Spornado Disease Alert System

This fact sheet provides general information for the use of the Spornado Disease Alert System which captures spores of fungal crop pathogens for targeted DNA analysis.

GETTING STARTED

ASSEMBLY

The Spornado is fitted with a brass threaded screw cap that fits on threaded plumbing pipes ½ inch in diameter. Iron pipe is recommended for its strength and can be easily found at any hardware store in various lengths. The length of pipe needed will depend on the chosen sampling height. Add approximately one foot (30 cm) to your chosen sampling height to account for the bottom of the pipe which will be driven into the ground.

Example of ½ inch iron pipe

INSTALLATION

1. Screw on a threaded end cap to protect the threads on the top of the pipe.
2. Push the iron pipe into the soil. You may want to use a hammer or mallet to drive it in until it is sturdy.
3. Screw the Spornado to the top of the pipe.

HEIGHT

The ideal height of the Spornado will vary depending on the crop. Placing the sampler approximately one foot above the plant canopy has been shown to be effective. Consider changing the height of the sampler through the growing season for most accurate monitoring as the plant canopy gets taller.

Most fungicides work preventively and timely application is vital for successful use. It is important to start fungal monitoring well in advance of visual disease symptoms. Frequent changes of Spornado filter cassettes are recommended to support the quality of information generated.

PLACEMENT

The Spornado should be placed in an open area in the field at least 25 meters into the crop. Do not place it near a windbreak or shelter as the spores are airborne and may be affected by inconsistent or obstructed air flow. Ideally it should be placed on the side of the field facing the prevailing winds.

When monitoring early in the season for Sclerotinia, keep in mind that inoculum will primarily come from sclerotia within your field if it has had canola in the last five years. It will also come from nearby canola stubble (less than 100 meters). We recommend placing the Spornado in your current monitored field near the edge that is closest to and downwind of any previous canola field.

2020 Seed Labs Inc.

SPORNADO
www.spornadosampler.com

CASSETTE CHANGES

A mobile-friendly link specific to your organization is used to track the location of the Spornado and monitor cassette changes. Use our online form to input the information when placing a cassette in the Spornado, moving the cassette/Spornado to a different location, or removing the cassette for analysis.
Your link: _____

1. Place the cassette through the bottom of the sampler.
2. The cassette will 'snap' into place.
3. To remove the cassette: reach into front and back of sampler, press down on the rim of cassettes, and 'pop' the cassette out of the bottom of the sampler. Be careful not to touch the filter directly throughout this process.
4. Record the Spornado ID number and date on the cassette. See the sticker applied to the side of each Spornado for the unique alpha-numeric ID for that sampler unit.
5. Place cassette back into plastic bag provided.

SHIPPING TO THE LAB

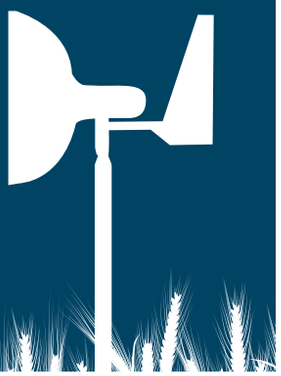
1. Ensure the cassettes are correctly labeled and the online submission form has been completed.
2. Place cassettes in a padded envelope and ship to the laboratory for analysis. A cooler is not required.

WHAT CAN THE SPORNADO DETECT?

The Spornado is a passive spore trapping device for airborne inoculum. Samples collected with the Spornado provide valuable information in combination with support systems such as a weather-based risk map (http://agriculture.alberta.ca/acis/m#!fusarium) to assist in fungicide application decisions.

Analysis of the cassette filter is currently focused on Sclerotinia Stem Rot of Canola *(Sclerotinia sclerotiorum)* and Fusarium Head Blight of Cereals *(Fusarium graminearum)*. For more information on Sclerotinia please visit the 20/20 Seed Labs website or www.canolacouncil.org. For more information on Fusarium, visit http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/cbd15876.

Our service portfolio is constantly expanding. Call us to discuss your specific testing needs.



WHEN DO I PUT THIS IN THE FIELD?

Late June to early August is the optimal time to use the Spornado.

CANOLA: Use the Spornado to monitor a field from at least one week prior to canola flowering until one week after flowering.

WHEAT AND BARLEY: A cereal crop should be monitored with the Spornado from just after flag leaf emergence until the crop has finished flowering.

HOW MANY DO I NEED?

A minimum of one Spornado per field/quarter section is recommended.

RESULTS

Results will be available online one day following lab receipt of the Spornado filter cassette.

For more information visit www.2020seedlabs.ca or spornadosampler.com.

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