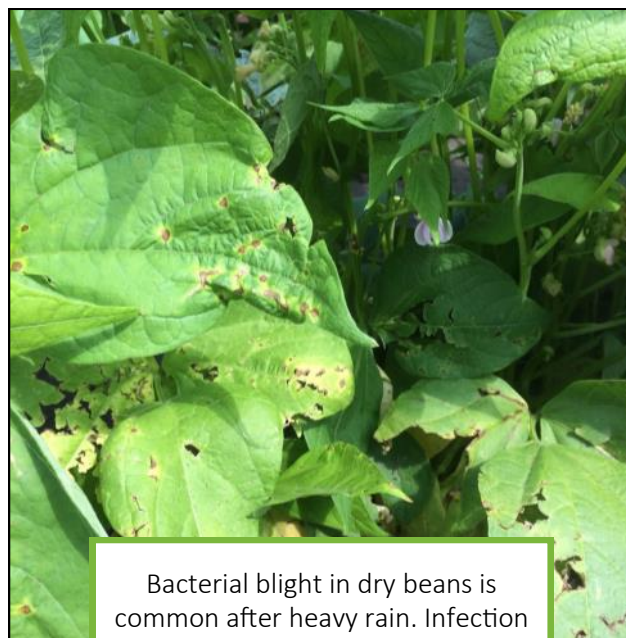


- Soybean update
- Dry bean update
 - Bacterial blight and white mould
- Soybean acres up slightly from 2014
- Favorable conditions for white mould
- Fungicide use in soybeans
- Soybean insect and disease identification guide
- Interested in advanced soybean management?
Join us July 22 for **SMART Day** in Carman, MB



Bacterial blight in dry beans is common after heavy rain. Infection spreads by equipment, wind, water. (Submitted photo)

Soybeans

The soybean crop is in bloom (R-1 to R-2) and have 3 to 6 fully developed trifoliate leaves. June planted soybeans are slightly behind and have not started flowering yet.

Environmental and field conditions favorable for white mould should be assessed on a field by field basis for potential fungicide applications. The earliest planted soybeans may be more susceptible to early infection of white mould following last weekend's rain. Early infection of white mould is more detrimental than late infection.

Leaf defoliation is being noticed and should be monitored while soybeans progress through flowering and pod development. The threshold for insect defoliation during flowering and pod fill is *20% on a whole plant basis*. Leaf disease is minimal with the exception of bacterial blight showing up in the upper canopy. Hot, dry conditions will slow it's spread.

Iron Deficiency Chlorosis symptoms are clearing up but some field areas are stunted and will see yield loss. Varietal differences are evident this year and attention should be paid to IDC ratings next year.

Statistics Canada estimates 1.3M acres of soybean were planted in Manitoba, up 4.7% from 2014 and in line with industry projections.

Dry Beans

Dry beans are at the 3rd to 5th trifoliate and are entering the bloom period. Heavy rain and hail has caused leaf damage and **bacterial blight** is now being reported. An excellent resource from NDSU describing symptoms and potential management options is [available here](#).

Risk assessments, timing and product decisions are being made for **white mould**. Optimum timing for fungicide application in dry bean is R-1 to R-2 and prior to canopy closure to ensure good coverage.



SMART Day

SOYBEAN MANAGEMENT & RESEARCH TRANSFER DAY

Wednesday, July 22, 2015

For more information or to register visit
www.manitobapulse.ca

BROUGHT TO YOU BY
 MANITOBA
Pulse Soybean
 GROWERS

Favorable conditions for white mould in soybeans?

White mould is a concern for most broadleaf crops once they enter bloom. Soybeans are naturally more tolerant compared to canola, sunflowers or dry beans. However, heavy rainfall last weekend may increase risk of infection in soybeans this year. If conditions are *very favorable* for disease development, a fungicide application may be considered at R-2 (full flower). Consider your risk.

How does white mould occur?

- Sclerotinia survives in soil as sclerotia; hard, black structures. When there is ample soil moisture in the topsoil, the sclerotia will germinate and produce apothecia (little mushrooms often found in winter wheat fields that were previously canola).
- Apothecia release ascospores, which need to land on a nutritional source to begin the infection process; usually the flower petals. Once the flower petals become colonized, the pathogen easily penetrates the plant and produces the characteristic light tan lesions and mouldy appearance.

Favourable conditions for white mould

- *Soils need to be moist before bloom.* Generally, 1-2 inches of rain in a 1-2 week period before plants enter bloom is required for sclerotia to germinate, produce apothecia and release ascospores. For Manitoba, this pre-bloom period is generally June 25 to July 7.
- *Moderate temperatures and wetness during bloom.* Temperatures of 15-24°C are favorable but high temperatures above 29°C inhibit disease. The canopy also needs to be wet—rain, fog and heavy dew during bloom are favorable.
- *Canopy density*—narrow rows that have reached canopy closure can create a more favorable environment for disease development.
- *Field history*—high frequency of canola, dry bean, sunflower or soybean will increase risk of white mould if environmental conditions are favorable.

