

# SLVRC Plant Pathology Newsletter

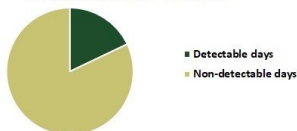
July 2019



## Submit Plant Disease Samples

One of the projects that was recently funded by CPAC deals with the identification of potato foliar fungal pathogens that may have developed resistance to commonly used fungicides in the valley. This objective can be addressed by obtaining isolates of fungal pathogens from various disease samples collected from this region. Hence, I request growers and consultants to submit any potato samples showing foliar disease symptoms to the plant pathology lab at the SLVRC.

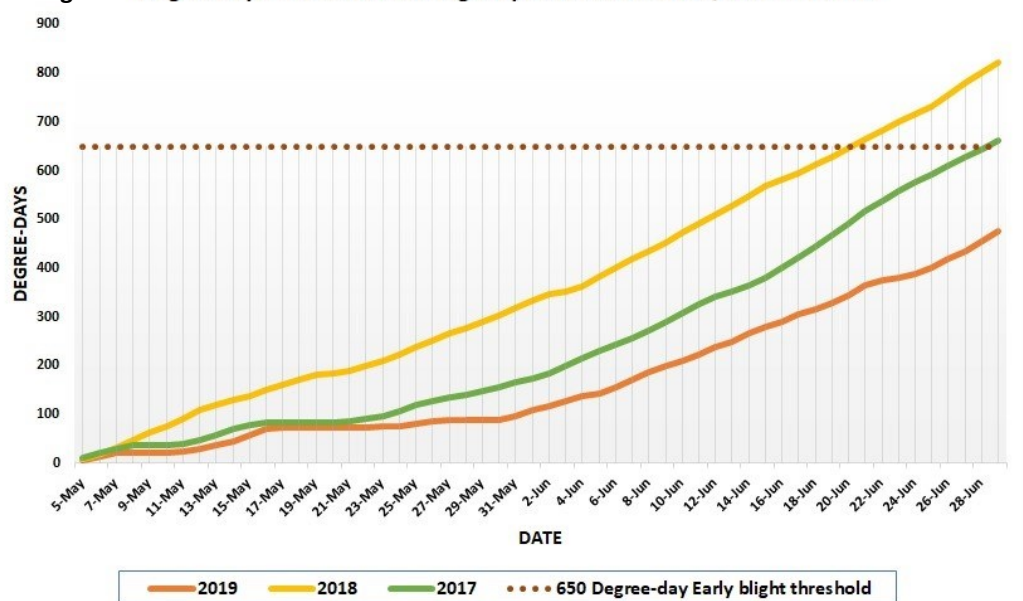
Figure 2: Detection of *Alternaria solani* spores (causal agent of Early blight on potatoes) during the period 5/13/2019 - 6/20/2019



## Disease Management Updates

- Low temperatures (27-32F) in the last week of June has resulted in frost damage in many potato fields. Potatoes planted at the SLVRC in mid-April already have dime-sized tubers!
- Looking forward, growers should consider planning a pesticide spray schedule for managing potato foliar diseases. I have been receiving phone calls regarding early blight degree days. This information is being updated daily on the webpage: <http://potatoes.colostate.edu/programs/potato-pathology/degree-day-reports/>
- For potatoes planted on May 5 in 2019, the degree days (DD) accumulated so far is around 475 and it is projected to reach 650 DD by July 9th or 10th (Table 1). This year seems to be a little cooler compared to previous years since the 650 DD early blight threshold was reached on June 28th and June 20th in 2017 and 2018 respectively (Fig. 1; data obtained from Center-1 weather station).
- In my last newsletter, I have talked about an ongoing project in the plant pathology lab focused on sampling air-borne pathogen spores causing potato foliar diseases. In air samples collected during May 13—June 20, we were able to detect *Alternaria solani* spores (causal agent of potato early blight) on seven days (Fig. 2). The data indicates that the spores are floating around and are waiting for right host and environmental factors to cause the disease.

Figure 1: Degree Days accumulated during May 5 - June 29 in 2017, 2018 and 2019



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**Table 1: Early Blight Degree-Day calendar. Use planting date and the weather station located nearest to your field to estimate Early Blight Degree-Days accumulated as on 6/30/2019. A 650 degree-day threshold is needed to time initial fungicide application for early blight management.**

(Weather data source: <https://coagmet.colostate.edu>)

[Location of weather stations: **Center-1:** Lat: 37.7067 Lon: -106.1440 ; **La Jara:** Lat: 37.2443 Lon: -105.9722 ; **San Acacio:** Lat: 37.1417 Lon: -105.6110 ]

Daily Early Blight Degree-Day updates can be found at: <http://potatoes.colostate.edu/programs/potato-pathology/degree-day-reports/>

Planting Date	4/15/2019	4/16/2019	4/17/2019	4/18/2019	4/19/2019	4/20/2019	
Center-1	566.3	566.3	564.9	563	560.6	552.75	
La Jara	503.36	500.91	500.91	500.91	500.91	499.86	
San Acacio	531	527.6	526.1	526.1	526.1	524.85	
Planting Date	4/21/2019	4/22/2019	4/23/2019	4/24/2019	4/25/2019	4/26/2019	4/27/2019
Center-1	546.75	545.35	543.3	543.3	539.4	531.3	524.7
La Jara	494.71	494.71	492.01	492.01	490.21	485.46	478.06
San Acacio	520.15	518.2	513.35	513.35	510.65	506.5	499.65
Planting Date	4/28/2019	4/29/2019	4/30/2019	5/1/2019	5/2/2019	5/3/2019	5/4/2019
Center-1	517.1	506.75	502.85	502.85	502.85	501.6	501.05
La Jara	475.01	469.76	468.11	467.21	466.81	466.81	466.81
San Acacio	496.7	489.65	485.65	485.65	484.7	484.7	484.7
Planting Date	5/5/2019	5/6/2019	5/7/2019	5/8/2019	5/9/2019	5/10/2019	5/11/2019
Center-1	496.1	490.8	484.2	475.8	475.7	475.7	475.7
La Jara	466.31	463.86	460.06	453.81	453.81	453.81	453.81
San Acacio	483.7	481.6	476.2	471.05	470.4	470.4	470.4
Planting Date	5/12/2019	5/13/2019	5/14/2019	5/15/2019	5/16/2019	5/17/2019	5/18/2019
Center-1	473.05	468.35	460.75	450.9	438.9	425.8	424.15
La Jara	452.26	449.86	443.56	435.05	425.4	412.2	410.9
San Acacio	468.55	466.05	458.75	449.65	439.15	427.25	424.05
Planting Date	5/19/2019	5/20/2019	5/21/2019	5/22/2019	5/23/2019	5/24/2019	5/25/2019
Center-1	424.15	424.15	424.15	424.15	424.15	420.2	420.2
La Jara	410.9	410.9	410.9	410.9	410.9	409.65	409.65
San Acacio	424.05	424.05	424.05	424.05	423.05	418.35	418.35

**Average Degree-Day accumulation during the period 6/25/2019-6/30/2019 at weather stations:**

**Center-1: 18      San Acacio: 19      La Jara: 19**

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Additional Resources: <http://potatoes.colostate.edu>