

Almond Board of California Disease Forecasts 2024
in cooperation with the University of California and Semios

Table 1. 7-day disease risk forecasts for Mon., June 24 through Mon., July 1, 2024*

No.	County	Region	Anthracnose (value, date, color code)^	Bacterial spot (value, date, color code)^	Alternaria leaf spot (value, date, color code)^	Almond scab sporulation level (date, T, LW value, Precip.)^
1	Butte	West	0	0	0; Seasonal-DI = 106; up 18	0
2	Colusa	East	0	0; 7-day-DI = 0.55	0	0
3	Fresno	Central	0	0	0	0
4	Fresno	East	0	0	0; Seasonal-DI = 29; static	0
5	Fresno	West	0	0	0	0
6	Kern	Central	0	0	0	0
7	Kern	East	0	0	0; Seasonal-DI = 39; static	0
8	Kern	West	0	0; 7-DI of 5.69 to 0 from 6/24 to 6/30	0	0
9	Madera	Central	0	0	0; Seasonal-DI = 24; up 2	0
10	Merced	Central	0	0; 7-DI of 0.99 to 0 from 6/24 to 6/29	0	0
11	Stanislaus	Central	0	0	0	0
12	Stanislaus	East	0	0	0	0
13	Stanislaus	West	0	0	0; Seasonal-DI = 6; up 4	0

* - 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. 5-, 7-, and 21-day disease indices (DI) are also shown that provide the previous risk for a region.

^ - Numerical risk is scaled as follows: 0 = no risk, 1 = action threshold (Note: values may exceed 1 due to hourly accumulations). Color code risk: yellow = low, orange = moderate, red = high.

Industry Advisory - Summary for Selected Almond Growing Regions

No appreciable rainfall and moderate to high average temperatures occurred in all regions last week (Table 3). Average daily leaf wetness durations ranged from 14.9 h in Butte-W, 4.9 h in Madera-C, and 4.4 h in Stanislaus-W, whereas ≤ 1.1 h occurred in other regions. This resulted in increases in DSV values for Alternaria leaf spot (ALS) of 18 in Butte-W, 2 in Madera-C, and 4 in Stanislaus-W. Seasonal DSVs reached 106, 39, 29, 24, and 6 in Butte-W, Fresno-E, Kern-E, Madera-C, and Stanislaus-W, respectively. Last week’s forecast again called for a low risk, but high leaf wetness hours contributed to a high risk for ALS in Butte-W. Other regions still have a 0 - 2 seasonal DSV, indicating low risk for ALS. Moderate to high daily leaf wetness durations with moderate avg. temperatures resulted in a low forecasted risk for scab sporulation for all regions. Higher leaf wetness, however, actually occurred than what was forecasted in Butte-W, Madera-C, and Fresno-E, and Stanislaus-W, which increased the risk not only for Alternaria leaf spot but also scab sporulation in these locations. Thus, fungicide applications for ALS and scab are warranted in Butte-W and Stanislaus-W (just at 6) if applications have not been already applied. With no appreciable rainfall, the risk for anthracnose was 0 for all regions. Bacterial spot risk was forecasted low but reached 7-day indices of 5.69 in Kern-W and 0.99 in Merced-C between 6-24 to 6-30-24.

For the coming week, no precipitation, low daily leaf wetness hours, moderate to high temperatures and moderate to low humidity are forecasted for all regions (Table 2). Daily leaf wetness values of ≤ 0.1 h are forecasted for all regions. Temperatures are holding with daily maximum values of up to 40.0°C (104°F) in some regions. With no rainfall and low leaf wetness forecasted in the coming week, zero to low risk is predicted for anthracnose, bacterial spot, and almond scab sporulation as shown in Table 1. Alternaria leaf spot risks are also forecasted as low (0 values), but heavy dews or irrigation practices have increased the daily wetness periods in selected regions for the last several weeks. Thus, contrary to the forecast, it seems that the risk for Alternaria is high for Butte-W with extended leaf wetness periods occurring for the last several weeks including last week as shown in Tables 1 and 3 with seasonal accumulations of DSV continuing to increase in this region. Low risk for bacterial spot was forecasted last week but reached high 7-day indices in Kern-W and Merced-C (see above).

This will be the last forecast of 2024. For the summer, be aware of hull rot especially on Nonpareil but other varieties such as Monterey, Wood Colony, and Winters are very susceptible. One to two fungicide applications are suggested applied with NOW applications. Continue to scout for rust. An incidence of 1 leaf with rust per 100 leaf count is a good rule of thumb for a fungicide application. I hope these forecasts were useful to the industry!

