Almond Board of California Disease Forecasts 2023
in cooperation with the University of California and Semios

Table 1. Daily risk assessment disease forecasts for Thur., Jun. 22 through Thur., Jun. 29, 2023*

No.	County	Region	Alternaria leaf spot (date, value, level)^	Anthracnose (date, value, level)^	Bacterial spot (date, value, level)^	Almond scab sporulation level (date, LW value, Precip.)^
1	Butte	West	0 (7-day index=0; Season DSV=7) **Low**	0 (5-day index=0; 21-day index 0.64 to 0.29) **Low**	0 (7-day index=0.02 to 0) **Low**	0
2	Colusa	East	0	0	0	6-22: 3 h; 0; **Low**
3	Fresno	Central	0 (Season DSV=1) **Low**	0	0	6-22: 1 h; 0; **Mod.** (based on last week's total LW)
4	Fresno	East	0 (7-day index=0; Season DSV=5) **Low**	0	0	6-22: 2 h; 0; **Mod.** (based on last week's total LW)
5	Fresno	West	0	0	0	0
6	Kern	Central	0 (7-day index=0; Season DSV=3) **Low**	0	0	0
7	Kern	East	0 (7-day index=8 to 1; Season DSV=57) **Low**	0 (5-day index=0; 21-day index=0.36-0.26) Low	0	0 (**high** based on last week's total LW)
8	Kern	West	0	0	0	0
9	Madera	Central	0 (7-day index=0; Season DSV=3) **Low**	0	0	6-22: 3 h; 0; **Low**
10	Merced	Central	0	0	0	6-22: 2 h; 0; **Low**
11	Stanislaus	Central	0	0	0	6-22: 4 h; 0; **Low**
12	Stanislaus	East	0	0	0	6-22: 5 h; 0; **Low**
13	Stanislaus	West	0	0	0	6-22: 1h; 0; **Mod.** (based on last week's total LW)

* - 7-day forecasts are based on temperature (inside- and outside-canopy measurements), precipitation, and leaf wetness which are powered by the Semios® precision farming platform.

^ - Numerical risk is scaled as follows: 0 = no risk, 1 = action threshold (Note: values may exceed 1 due to hourly accumulations).

Industry Advisory - Summary for Selected Almond Growing Regions

Accumulated hours of leaf wetness in several regions last week resulted in scab sporulation risk: high for Kern-E with 81 h LW; moderate for Fresno-C, -E, with 15-17 h LW, and Stanislaus-W with 12 h LW; and 0 to low for the remaining regions with 0 mm precipitation for all regions (except for Butte-W with 0.06 mm). Average in-canopy temperatures were moderate (17-26 C) across all the regions. Alternaria leaf spot is at low risk across all regions, however, the disease has already been detected in localized areas with favorable microclimates. Overall, Kern-E has the highest seasonal DSV. Fungicides should be applied on a schedule with additional LW and DSV accumulation three weeks after the last application. For example, in Kern-E, 2 to 3 applications should have been done by now with 57 h accumulated LW, warm temperatures, and calculated DSV values.

In the coming week, no rainfall, generally low LW, and a moderate increase to higher average temperatures are predicted for most regions (Table 2). There is a zero to low risk for Alternaria leaf spot in most regions and zero risk for anthracnose and bacterial spot in all regions. As indicated above, there is a high risk of scab sporulation in Kern-E, and moderate risk for Fresno-C, -E, and Stanislaus-W (Table 1). All other regions are at low risk. As temperatures warm during the day and cool at night, this will result in greater risk of leaf wetness. Again, the risk for all the diseases mentioned is driven by repeated leaf wetness from dew and rainfall that is needed to initiate epidemics, as well as higher forecasted warm temperatures that are driving the rate of development. A summary of selected forecasted environmental conditions in the coming week is shown in Table 2.