Fungicide efficacy in soybeans is variable

Fungicide efficacy to manage white mould in soybeans is much more variable and favorable economic returns are less common compared to dry beans and canola. This is partly because soybeans are naturally less susceptible.

A fungicide application can be economical when levels of white mould infection have the potential to reach 10%

incidence in soybeans—this level has been shown to reduce soybean yield by 2.4-4.5 bu/ac. The difficulty is in predicting if this level of infection will occur.

Bottom Line

If conditions are *very favorable* (1-2 inches of rain prior to bloom, moderate temperatures during R-1 and R-2, canopy wetness, dense canopy and history of white mould), a fungicide application at R-2 may be considered. Few fungicide products have been shown to provide consistent, satisfactory control of white mould in soybeans. For a review of product performance, [click here](#).

Source: Sam Markell and Michael Wunsch, NDSU

Fungicides targeting leaf diseases generally not economical in soybeans in Manitoba

In 2014, Manitoba Pulse & Soybean Growers conducted 10 On-Farm fungicide trials in eastern Manitoba. The yield data is presented in Figure 1. The yield difference between treated and untreated ranged from -0.3 to 2.9 bu/ac, with an average yield difference of 1.3 bu/ac in favor of the fungicide. When an economic and statistical analysis is conducted, the yield difference is significant at 1 out of 10 sites. In other words, at a cost of \$20-25/ac for product and application, at a market price of \$10/bu, an economic return from using fungicide was observed 10% of the time.

Disease ratings were also conducted at the 10 sites. Septoria brown spot was the main leaf disease and only a moderate reduction was observed when a fungicide was used. Septoria brown spot is generally not a yield limiting disease in soybeans. Fungicide trials will be conducted on 10 farms again in 2015.

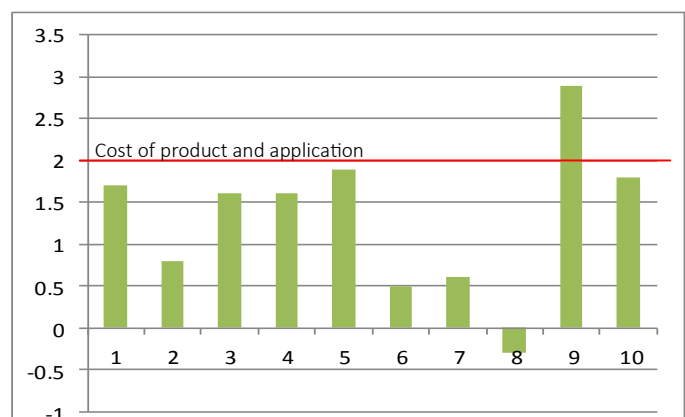


Figure 1. Soybean yield response (bu/ac) to fungicide application in ten fields in 2014.

DISEASES

Seed and seedling diseases – *Phytophthora*, *Pythium*, *Rhizoctonia*, *Fusarium*



Sunburn – physiological, not a pathogen



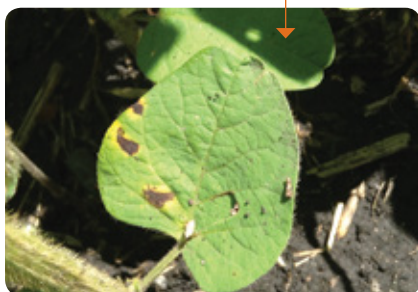
early season – *Phytophthora* root rot – late season



Cercospora blight



Septoria brown spot



Phyllosticta leaf spot



Bacterial blight



Downy mildew



Pod and stem blights



White mould – *Sclerotinia*



INSECTS

Seedcorn maggot



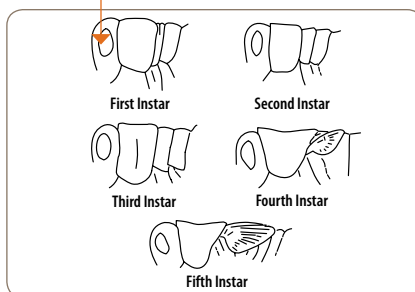
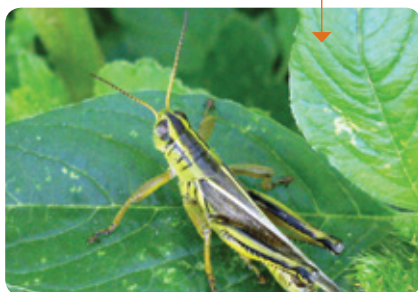
Cutworms



Wireworms



Grasshopper



Soybean aphids



Two-spotted spider mites



Green cloverworm



Corn earworm

