



Tar spot

It is here in Ontario

THREAT

Tar spot identified in Ontario – In September 2020, tar spot was discovered in the southwest and samples were submitted to the lab for DNA confirmation.

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, significantly reduce yields, and farmers need to be vigilant around discovery and treatment.

Tar spot appears as small, raised black tar-like spots (stroma) scattered across the upper and lower leaf surface 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. •

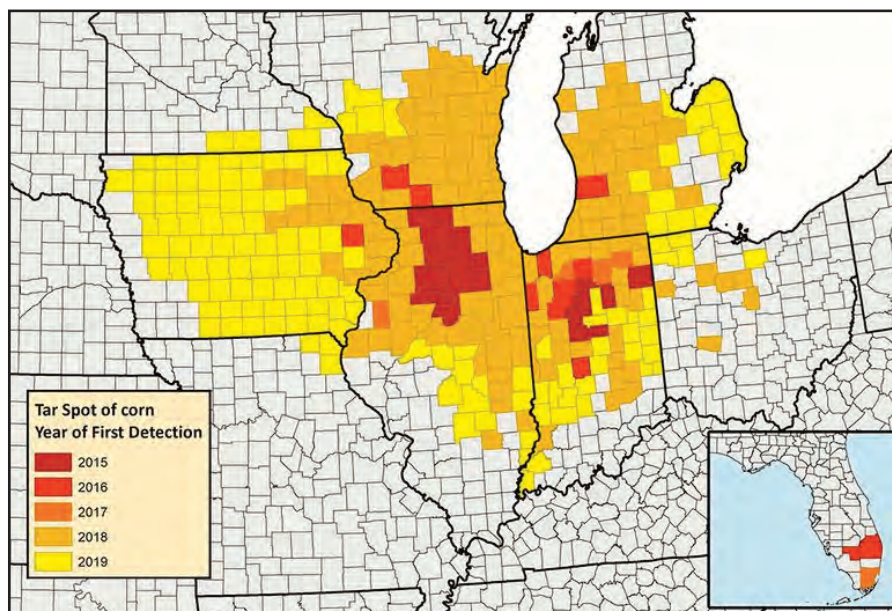


FIGURE 1. TAR SPOT OF CORN CONFIRMED FROM 2015 TO 2019. MAP IMAGE COURTESY OF JOURNAL OF INTEGRATED PEST MANAGEMENT.

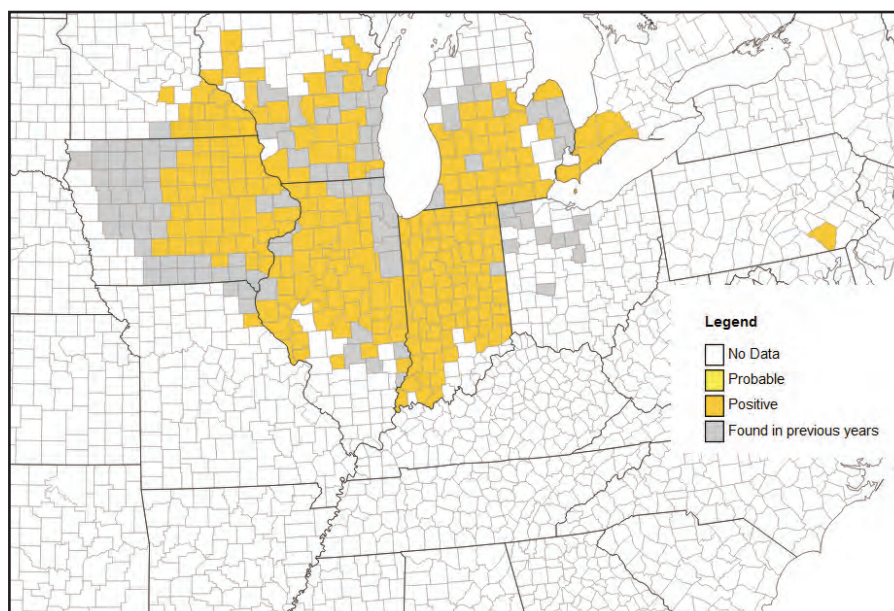


FIGURE 2. TAR SPOT OF CORN DISTRIBUTION IN 2020 (AS OF SEPTEMBER 23, 2020). MAP IMAGE COURTESY OF CORN IPM PIPE.

This research was supported by
Grain Farmers of Ontario.



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 PERDUE UNIVERSITY.

CONDITIONS

FAVOURABLE CONDITIONS

The ideal conditions for tar spot development are temperatures between 15° C to 21° C and high relative humidity (> 75%) for 7 to 8 hours. Saturated soils and leaf wetness also contribute to the quick spread of this disease, which can go from 3% to 30% severity in several weeks. Typically, tar spot develops during the mid to late grain stages (R3-R6) when cooler and wetter conditions occur, often in the late summer. This was the case in Ontario in 2020. When moderate temperatures and humid/wet conditions occur earlier in the season, such as 2015 and 2018 in the midwest U.S., significant yield loss can occur.

Yield losses from 20 to 60 bushels per acre were reported in 2018 by farmers in severely affected areas in the U.S. University hybrid trial data from Illinois, Indiana, Michigan, and Wisconsin indicated a range of hybrid susceptibility and reaction to tar spot. Estimations of 0.32 to 1.36 bushel per acre yield loss for every 1% increase of tar spot on the ear leaf. Infection on hybrids ranged from a few percentage points up to 50% in most states, while Indiana was as high as 60%, with yield losses from 23 to 41 bu/ac.

CONTROL

CONTROL

- Residue management
- Rotation
- Avoiding susceptible hybrids (talk to your seed retailer)
- Managing plant stress through proper populations and fertility

Some fungicides may also reduce tar spot, although little data exists regarding application timing for efficacy and economic response at this time.

Continued work in this area has been taking place with OMAFRA's involvement in the Crop Protection Network, which is partially funded by Grain Farmers of Ontario. ●

More information:

<https://cropprotectionnetwork.org/resources/articles/diseases/tar-spot-of-corn>

<https://corn.ipmpipe.org/tar-spot-2/>

<https://fieldcropnews.com/2020/08/omafra-field-crop-report-august-13-2020/>

Visit www.gfo.ca/agronomy to download.
Version: 11-05-2020.

WHAT YOU CAN DO

- Find out if the disease is present in your area by checking maps and talking to local agronomists and farmers.
- In season, scout your fields to check for disease development and presence.

Pressure was low in 2020, but knowing now if it's in your area can help assess the future risk and allow you time to make management adjustments to limit the damage this new disease may cause in the future. •