# 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., Mar. 18 through Mon., Mar. 25, 2024*

| No. | County | Region | Anthracnose (value, date, color code)^ | Green fruit rot (precipitation, date, color code)^ | Bacterial blast (value, date, color code)^ | Bacterial spot (value, date, color code)^ | Alternaria leaf spot (value, date, color code)^ |
|---|---|---|---|---|---|---|---|
| 1 | Butte | West | 0.15 (3/22-3/25) | 1.2-8.4 (3/22-3/25) | 0 | 0.17 (3/21-3/25) | 0 |
| 2 | Colusa | East | 0.23 (3/22-3/25) | 0.4-5.2 (3/22-3/25) | 0 | 0.43 (3/21-3/25) | 0 |
| 3 | Fresno | Central | 0.36 (3/23-3/25) | 0.2-8.8 (3/22-3/25) | 0 | 0.73 (3/23-3/25) | 0 |
| 4 | Fresno | East | 0.1 (3/23-3/25) | 0.3-14.5 (3/22-3/25) | 0 | 0.13 (3/23-3/25) | 0 |
| 5 | Fresno | West | 0.16 (3/23-3/25) | 0.2-5.3 (3/22-3/24) | 0 | 0.33 (3/23-3/25) | 0 |
| 6 | Kern | Central | 0.26 (3/23-3/25) | 0.7-6.6 (3/23-3/25) | 0 | 0.61 (3/23-3/25) | 0 |
| 7 | Kern | East | 0.41 (3/23-3/25) | 2.2-9.8 (3/23-3/25) | 0 | 1.12 (3/23-3/25) | 0 |
| 8 | Kern | West | 0 | 0.5-1.4 (3/23-3/24) | 0 | 0 | 0 |
| 9 | Madera | Central | 0.21 (3/23-3/25) | 0.8-11.6 (3/22-3/25) | 0 | 0.28 (3/23-3/25) | 0 |
| 10 | Merced | Central | 0.15 (3/23-3/25) | 1.4-11.9 (3/22-3/25) | 0 | 0.23 (3/23-3/25) | 0 |
| 11 | Stanislaus | Central | 0.05 (3/23-3/25) | 1.6-10.4 (3/22-3/25) | 0 | 0.26 (3/23-3/25) | 0 |
| 12 | Stanislaus | East | 0.27 (3/22-3/25) | 2.7-13.1 (3/22-3/25) | 0 | 0.76 (3/21-3/25) | 0 |
| 13 | Stanislaus | West | 0.15 (3/23-3/25) | 1.4-4.9 (3/22-3/25) | 0 | 0.17 (3/23-3/25) | 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.

^ - 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 precipitation occurred in all regions last week (Table 3) supporting the low risks for disease in last week's forecast. Butte-W, Colusa-E, and Stanislaus-C had the highest precipitation with <5.4 mm. Average temperatures were <16°C across all regions. Average leaf wetness hours were 16.3-Butte-W, 13.9-Fresno-E and Madera-C or less. Therefore, these three regions had a moderate risk for brown rot blossom blight and jacket rot/green fruit rot when senescing flower parts were in contact with developing fruit. Monitoring for shot hole is recommended, especially if there was an outbreak last fall.

For the coming week, forecasted precipitation is moderate to high for most regions except Kern-W (Tables 1,2). Thus, the risks for green fruit rot and shot hole are high for Fresno-E, Madera-C, Merced-C, Stanislaus-C, -E and moderate for Butte-W, Fresno-C, and Kern-E. Scouting for these diseases, especially in cultivars with high flower density is advised. A petal fall fungicide application is advised for these diseases. Bacterial spot on cv. Fritz has moderate risk for Fresno-C and Kern-C; whereas high risk is forecasted for Kern-E and Stanislaus-E where rainfall, high humidity and warm temperatures are forecasted. A follow-up bactericide application is suggested on cv. Fritz for these regions. Avg. forecasted temperatures for most regions are below threshold levels for anthracnose and above threshold levels (-1°C) for bacterial blast and therefore, the risk is mostly low for these diseases (Tables 1 and 2). Moderate risk for anthracnose, however, is predicted for Kern-E with warm temperatures and moderate precipitation forecasted. With moderate temperatures and low leaf wetness hours (<10) for most regions, Alternaria leaf spot risk is low for all regions.

