

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. 26 through Mon., Apr. 1, 2024*

No.	County	Region	Anthracnose (value, date, color code)^	Green fruit rot, shot hole (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	1.4-10.5 (3/27-3/31)	0	0.14 (3/25-3/28)	0
2	Colusa	East	0	2.7-10.4 (3/27-3/30)	0	0.59 (3/25-3/27)	0
3	Fresno	Central	0.12 (3/31)	1.3-12.0 (3/27-3/31)	0	0.23 (3/31)	0
4	Fresno	East	0.18 (3/31)	3.1-16.9 (3/28-3/31)	0	0.35 (3/31)	0
5	Fresno	West	0.16 (3/31)	0.3-9.2 (3/28-3/31)	0	0.31 (3/31)	0
6	Kern	Central	0	0.9-11.3 (3/29-4/1)	0	0	0
7	Kern	East	0.31 (3/23-3/25)	0.6-12.7 (3/29-4/1)	0	0.43 (3/31-4/1)	0
8	Kern	West	0.13 (3/29-4/1)	0.5-14.2 (3/29-4/1)	0	0.27 (3/29-4/1)	0
9	Madera	Central	0.05 (3/31-4/1)	0.2-13.3 (3/28-4/1)	0	0.06 (3/31-4/1)	0
10	Merced	Central	0.21 (3/25-3/26)	0.8-9.2 (3/27-3/31)	0	0.56 (3/25-3/28)	0
11	Stanislaus	Central	0.17 (3/31-4/1)	1.1-13.1 (3/27-3/31)	0	0.43 (3/31-4/1)	0
12	Stanislaus	East	0.24 (3/31-4/1)	2.1-15.0 (3/27-3/31)	0	0.54 (3/31-4/1)	0
13	Stanislaus	West	0.16 (3/31-4/1)	1.2-11.2 (3/28-3/31)	0	0.27 (3/31)	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 to moderate precipitation and cool temperatures occurred in all regions last week (Table 3) supporting the moderate to high risk for jacket rot/green fruit rot and shot hole at most locations in last week's forecast. Jacket rot/green fruit rot develops when senescing flower parts are in contact with developing fruit during wetness periods. Fresno-E, Madera-C, Merced-C, and Stanislaus-C, E had the highest precipitation with between 17.2 and 24.6 mm. Average temperatures were $\leq 15.2^{\circ}\text{C}$ across all regions. Average leaf wetness hours were 3.7 (Kern-W) to 16.1 (Madera-C). Therefore, there was a low or near zero risk for anthracnose for all regions and a moderate risk for bacterial spot only in Merced-C and Stanislaus-E, -W. Due to the petal fall or later stage of almond development in all regions, brown rot blossom blight risk is low. Monitoring for shot hole is recommended, especially if there was an outbreak last fall.

For the coming week, forecasted precipitation for all regions is higher than for last week but still mostly moderate (Tables 1,2). The amount ranges from 38.2 mm in Stanislaus-E to 15.7 mm in Kern-C. Thus, the risks for green fruit rot and shot hole are high for all regions. Scouting for these diseases, especially in cultivars with high flower density is advised. A petal fall fungicide application is recommended for these diseases if this was not already done as advised previously. Bacterial spot on cv. Fritz has a moderate risk for Merced-C, Stanislaus-C, and -E, and a follow-up bactericide application is suggested for these regions if this was not already done. The risk for bacterial spot is very low for all other regions. Avg. forecasted temperatures for all regions are below threshold levels for anthracnose and above threshold levels (-1°C) for bacterial blast and therefore, the risk is very low for these diseases (Tables 1 and 2). A low risk for anthracnose, however, is predicted for Kern-E where average temperatures are somewhat higher (i.e., 13.8°C). With low to moderate temperatures for all regions, Alternaria leaf spot risk is low at this time.

