cycle

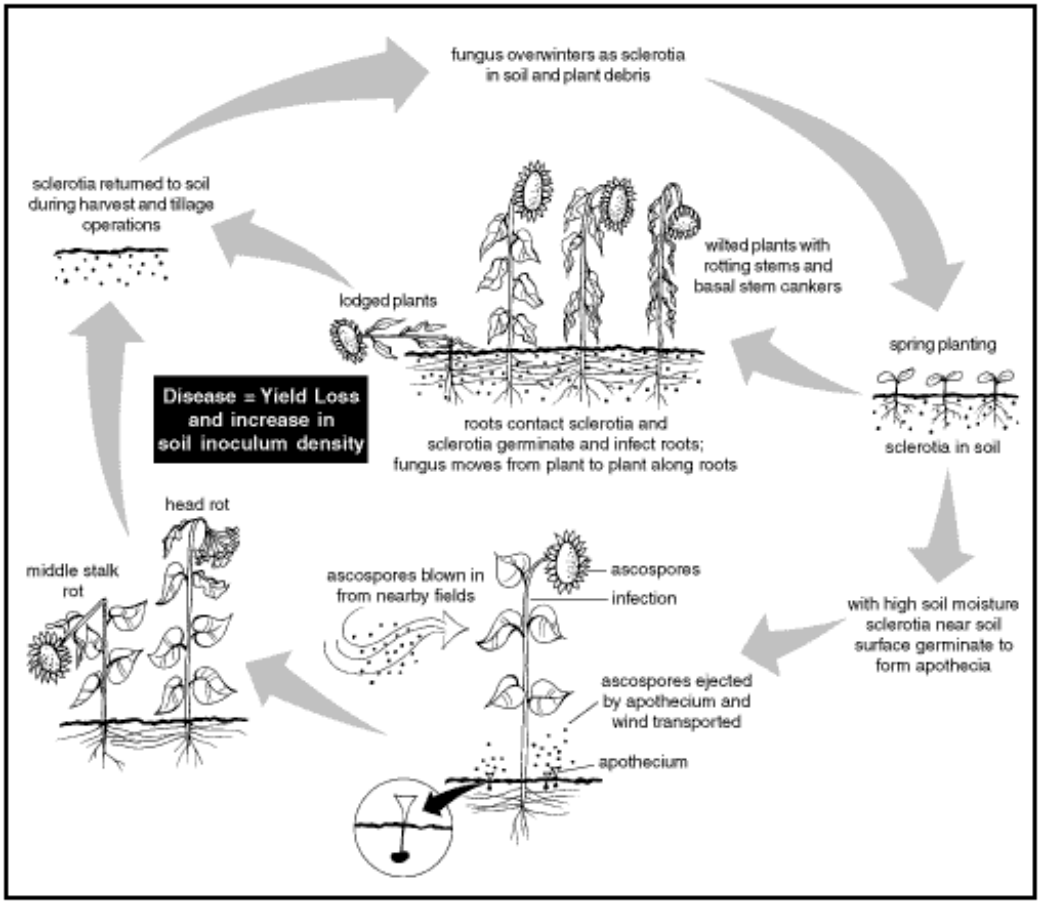

Photo credits: North Dakota State University

Management Tools for Sclerotinia

- ⇒ Crop rotation of 3-4 years, avoiding crops susceptible to Sclerotinia
- ⇒ Avoid planting sunflowers on adjacent fields with heavy Sclerotinia infections in previous years
- ⇒ Consider hybrid disease package when selecting variety
- ⇒ Monitor for signs of disease
- ⇒ Control volunteer sunflower and broadleaf weeds
- ⇒ Deep tillage buries sclerotia—shallow tillage on subsequent passes
- ⇒ Continue cultural practices of wide row spacing, normal plant populations, and weed control to reduce the root-to-root mycelial infections and create a well aerated canopy thus reducing the chances of infections
- ⇒ Application of a bio-control microorganisms to decompose the sclerotia in soil or/and protect plants from ascospores infections.