Vegetable Crop Updates

A newsletter for commercial potato and vegetable growers prepared by University of Wisconsin-Madison vegetable research and extension specialists

Extension UNIVERSITY OF WISCONSIN-MADISON

September 7, 2025

In This Issue:

- Disease forecasting updates for potato early blight and late blight
- Cucurbit downy mildew updates
- Black dot and silver scurf of potato

Calendar of Events:

December 2-4, 2025 – Midwest Food Producers Assoc. Processing Crops Conference, Kalahari Convention Center
January 12-13, 2026 – Wisconsin Agribusiness Classic, Kalahari Convention Center
February 3-5, 2026 – UW-Madison Div. of Extension & WPVGA Grower Education Conference & Industry Show, Stevens Point, WI

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Current P-Day (Early Blight) and Disease Severity Value (Late Blight) Accumulations will be posted at our website and available in the weekly newsletters. Thanks to Ben Bradford, UW-Madison Entomology for supporting this effort and providing a summary reference table: https://agweather.cals.wisc.edu/thermal-models/potato. A Potato Physiological Day or P-Day value of ≥300 indicates the threshold for early blight risk and triggers preventative fungicide application. A Disease Severity Value or DSV of ≥18 indicates the threshold for late blight risk and triggers preventative fungicide application. Data from the modeling source: https://agweather.cals.wisc.edu/vdifn are used to generate these risk values in the table below. I've estimated early, mid-, and late planting dates by region based on communications with stakeholders. These are intended to help in determining optimum times for preventative fungicide applications to limit early and late blight in Wisconsin.

	Planting Date		50% Emergence Date	Disease Severity Values (DSVs) *through 9/6/2025*	Potato Physiological Days (P-Days) *through 9/6/2025*
Spring Green	**Early**	Apr 5	May 10	**64**	**937**
	Mid	Apr 18	May 14	**64**	**910**
	Late	May 12	May 26	**61**	**853**
Arlington	**Early**	Apr 5	May 10	**46**	**936**
	Mid	Apr 20	May 15	**46**	**899**
	Late	May 10	May 24	**43**	**863**
Grand Marsh	**Early**	Apr 7	May 11	**67**	**907**
	Mid	Apr 17	May 14	**67**	**887**
	Late	May 12	May 27	**67**	**833**
Hancock	**Early**	Apr 10	May 15	**65**	**872**
	Mid	Apr 22	May 21	**65**	**845**
	Late	May 14	June 2	**65**	**791**
Plover	**Early**	Apr 14	May 18	**49**	**840**
	Mid	Apr 24	May 22	**49**	**835**

	Late	May 19	June 7	**49**	**743**
Antigo	**Early**	May 1	May 24	**56**	**794**
	Mid	May 15	June 1	**56**	**757**
	Late	June 1	June 15	**51**	**670**
Rhinelander	**Early**	May 7	May 25	**38**	**767**
	Mid	May 18	June 8	**38**	**689**
	Late	June 2	June 16	**34**	**649**

Late blight of potato/tomato. I'm aware of no new reports of late blight in the US this past week. Findings thus far in potato and tomato have been confirmed as US-23 *Phytophthora infestans* (still sensitive to mefenoxam/metalaxyl (ie: Ridomil) in western NY and Ontario Canada. Here in Wisconsin, we saw limited accumulations of 0-1 DSVs across WI this past week. All plantings of potatoes in Wisconsin have surpassed the Blitecast threshold of 18 DSVs and should receive preventative fungicides for the management of late blight. *Please find a fungicide listing for Wisconsin potato late blight management:* https://vegpath.plantpath.wisc.edu/documents/potato-late-blight-fungicides/

Early blight of potato. Accumulations of P-Days were 26-42 over the past week, with P-Day 300 thresholds met for preventative fungicide treatment in potatoes across all of Wisconsin. Some fields are moving through the harvest process at this point. Remaining fields are showing a big transition in overall foliar quality this past week. In the final day/weeks of the crop it becomes difficult to discern advanced early blight from other diseases including potato early dying, brown spot, and/or blackleg/aerial stem blight. https://vegpath.plantpath.wisc.edu/diseases/potato-early-blight/. For Wisconsin-specific fungicide information, please refer to the Commercial Vegetable Production in Wisconsin (A3422), a guide available here: https://cropsandsoils.extension.wisc.edu/articles/2025-commercial-vegetable-production-in-wisconsin-a3422/

