Agronomy Factsheet:

TAR SPOT: IT'S HERE TO STAY

Tar spot appears as small, raised, black tar-like spots (stroma) scattered across the upper and lower leaf surfaces and husks. A tan halo may (or may not) appear around the black spots. Tar spot can be confirmed by rubbing the lesion; if the raised black spots do not rub-off, it is likely tar spot.

THREAT

Tar spot was first confirmed in Ontario in September 2020, and has been identified in the province every year since. Progression of the disease continues to move east.

Tar spot, a foliar fungal disease, has been in the Midwest U.S. since 2015. It is a highly devastating disease. It can spread quickly and significantly reduce yields. Farmers need to be vigilant around discovery and treatment.

PHOTO: LAURA FERRIER

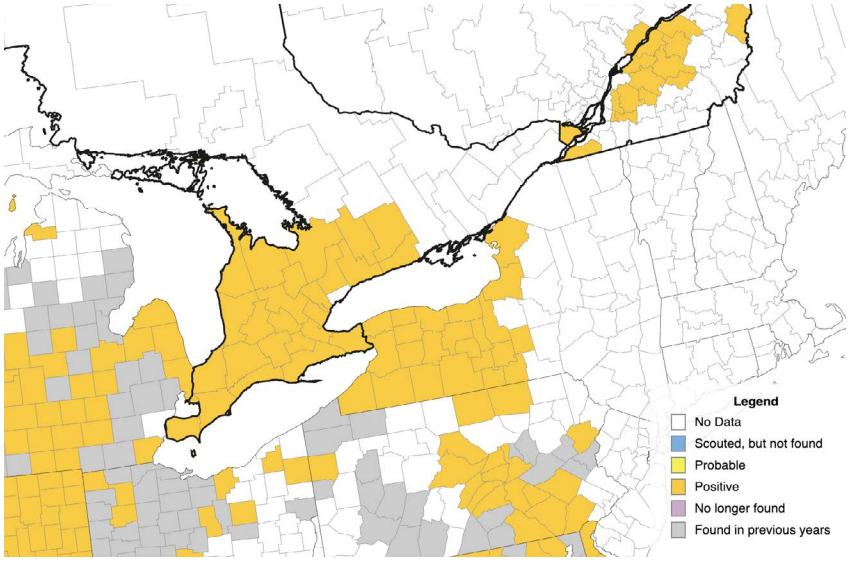

FIGURE 1. TAR SPOT OF CORN DISTRIBUTION (end of year 2024). MAP IMAGE COURTESY OF CORN IPM PIPE. SCOUT AND BE PREPARED TO TAKE ACTION IN AREAS THAT HAD POSITIVE IDENTIFCATION IN PAST YEARS FOR TAR SPOT INFECTION, AS WELL AS FURTHER EAST OF AREA WITH POSTIVE IDENTIFCATION.

IDENTIFICATION

FIGURE 3. TAR SPOT LEAF SYMPTOMS. HYBRID INFECTION RANGED FROM HAVING BOTH STROMA WITH AND WITHOUT HALO (A), LARGE STROMA (B), TO ONLY PIN-POINT STROMA AT LOW 15% (C) TO HIGH 50% (D) SEVERITY. PHOTO COURTESY OF DARCY TELENKO, PURDUE UNIVERSITY.

CONDITIONS AND CONTROL

FAVOURABLE CONDITIONS

The ideal conditions for tar spot development are temperatures between 15°C to 21°C and high relative humidity (greater than 75 per cent) for seven to eight hours. Saturated soils and leaf wetness also contribute to the quick spread of this disease, which can go from three per cent to 30 per cent severity in several weeks. Typically, tar spot develops during the mid to late grain stages (R3 to R6) when cooler and wetter conditions occur, often in the late summer. When moderate temperatures and humid/wet conditions occur earlier in the season, as it has in the Midwest U.S. and regions of Ontario, significant yield loss can occur.

Yield losses from 20 to 60 bushels per acre were reported in the U.S. by farmers in severely affected areas. Estimations of 0.32 to 1.36 bushel per acre yield loss for every one per cent increase of Tar spot on the ear leaf. Infection on hybrids ranged from a few percentage points up to 50 per cent in most states, while Indiana was as high as 60 per cent, with yield losses from 23 to 41 bushels per acre. In past years, yield losses in Ontario, due to late occurrence of the disease, were minimal, but yield losses are anticipated in fields with early season infection if the disease is not managed.

CONTROL

- Select a more tolerant hybrid (talk to your seed retailer)
- Apply a fungicide that controls tar spot, at ideal timing, when forecast risk level is high (favourable weather) and where disease has been identified in the local area in previous years. Be sure to read and follow the label.
- Best economic returns occur when controlling tar spot during corn growth stages V8 to R4.
- Manage plant stress through proper populations and fertility.
- Residue management and crop rotation

Continued work in this area has been taking place with OMAFA's involvement in the Tar Spot Working Group and Crop Protection Network, which is partially funded by Grain Farmers of Ontario.

WHAT YOU CAN DO

- Find out if the disease is present in your area by checking maps https://corn.ipmpipe.org/tarspot/
- Talk to local agronomists, farmers in your area, and OMAFA specialists to assess disease incidence.
- In season, scout fields to check for disease development and presence, for future management decisions.
- View the Crop Risk Tool to determinein-season disease risk and to aid in fungicide timing, if required.
- Tar spot is here to stay! Identifying tar spot can help assess the future risk. Taking these important steps allows management adjustments to limit the damage this disease may cause in the future.