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., May 13, through Mon., May 20, 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; 7-DI high = 11 on 5/13 decreasing to 0	0
2	Colusa	East	0	0	0	0
3	Fresno	Central	0	0	0	0
4	Fresno	East	0	0; 7-DI high = 1 decreasing to 0	0	0
5	Fresno	West	0	0	0	0
6	Kern	Central	0	0	0	0
7	Kern	East	0	0	0	0
8	Kern	West	0	0; 7-DI high = 2.65 decreasing to 0	0	0
9	Madera	Central	0	0	0	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

Low rainfall and moderate temperatures with averages of 13.3 to 15.5°C during rainfall periods occurred in Kern-W (0.16 mm) and Stanislaus-W (0.22 mm) last week (Table 3). Average daily leaf wetness durations ranged from 0 to 14.9 h in Butte-W, 10.1 h in Fresno-E, 9.1 h in Madera-C, and 3.3 h in Stanislaus-W. With low temperatures, the risk for anthracnose was low. The risk for Alternaria leaf spot reached a high of 11 with a seasonal risk of 24 in Butte-W. Seasonal DSV average in for Alternaria is 10 in Madera-C, 3 for Fresno-E and 1 in Kern-C, -E. Fungicide treatments are suggested at DSV of 8 to 12 depending on the intended level of disease management. Other regions still have a 0 seasonal DSV indicating low risk. Last week, bacterial spot risk reached 1 for Fresno-E, 1.42 for Kern-W (7-DI 2.65), and 0.33 for Stanislaus-C (7-DI 0.33) indicating high to moderate risk for bacterial spot; whereas other regions had zero risk. Management practices are limited for this time of year for bacterial spot. Due to cool to moderate temperatures (<13°C) during leaf wetness events, there was a low risk for scab sporulation in most regions.

For the coming week, no precipitation and low daily leaf wetness hours are forecasted for all regions (Table 2). Low daily leaf wetness values (e.g., <1.4 h) are forecasted for Colusa-E, Fresno-E, -W, and Stanislaus-C, -E, -W. Temperatures are still moderate (daily averages between 19.5° and 26.3°C) with daily maximum values increasing to highs of up to 33.2°C. Therefore, anthracnose and bacterial spot (on cv. Fritz) are potential diseases that can cause problems if precipitation or extended irrigation events with extended leaf wetness occurs. With no rainfall and low leaf wetness forecasted in the coming week, however, zero to low risk is predicted for anthracnose, Alternaria leaf spot, bacterial spot, and almond scab sporulation as shown in Tables 1, 2. Relative humidity and low leaf wetness are forecasted in many regions in the coming week that will also reduce scab sporulation. Irrigation practices should be using low-trajectory sprinklers that do not hit the foliage or drip emitters.

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., May 13, through Mon., May 20, 2024*

| No.	County	Region	Avg Temp (in canopy) (Avg)°C	Avg Humidity (Avg) (%)	Total Precip. (mm)	Leaf Wetness (hours/day)
1	Butte	West	20.3 – 26.3 (23.7)	41.4 – 58.3 (48.1)	0	0.4 (3 on 5-13)
2	Colusa	East	20.4 – 25.9 (23.2)	45.1 – 53.2 (49.1)	0	1.3 (11 on 5/13-5-16)
3	Fresno	Central	21.1 – 25.0 (23.5)	40.7 – 50.2 (45.1)	0	0
4	Fresno	East	21.2 – 25.4 (23.8)	46.6 – 55.9 (50.4)	0	0.75 (5 on 5/19-5/20)
5	Fresno	West	19.8 – 23.6 (22.6)	32.7 – 50.5 (41.6)	0	0.12
6	Kern	Central	20.2 – 24.6 (22.9)	38.7 – 49.1 (42.8)	0	0
7	Kern	East	21.4 – 25.3 (24.4)	38.3 – 51.1 (43.7)	0	0
8	Kern	West	20.3 – 25.1 (23.4)	36.3 – 49.6 (42.7)	0	0
9	Madera	Central	20.5 – 24.3 (22.9)	43.8 – 53.1 (48.9)	0	0
10	Merced	Central	20.3 – 24.0 (22.7)	43.0 – 52.4 (48.9)	0	0
11	Stanislaus	Central	19.7 – 22.8 (21.5)	42.4 – 54.0 (50.3)	0	0.12
12	Stanislaus	East	19.5 – 22.9 (21.5)	47.8 – 55.4 (52.5)	0	0.5 (2,2 on 5/16-5/17)
13	Stanislaus	West	19.8 – 23.2 (21.7)	45.9 – 53.6 (49.9)	0	0.25 (2 on 5/13)

Table 3. Previous week's actual weather for Mon., May 6, through Sun., May 12, 2024*

No.	County	Region	Avg Temp (in canopy) (Avg)°C	Avg Humidity (Avg) (%)	Total Precip. (mm)	Leaf Wetness (hours/day)
1	Butte	West	13.6 – 22.0 (18.7)	35.4 – 70.4 (56.8)	0	14.8
2	Colusa	East	13.2 – 21.4 (18.8)	28.0 – 60.3 (39.5)	0	2
3	Fresno	Central	13.5 – 22.8 (18.4)	52.5 – 64.7 (57.8)	0.03	0
4	Fresno	East	13.4 – 23.4 (18.8)	49.8 – 63.4 (56.3)	0.05	10.7
5	Fresno	West	14.4 – 25.2 (20.5)	36.8 – 50.2 (43.2)	0	0
6	Kern	Central	12.9 – 23.2 (16.2)	48.0 – 64.5 (54.4)	0	0
7	Kern	East	13.7 – 23.3 (19.0)	49.9 – 64.4 (56.4)	0	1.6
8	Kern	West	12.9 – 22.9 (18.5)	48.1 – 57.4 (51.4)	0.2	2.4
9	Madera	Central	13.6 – 23.1 (18.6)	52.8 – 65.5 (59.6)	0.02	9.1
10	Merced	Central	13.9 – 22.0 (18.2)	55.3 – 64.9 (61.3)	0	5.2
11	Stanislaus	Central	14.0 – 22.1 (18.7)	36.2 – 59.0 (46.7)	0	4.7
12	Stanislaus	East	13.2 – 22.2 (18.2)	51.5 – 67.9 (57.8)	0	0.6
13	Stanislaus	West	13.3 – 22.5 (19.2)	30.6 – 59.6 (45.0)	0.22	3.3

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.

Butte West
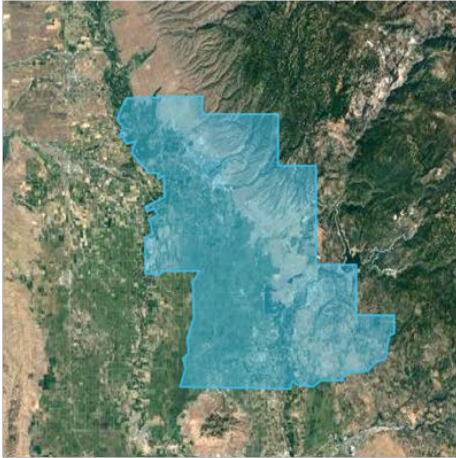
Colusa East

Fresno Central

Fresno East

Fresno West

Fig. 2. Maps of counties and regions.