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 Mon., June 24, through Mon., July 1, 2024*

No.	County	Region	Avg Temp (in canopy) (Avg)°C	Avg Humidity (Avg) (%)	Total Precip. (mm)	Leaf Wetness (hours/day)
1	Butte	West	25.4 – 29.7 (27.2)	27.1 – 37.6 (32.0)	0	0
2	Colusa	East	24.9 – 30.1 (26.7)	29.4 – 39.8 (35.7)	0	0
3	Fresno	Central	26.5 – 30.3 (28.1)	28.2 – 46.5 (34.6)	0	0
4	Fresno	East	27.0 – 30.9 (28.7)	28.6 – 39.7 (34.5)	0	0
5	Fresno	West	25.3 – 29.6 (26.9)	25.5 – 40.4 (30.6)	0	0
6	Kern	Central	27.0 – 30.7 (28.5)	26.8 – 41.9 (29.8)	0	0
7	Kern	East	28.5 – 32.5 (29.9)	28.0 – 43.8 (31.0)	0	0
8	Kern	West	27.1 – 31.3 (26.6)	21.8 – 40.7 (28.3)	0	0
9	Madera	Central	25.8 – 30.0 (27.8)	27.9 – 43.8 (36.1)	0	0.1
10	Merced	Central	25.5 – 29.8 (27.3)	26.6 – 50.0 (36.8)	0	0
11	Stanislaus	Central	24.3 – 28.0 (26.4)	25.3 – 40.9 (34.5)	0	0
12	Stanislaus	East	24.3 – 28.5 (26.7)	25.1 – 41.7 (36.7)	0	0
13	Stanislaus	West	25.1 – 28.1 (26.5)	28.8 – 38.8 (34.2)	0	0

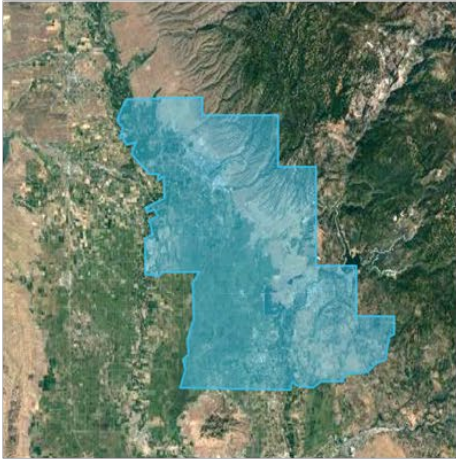
Table 3. Previous week’s actual weather for Mon., June 17, through Sun., June 23, 2024*

No.	County	Region	Avg Temp (in canopy) (Avg)°C	Avg Humidity (Avg) (%)	Total Precip. (mm)	Leaf Wetness (hours/day)
1	Butte	West	20.6 – 27.0 (23.1)	36.0 – 69.7 (56.3)	0	14.9
2	Colusa	East	20.6 – 25.2 (22.5)	22.3 – 45.0 (34.8)	0	1.1
3	Fresno	Central	21.6 – 28.2 (23.6)	44.9 – 56.7 (49.9)	0	0.1
4	Fresno	East	20.6 – 29.1 (24.4)	37.5 – 44.2 (40.8)	0	0
5	Fresno	West	23.7 – 31.1 (26.0)	30.7 – 45.1 (37.7)	0	0
6	Kern	Central	20.7 – 28.0 (23.3)	47.0 – 51.6 (50.5)	0	0
7	Kern	East	21.9 – 29.3 (24.6)	44.2 – 51.5 (48.4)	0	0
8	Kern	West	20.9 – 28.6 (23.7)	40.8 – 49.5 (44.7)	0.4	0
9	Madera	Central	21.4 – 29.8 (24.4)	40.8 – 53.7 (47.3)	0	4.9
10	Merced	Central	21.3 – 27.2 (22.7)	43.9 – 61.7 (53.8)	0.1	0.7
11	Stanislaus	Central	21.1 – 28.0 (23.3)	24.3 – 41.9 (34.8)	0	1.3
12	Stanislaus	East	20.2 – 28.7 (22.8)	42.1 – 55.2 (47.5)	0	0
13	Stanislaus	West	20.3 – 26.6 (22.9)	26.1 – 51.9 (42.3)	0	4.4

Note: Data in these tables were 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