The website https://www.ag-radar.com (password: Almondboard2022) displays actual and forecasted disease risk assessments for each region. Because these are regional forecasts, actual and predicted precipitation may vary among locations within each region. Additionally, historical records and experience for specific locations should be considered. This advisory will be updated weekly. The website "2022 Fungicide Efficacy Tables" is available to optimize fungicide selection and applications (http://ipm.ucanr.edu/PDF/PMG/fungicideefficacytiming.pdf).

Table 2. Forecasted weather for Thur., June 22 through Thur., June 29, 2023*

| No.	County	Region	Date	Avg Temp (in canopy) °C	Avg Humidity (%)	Precip. (date: mm)	Leaf Wetness avg. h (date: h)
1	Butte	West	6-22 to 6-28	19.7 to 28.7	32.8 to 58.0	0	0
2	Colusa	East	6-22 to 6-28	19.2 to 27.3	39.2 to 63.0	0	<1 (6-22: 3 h)
3	Fresno	Central	6-22 to 6-28	19.7 to 27.4	34.9 to 56.3	0	<1 (6-22: 1 h)
4	Fresno	East	6-22 to 6-28	19.5 to 27.8	33.6 to 58.2	0	<1 (6-22: 2 h)
5	Fresno	West	6-22 to 6-28	19.2 to 25.9	31.2 to 54.5	0	0
6	Kern	Central	6-22 to 6-28	18.4 to 26.9	32.0 to 51.6	0	0
7	Kern	East	6-22 to 6-28	20.0 to 28.8	32.1 to 53.0	0	0
8	Kern	West	6-22 to 6-28	27.7 to 19.2	31.5 to 50.5	0	0
9	Madera	Central	6-22 to 6-28	18.4 to 26.6	38.3 to 59.1	0	<1 (6-22: 3 h)
10	Merced	Central	6-22 to 6-28	19.4 to 26.1	57.9 to 40.3	0	<1 (6-22: 2 h)
11	Stanislaus	Central	6-22 to 6-28	18.7 to 25.1	43.4 to 61.6	0	<1 (6-22: 4 h)
12	Stanislaus	East	6-22 to 6-28	18.5 to 25.4	43.2 to 61.1	0	<1 (6-22: 5 h)
13	Stanislaus	West	6-22 to 6-28	19.0 to 25.3	41.0 to 61.4	0	<1 (6-22: 1 h)

Note: In this table, the order of some regions is the same as table 1 and was generated using the RADAR on-line forecasted report powered by the Semios® precision farming platform.

Fig. 1. Maps of counties and regions.

Butte West
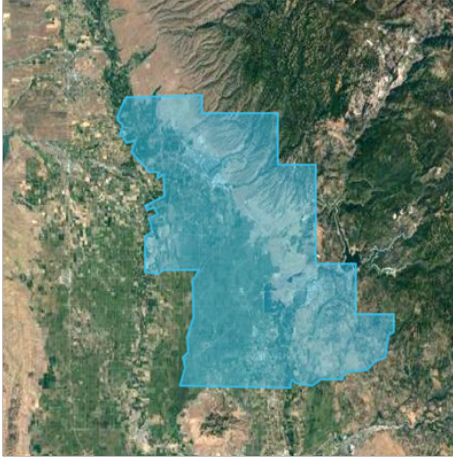
Colusa East
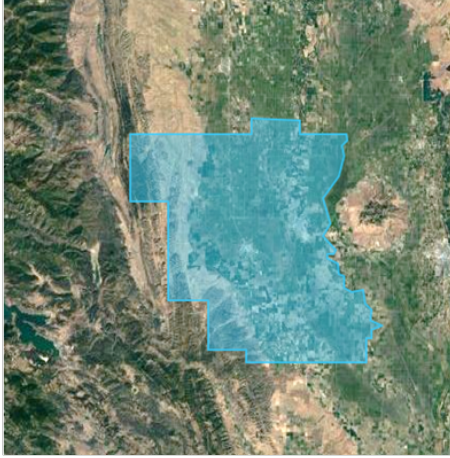
Fresno Central

Fresno East

Fresno West

Fig. 2. Maps of counties and regions.

Kern West

Kern East

Kern Central

Stanislaus Central

Stanislaus East

Stanislaus West