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., Mar. 18 through Mon., Mar. 25, 2024*

| No. | County | Region | Avg Temp (in canopy) (Avg)°C | Avg Humidity (Avg)(%) | Total Precip. (mm) | Leaf Wetness (hours/day) |
|-----|--------|--------|------------------------------|------------------------|--------------------|--------------------------|
| 1 | Butte | West | 10.3 – 15.6 (13.2) | 62.8 - 75.2 (69.9) | 18.1 | 8.5 |
| 2 | Colusa | East | 11.1 – 15.9 (13.4) | 65.8 – 74.4 (69.4) | 10.5 | 7.1 |
| 3 | Fresno | Central | 12.1 – 17.5 (15.2) | 54.9 – 70.5 (63.1) | 12.2 | 5.5 |
| 4 | Fresno | East | 12.0 – 17.3 (14.8) | 60.2 – 77.4 (68.3) | 22.4 | 9.6 |
| 5 | Fresno | West | 11.4 – 17.4 (14.7) | 47.1 – 70.8 (60.2) | 7.8 | 5.5 |
| 6 | Kern | Central | 11.1 – 17.1 (14.6) | 55.1 – 70.1 (61.1) | 12.1 | 3.6 |
| 7 | Kern | East | 12.1 – 18.6 (15.7) | 53.2 – 75.5 (61.9) | 14.8 | 3.6 |
| 8 | Kern | West | 12.2 – 18.0 (15.4) | 48.4 – 65.5 (58.2) | 1.9 | 3.0 |
| 9 | Madera | Central | 11.3 - 16.8 (14.6) | 59.0 – 71.8 (66.0) | 18.6 | 7.4 |
| 10 | Merced | Central | 11.5 – 16.5 (14.4) | 57.1 – 72.2 (66.5) | 19.9 | 7.3 |
| 11 | Stanislaus | Central | 11.1 – 15.8 (13.8) | 60.9 – 72.6 (69.0) | 18.0 | 8.1 |
| 12 | Stanislaus | East | 10.9 – 15.8 (13.7) | 62.5 – 74.7 (70.4) | 22.3 | 10.0 |
| 13 | Stanislaus | West | 11.6 – 16.2 (14.0) | 58.7 – 71.4 (66.4) | 11.5 | 6.0 |

**Table 3.** Previous week's actual weather for Mon., Mar. 11 through Mon., Mar. 17, 2024*

| No. | County | Region | Avg Temp (in canopy) (Avg)°C | Avg Humidity (Avg)(%) | Total Precip. (mm) | Leaf Wetness (hours/day) |
|-----|--------|--------|------------------------------|------------------------|--------------------|--------------------------|
| 1 | Butte | West | 10.4 - 15.1 (12.9) | 36.3 - 85.9 (61.0) | 5.4 | 16.3 |
| 2 | Colusa | East | 9.89 – 15.1 (12.8) | 35.1 – 76.8 (56.3) | 4.2 | 7.6 |
| 3 | Fresno | Central | 11.3 – 13.7 (12.6) | 61.6 – 73.0 (64.4) | 1.1 | 5.4 |
| 4 | Fresno | East | 12.1 – 13.7 (12.6) | 55.1 – 72.9 (64.4) | 0.4 | 13.9 |
| 5 | Fresno | West | 12.9 – 15.2 (13.7) | 39.8 – 72.3 (53.9) | 1.2 | 1.6 |
| 6 | Kern | Central | 11.5 – 14.8 (12.8) | 50.6 – 74.5 (62.3) | 0 | 0 |
| 7 | Kern | East | 13.0 – 14.0 (13.2) | 57.7 – 71.4 (63.8) | 0 | 3.4 |
| 8 | Kern | West | 11.5 – 14.5 (13.5) | 54.4 – 69.9 (62.1) | 0 | 3.3 |
| 9 | Madera | Central | 11.8 – 14.0 (12.9) | 58.4 – 75.2 (65.5) | 2.2 | 13.9 |
| 10 | Merced | Central | 11.4 – 13.5 (12.6) | 58.8 – 76.6 (66.8) | 3.3 | 6.8 |
| 11 | Stanislaus | Central | 12.0 – 15.4 (13.7) | 39.0 – 77.7 (58.6) | 4.3 | 6.3 |
| 12 | Stanislaus | East | 11.3 – 14.3 (12.9) | 41.5 – 84.4 (63.5) | 3.5 | 8.1 |
| 13 | Stanislaus | West | 12.1 – 16.0 (13.5) | 38.4 – 74.7 (56.1) | 0.9 | 8.4 |

**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.
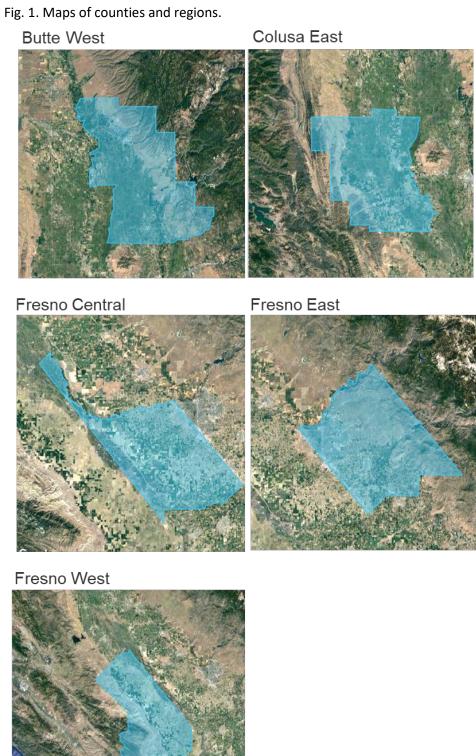
Butte West

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