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. 26 through Mon., Apr. 1, 2024*

No.	County	Region	Avg Temp (in canopy) (Avg) ^o C	Avg Humidity (Avg) (%)	Total Precip. (mm)	Leaf Wetness (hours/day)
1	Butte	West	11.0 – 13.4 (11.7)	64.5 - 76.9 (71.6)	22.5	9.4
2	Colusa	East	11.3 – 14.1 (12.1)	64.9 – 78.5 (71.2)	20.6	9.0
3	Fresno	Central	12.5 – 14.7 (13.2)	66.0 – 76.2 (69.3)	19.9	9.3
4	Fresno	East	11.6 – 14.6 (13.1)	68.0 – 80.7 (74.2)	30.6	12.3
5	Fresno	West	11.2 – 14.2 (12.6)	61.5 – 78.8 (68.0)	17.9	10.4
6	Kern	Central	11.8 – 14.1 (12.7)	60.7 – 71.1 (66.4)	15.7	7.0
7	Kern	East	12.6 – 15.4 (13.8)	62.9 – 75.6 (68.7)	22.0	5.6
8	Kern	West	12.2 – 14.8 (13.5)	60.1 – 77.3 (66.4)	17.9	6.9
9	Madera	Central	11.0 – 14.1 (12.7)	67.4 – 74.1 (71.9)	25.6	10.9
10	Merced	Central	11.3 – 13.7 (12.9)	68.9 – 75.7 (71.2)	23.6	9.1
11	Stanislaus	Central	11.7 – 13.4 (12.5)	69.4 – 77.6 (72.8)	28.3	10.3
12	Stanislaus	East	11.0 – 13.2 (12.4)	72.8 – 75.6 (74.6)	38.2	11.9
13	Stanislaus	West	11.7 – 13.6 (12.5)	67.3 – 78.1 (71.7)	22.2	9.5

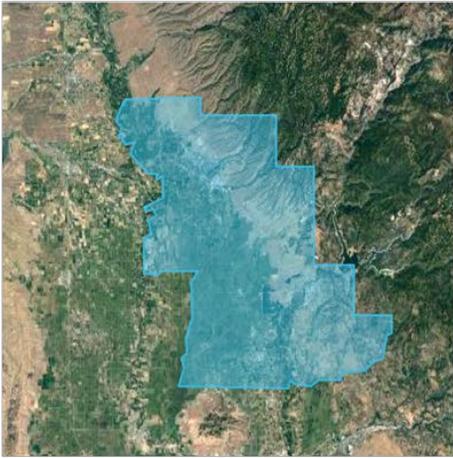
Table 3. Previous week's actual weather for Mon., Mar. 18 through Mon., Mar. 24, 2024*

No.	County	Region	Avg Temp (in canopy) (Avg) ^o C	Avg Humidity (Avg) (%)	Total Precip. (mm)	Leaf Wetness (hours/day)
1	Butte	West	11.2 – 15.6 (14.0)	61.4 – 81.7 (72.2)	7.6	14.0
2	Colusa	East	11.4 – 14.6 (13.1)	60.0 – 73.7 (67.1)	3.6	11.6
3	Fresno	Central	9.3 – 16.9 (14.2)	63.4 – 83.5 (68.8)	15.2	8.1
4	Fresno	East	9.3 – 16.8 (14.2)	60.6 – 82.8 (67.1)	18.5	14.7
5	Fresno	West	10.5 – 17.5 (15.0)	41.2 – 74.3 (58.3)	3.3	4.9
6	Kern	Central	10.2 – 17.5 (15.1)	56.7 – 78.7 (63.5)	7.5	6.0
7	Kern	East	10.7 – 16.5 (14.8)	59.8 – 77.8 (65.5)	11.2	6.1
8	Kern	West	9.9 – 17.1 (15.2)	61.3 – 75.0 (62.4)	3.8	3.7
9	Madera	Central	10.6 – 16.7 (14.5)	63.5 – 81.2 (68.8)	20.7	16.1
10	Merced	Central	11.3 – 16.2 (14.5)	53.4 – 79.4 (69.7)	24.6	7.3
11	Stanislaus	Central	12.0 – 16.3 (14.5)	52.0 – 83.9 (68.3)	17.2	9.9
12	Stanislaus	East	10.7 – 16.2 (14.1)	56.0 – 82.5 (71.2)	24.4	9.6
13	Stanislaus	West	11.3 – 15.5 (13.9)	57.5 -78.4 (67.1)	4.1	14.3

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.

Kern West



Kern East



Kern Central



Stanislaus Central



Stanislaus East



Stanislaus West