For custom values, please explore the UW Vegetable Disease and Insect Forecasting Network tool for P-Days and DSVs across the state (https://agweather.cals.wisc.edu/vdifn). This tool utilizes NOAA weather data. Be sure to enter your model selections and parameters, then hit the blue submit button at the bottom of the parameter boxes. Once thresholds are met for risk of early blight and/or late blight, fungicides are recommended for optimum disease control. Fungicide details can be found in the 2025 Commercial Veg. Production in WI Extension Document A3422: https://cropsandsoils.extension.wisc.edu/articles/2025-commercial-vegetable-production-in-wisconsin-a3422/

Cucurbit Downy Mildew: No downy mildew was seen on cucurbits this past week at HARS, and none reported through our UW Plant Disease Diagnostic Clinic. There were no new reports of downy mildew on cucurbits through the Cucurbit Downy Mildew ipm PIPE website: https://cdm.ipmpipe.org/.

Late-Season Management of Black Dot and Silver Scurf in Wisconsin Potatoes. As the potato harvest season advances, late-season tuber diseases are of concern. Two diseases in particular—**black dot (*Colletotrichum coccodes*)** and **silver scurf (*Helminthosporium solani*)**—can diminish tuber quality, reduce storability, and lead to post-harvest losses. Managing these diseases requires careful attention in the late season, as cultural and harvest practices can influence disease.

Black Dot is caused by a soil-, seed-, and debris-borne fungus that can infect roots, stolons, stems, and tubers. The pathogen is a contributor to the early die complex and is typically enhanced by stress conditions, including temperature and moisture extremes. As a result, black dot causes a reduction in yield and tuber size, and the pathogen causes tuber blemish, reducing marketability and storability. Symptoms on tubers appear as small, black, pinhead-sized structures on the skin surface.

Colletotrichum coccodes builds up in the soil with every potato (or other host crop) rotation and can survive for many years. Knowledge of cultivar resistance is limited to the observations of researchers, growers, and agronomists, however, it is generally understood that thinner-skinned cultivars have higher susceptibility to black dot than thicker or russet-skinned cultivars. Soil fumigation can reduce the quantity of the black dot pathogen in soils, but it is not favored as a management tactic by many, including growers, due to cost and potential negative environmental impact. Some fungicide applications reduce the effect of the stem or early die phase of the disease. The application of the QoI fungicide azoxystrobin in-furrow or prior to first-hilling can reduce the incidence of black dot on daughter tubers. Multiple factors such as soil inoculum level and character, and cultivar susceptibility can influence the efficacy of in-furrow azoxystrobin application.

Some research suggests that the longer tubers are exposed to soil infested with the black dot pathogen, the more severe the black dot symptoms on the tubers. Black dot tuber lesions appear at both the stolon end and arbitrarily around the tuber, suggesting multiple potential infection points from systemic plant infections and via direct tuber contact with the pathogen in the soil. It is generally understood that new tuber infections do not occur during storage, but increases in blemish severity are commonly observed. Black dot tuber blemish is very difficult to distinguish from silver scurf and other skin abnormalities, so much so, that the USDA lumps these into a single category of external discoloration. This makes estimating losses to the disease extremely challenging.

Late-season management tips: 1) Crop rotation: Fields with a history of black dot should ideally rotate out of potatoes for 3+ years, avoiding solanaceous hosts. 2) **Irrigation management**: Over-irrigation and prolonged soil wetness favor disease development. As vines decline, avoid excess water. 3) **Desiccation timing**: Prompt vine kill after natural senescence limits inoculum transfer from vines to tubers. 4) **Harvest timing**: Avoid long intervals between vine kill and harvest, which increases infection risk.

