

SLVRC Plant Pathology Newsletter

June 2020

Interesting Spud Research

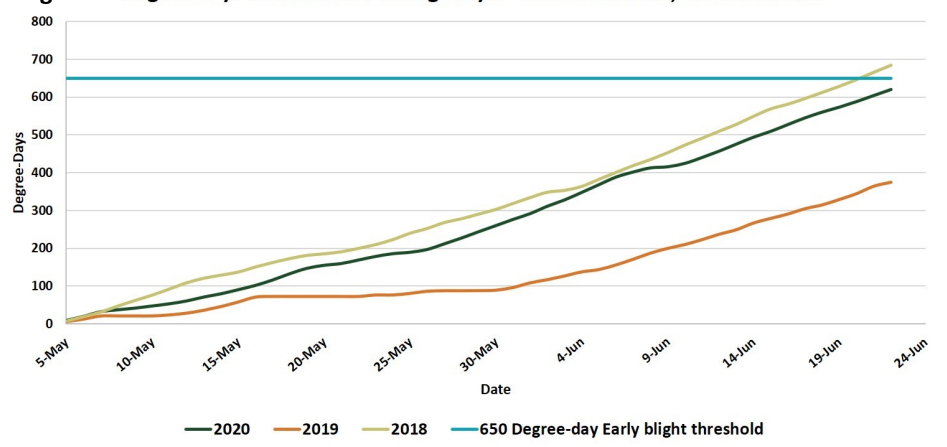
Powdery scab and potato mop-top virus (PMTV) are a concern for potato growers. Field and greenhouse experiments were conducted in the San Luis Valley to test the efficacy of Omega® 500F (fluzinam) and FOLI-R-PLUS RIDEZ™ on powdery scab and PMTV. Research results indicated that both chemicals did not reduce powdery scab, root gall formation or powdery scab pathogen inoculum levels in both field and greenhouse trials. Of the six tested cultivars, russet cultivars were more tolerant to powdery scab compared to red or yellow-skin cultivars. However, all the cultivars tested were susceptible to PMTV. This work also showed peat-based potting mix to be a source of inoculum for both powdery scab and PMTV.

More information about this research can be found here: Zeng Y, Fulladolsa AC, Cordova AM, O'Neill P, Gray S, Charkowski AO. 2020. Plant Disease journal. <https://doi.org/10.1094/PDIS-10-19-2202-RE>

Disease Management Updates

- For potatoes planted on May 5, the degree days (DD) accumulated as on 6/22/20 is 620 (Table 1), which is earlier compared to last year. The 650 DD early blight threshold was reached on July 5th and June 20th in 2019 and 2018, respectively (Fig. 1; data obtained from Center-1 weather station). Looking forward, growers should consider planning a pesticide spray schedule for managing potato foliar diseases.
- Early blight and Columbia root-knot nematode degree days information is being updated daily on the following webpage: <http://potatoes.colostate.edu/programs/potato-pathology/degree-day-reports/>
- This month, the Plant Pathology lab received two samples that were positive for Tobacco Rattle Virus (TRV). A wonderful resource for management of potato tuber necrotic viruses (PVY, TRV, and PMTV) can be accessed from the following blog: <https://blogs.cornell.edu/potatovirus/>
- Several projects are currently under progress in the Plant Pathology lab and preliminary results from these studies will be updated in the coming months. Similar to last year, I encourage growers and crop consultants to submit diseased potato plants showing wilt and foliar diseases. Pathogen isolation will be performed from these samples and some of these isolates will be used for fungicide sensitivity studies—a project that is funded by the CPAC.
- Another project funded by CPAC involves testing microbe viability in some biological products commonly used by growers in the SLV. This involves collecting spray solution samples during field application. Growers interested in submitting samples should contact me to get more information on the products being tested as well as sample requirements.

Figure 1: Degree Days accumulated during May 5 - June 22 in 2018, 2019 and 2020



COLORADO STATE UNIVERSITY
EXTENSION

Helping families increase physical activity and
enjoy healthy foods

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 6/22/2020. 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; **Center-2:** Lat: 37.8288, Lon: -106.0380 ; **La Jara:** Lat: 37.2443, Lon: - 105.9722; **San Acacio:** Lat: 37.1417, Lon: -105.6110]

Planting Date	4/15/2020	4/16/2020	4/17/2020	4/18/2020	4/19/2020	4/20/2020	
Center-1	733.6	733.6	733.6	733.6	733.6	733.6	
Center-2	653.6	653.6	653.6	653.6	653.6	653.6	
La Jara	527.1	527.1	527.1	527.1	527.1	527.1	
San Acacio	731.6	731.6	731.6	730.7	729.8	729.8	
Planting Date	4/21/2020	4/22/2020	4/23/2020	4/24/2020	4/25/2020	4/26/2020	4/27/2020
Center-1	733.6	731.4	729.0	729.0	725.9	722.1	714.2
Center-2	653.6	653.5	651.2	651.2	649.7	648.7	642.4
La Jara	527.1	527.1	527.1	527.1	527.1	527.1	524.2
San Acacio	729.8	728.8	726.9	726.9	726.9	726.9	724.6
Planting Date	4/28/2020	4/29/2020	4/30/2020	5/1/2020	5/2/2020	5/3/2020	5/4/2020
Center-1	705.7	695.7	683.1	670.6	656.0	643.7	632.3
Center-2	636.7	628.7	619.9	609.3	597.6	588.5	579.8
La Jara	519.3	512.7	506.5	491.6	478.3	465.4	452.6
San Acacio	717.9	710.7	704.1	690.5	674.3	659.2	646.3
Planting Date	5/5/2020	5/6/2020	5/7/2020	5/8/2020	5/9/2020	5/10/2020	5/11/2020
Center-1	620.5	612.0	601.4	589.1	583.9	579.5	573.9
Center-2	570.0	562.4	554.9	545.4	543.1	541.4	537.9
La Jara	444.0	439.9	434.8	428.4	423.9	421.3	418.1
San Acacio	633.6	628.1	619.5	607.6	604.4	597.9	592.3
Planting Date	5/12/2020	5/13/2020	5/14/2020	5/15/2020	5/16/2020	5/17/2020	5/18/2020
Center-1	568.0	560.5	550.1	541.5	530.7	519.4	505.1
Center-2	533.1	525.4	516.7	510.6	502.3	493.3	480.9
La Jara	412.2	408.5	402.3	396.2	390.9	385.8	376.3
San Acacio	585.3	577.1	567.1	558.3	549.8	541.3	527.8

Average Degree-Day accumulation during the period 6/16/2020-6/22/2020 at weather stations:

Center-1: 16 Center-2: 16 San Acacio: 17 La Jara: 13

Contact:
 Chakradhar Mattupalli
 Research Professor/Extension Specialist—Plant Pathology
chakradhar.mattupalli@colostate.edu
 (719) 480-4811

Address:
 Plant Pathology Laboratory
 San Luis Valley Research Center
 0249 East Road 9 North, Center, CO 81125

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