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 3 through Mon., June 10, 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 = 61; up 14	0
2	Colusa	East	0	0	0	0
3	Fresno	Central	0	0	0	0
4	Fresno	East	0	0	0; Seasonal-DI = 16; up 7	0
5	Fresno	West	0	0	0	0
6	Kern	Central	0	0	0	0
7	Kern	East	0	0	0; Seasonal-DI = 34; up 13	0
8	Kern	West	0	0, 7-DI of 1.27 from 6/3 to 6/5	0	0
9	Madera	Central	0	0	0; Seasonal-DI = 12; up 2	0
10	Merced	Central	0	0	0	0
11	Stanislaus	Central	0	0	0	0
12	Stanislaus	East	0	0	0	0
13	Stanislaus	West	0	0	0	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 average temperatures occurred in all regions last week (Table 3). Average daily leaf wetness durations ranged from 10.9 h in Butte-W, 10.6 h in Kern-E, 9.0 h in Fresno-E, 5.6 h in Madera-C, and 4.3 h in Stanislaus-W, whereas ≤2.0 h occurred in other regions. This resulted in increases in DSV values for Alternaria leaf spot of 14 in Butte-W, 13 in Kern-E, 7 in Fresno-E, and 2 in Madera-C, with seasonal DSVs reaching 61, 34, 16, and 12, respectively. Last week's forecast was for a low risk, but high leaf wetness hours contributed to a high risk for Alternaria leaf spot in Butte-W, Kern-E, and Fresno-E. Fungicide treatments are suggested at DSV intervals of 8 to 12 depending on the intended level of disease management. Other regions still have a 0 seasonal DSV, indicating low risk for Alternaria leaf spot. High daily leaf wetness durations with moderate temperatures (>11.3° avg. lows to < 33.4°C avg. highs) resulted in a moderate risk for scab sporulation in Butte-W, Kern-E, and Fresno-E (Table 3). Higher leaf wetness occurred than what was forecasted in Butte-W and Kern-E, as well as Fresno-E, Madera-C, Merced-C, and Stanislaus-C, -W, which increased the risk not only for Alternaria leaf spot but also scab sporulation in these locations. Thus, fungicide applications for Alternaria leaf spot and scab are warranted in Butte-W, Kern-E, and Fresno-E. With moderate temperatures but no appreciable rainfall, the risk for anthracnose and bacterial spot risk was 0 for all regions except in Kern-W where risk for bacterial spot was high at 1.27 on 5-30-2024 and was not predicted.

For the coming week, no precipitation, low daily leaf wetness hours, moderate to high temperatures and moderate humidity are forecasted for all regions (Table 2). Daily leaf wetness values of ≤0.6 h are forecasted for all regions with 0.6 h for Colusa-E and 0.3 h for Fresno-E. Temperatures are increasing (daily averages between 26.3° and 29.3°C) with daily maximum values of up to 41°C (105.8°F). 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 and scab is high for regions identified with extended leaf wetness periods occurring in each of the last several weeks including last week as shown in Table 3.

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 3, through Mon., June 10, 2024*

No.	County	Region	Avg Temp (in canopy) (Avg)°C	Avg Humidity (Avg) (%)	Total Precip. (mm)	Leaf Wetness (hours/day)
1	Butte	West	24.0 – 31.9 (29.1)	27.3 – 57.6 (35.2)	0	0
2	Colusa	East	23.4 – 31.9 (28.3)	31.8 – 41.8 (37.4)	0	0
3	Fresno	Central	23.0 – 31.8 (27.9)	30.5 – 59.1 (39.3)	0	0
4	Fresno	East	23.2 – 30.9 (28.3)	34.0 – 54.8 (41.9)	0	0.3
5	Fresno	West	22.8 – 29.2 (26.3)	27.3 – 57.0 (35.2)	0	0
6	Kern	Central	23.4 – 31.3 (27.8)	29.0 – 57.6 (37.4)	0	0
7	Kern	East	24.5 – 32.7 (29.3)	31.2 – 55.4 (38.6)	0	0
8	Kern	West	24.6 – 31.7 (28.4)	29.7 – 53.3 (37.4)	0	0
9	Madera	Central	22.3 – 30.4 (27.3)	33.8 – 60.3 (42.4)	0	0
10	Merced	Central	21.6 – 30.8 (27.2)	34.3 – 63.0 (41.6)	0	0
11	Stanislaus	Central	21.4 – 30.2 (26.5)	34.2 – 55.9 (40.7)	0	0
12	Stanislaus	East	21.0 – 29.7 (26.3)	37.6 – 65.9 (44.6)	0	0.6
13	Stanislaus	West	21.9 – 31.9 (27.1)	30.7 – 53.9 (37.7)	0	0

Table 3. Previous week's actual weather for Mon., May 27, through Sun., June 2, 2024*