Silver scurf is a fungal blemish disease of potato tubers caused by the fungus *Helminthosporium solani.* The pathogen causes tan-to-gray circular lesions typically initiating on the stem-end of the tuber surface, often appearing shiny and silver when wet. Infection reduces both the visual appeal and quality of potato tubers, as the pathogen causes damage to the periderm or skin which enables the onset of other pathogens or enhanced desiccation. This disease is primarily a concern for stored, commercial fresh market potatoes, but the disease can also render potatoes for processing (ie: potato chips) less useful due to increased depth of peeling to remove blemish damage. Additionally, the resulting reduced moisture in potato tubers can impact frying quality. Silver scurf can co-occur with and/or sometimes be misidentified as another fungal potato disease, black dot, caused by *Colletotrichum coccodes.*

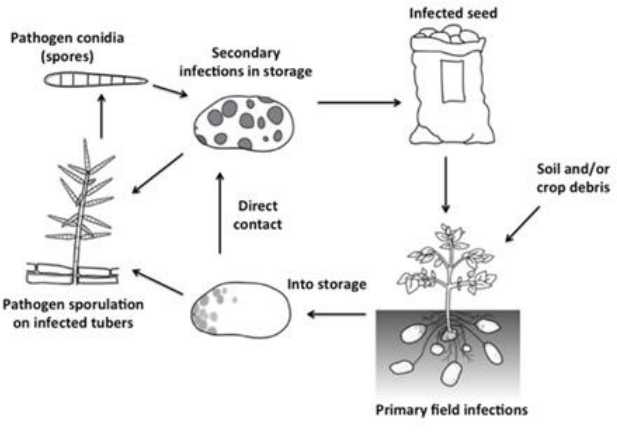
Primary Source: Infested soil, debris-borne, infected seed potatoes, infected tubers in storage
Spread: Rain or irrigation washes spores through infested soil during initial spread. Once in storage,

warm temperatures and high humidity allow sporulation to occur. Airborne spores can then infect new stored tubers. **Favorable Conditions:** High humidity (> 90%), high temperatures

Disease Cycle. The silver scurf disease cycle begins with primary infection, which can occur when overwintered spores (conidia) are washed through infested soil and plant debris and onto tubers. Other sources of primary inoculum are infected seed tubers, which can spread the pathogen to daughter tubers. The pathogen infects and causes lesions on the tuber, which can produce more conidia that are released into the soil. At the end of the growing season, *H. solani* conidia can overwinter in soil, and fungal parts can subsist in soilborne crop debris for several years. Once harvested and in storage, the lesions on infected tubers can enlarge and again produce spores (sporulate) in moderate temperatures and high humidity. These spores can then spread and cause secondary infection in stored tubers.

Late-season management tips: 1) Seed health: Planting certified seed without pathogen is the best management. The use of seed-applied or in-furrow fungicides can reduce the silver scurf pathogen in the potato crop. 2) **Harvest promptly**: Delayed harvest after vine kill gives the pathogen more opportunity to infect tubers in the soil. 3) **Sanitation**: Clean storage facilities thoroughly to remove residual inoculum. 4) **Storage management**: Cool tubers quickly, good airflow, maintain high humidity without free moisture, and store at recommended temperatures to slow disease development. 5) **Post-harvest fungicides**: can be used to reduce viability of the silver scurf pathogen to limit progress and spread of the disease. Some fungicides with documented efficacy include salts of phosphorous acids (ie: Phostrol) applied post-harvest, and Stadium (Syngenta; pre-mix of azoxystrobin, fludioxonil, and difenoconazole).

Shared Management for Both Diseases includes: **1) limit time between vine kill and harvest**: Both black dot and silver scurf thrive when tubers remain in warm, moist soil after vines are killed. 2) **Handle tubers carefully**: Wounds and bruises increase disease entry points and speed blemish development in storage. 3) **Monitor storability**: Keep close watch on lots destined for longer-term storage, as these disease symptoms can exacerbate on tubers over time. Silver scurf can spread and create new infections. Black dot is not known to spread via spores in storage, but symptoms can worsen. While these diseases may not be as dramatic as late blight or early dying, their subtle but persistent effects can significantly impact storage success and market returns.



Silver Scurf disease cycle on potato (left). Silver Scurf disease symptoms on potato tuber (right). More information can be found at: https://vegpath.plantpath.wisc.edu/diseases/potato-silver-scurf/

Black Dot disease symptoms on potato tuber (above). Photo credit to Sanzo-Miro, M., Simms, D.M., Rezwan, F.I., Terry, L.A., and Alamar, M.C. from the American Journal of Potato Research.