No.	County	Region	Avg Temp (in canopy) (Avg)°C	Avg Humidity (Avg) (%)	Total Precip. (mm)	Leaf Wetness (hours/day)
1	Butte	West	21.2 – 24.2 (22.9)	36.5 – 67.2 (53.5)	0	10.9
2	Colusa	East	20.4 – 24.0 (21.8)	24.0 – 51.4 (38.5)	0	0
3	Fresno	Central	21.3 – 23.7 (22.3)	50.8 – 58.0 (53.7)	0	0.1
4	Fresno	East	21.8 – 24.5 (23.0)	45.2 – 53.4 (48.2)	0	9.0
5	Fresno	West	23.2 – 26.5 (24.4)	33.4 – 46.8 (41.7)	0	0
6	Kern	Central	21.2 – 23.7 (22.1)	50.7 – 59.3 (55.0)	0	0
7	Kern	East	22.3 – 24.9 (23.3)	48.5 – 56.5 (53.2)	0	10.6
8	Kern	West	22.0 – 25.2 (23.2)	41.8 – 51.2 (48.1)	0.1	0
9	Madera	Central	21.3 – 23.7 (22.3)	51.4 – 57.7 (53.8)	0	5.6
10	Merced	Central	20.5 – 22.6 (21.3)	55.4 – 61.3 (57.9)	0	2.0
11	Stanislaus	Central	20.9 – 21.8 (21.6)	35.5 – 55.1 (42.8)	0	1.0
12	Stanislaus	East	20.2 – 24.0 (21.2)	48.6 – 62.3 (55.0)	0	0.3
13	Stanislaus	West	20.2 – 23.2 (21.3)	33.0 – 53.1 (46.5)	0	4.3

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.

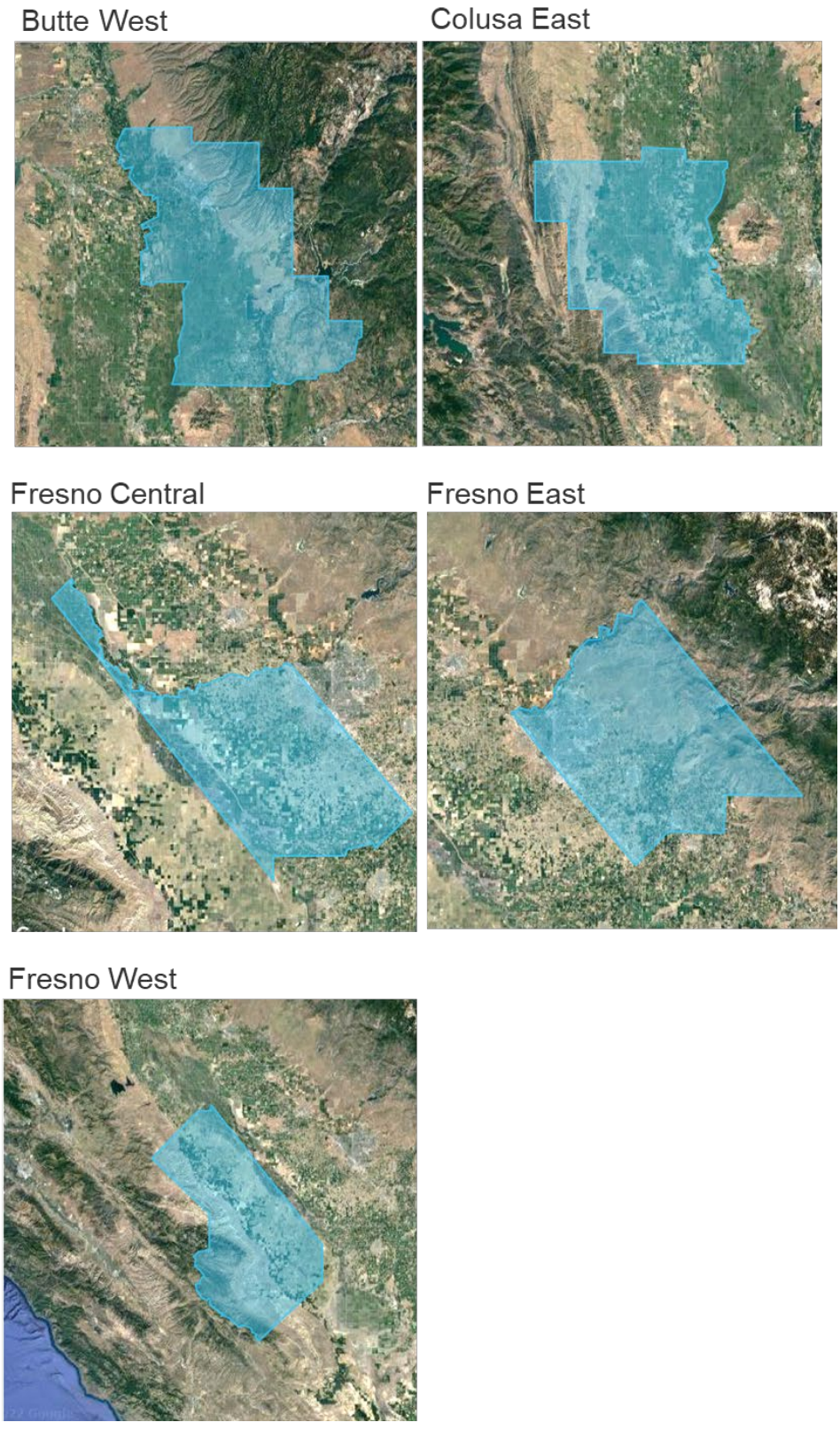

Fig. 2. Maps of counties and regions.