

Fruit Crop Phenology Model Output Data for Apr. 24, 2009 (program drops overnight low & backs up date by one day). Normal dates are calculated from 30 year weather data. Observed dates are based on 2008-09 temperatures. For information, contact: Dr. Harold Larsen, WCRC—OM, Grand Junction, CO Phone: 970-434-3264, x-205 Email: Harold.Larsen@Colostate.edu

Location: **Cedaredge**, [Delta Co.] Colo. Observation Date: Apr. 23, 2009
 Crop: APRICOT Cultivar: Tilton Deviation from normal: -6 days
 CU Accumulated: 725 Growing Degree Hours Accumulated: 5,869
 Calculated Stage of Development: 7.3 Spring T50 temperature (Model): 26 °F

Stage	Description	Req'd. (CU) / GDH	Normal Date	Observed or Estimated (*) Date	Estimated Critical Temperatures	
					T10	T90
	Begin CU Accum.		Sept. 30	Oct. 3		
	Rest Completion	(720)	Dec. 5	Dec. 12		
1	First Swell	949	Mar. 15	Feb. 25	15°F	--
2	Tip Separates	1,444	Mar. 24	Mar. 2	20°F	0°F
3	Red Calyx	2,122	Apr. 3	Mar. 12	22°F	9°F
4	First White	3,039	Apr. 12	Mar. 20	24°F	14°F
5	First Bloom	3,533	Apr. 16	Mar. 23	25°F	19°F
6	Full Bloom	4,111	Apr. 21	Apr. 10	27°F	22°F
→ 7	In The Shuck	5,217	Apr. 28	Apr. 21	27°F	24°F
8	First Green	6,928	May 6	Apr. 28*	28°F	25°F
9	Fruit Growth					

¹ Critical temperatures from Wash. St. Univ. researchers, Prosser, WA (1964-76) and are based on 30 min. exposure to that temperature.

Crop: PRUNE PLUM Cultivar: Italian Deviation from normal: -6 days
 CU Accumulated: 789 Growing Degree Hours Accumulated: 5,863
 Calculated Stage of Development: 5.9 Spring T50 temperature (Model): 25 °F

Stage	Description	Req'd. (CU) / GDH	Normal Date	Observed or Estimated (*) Date	Estimated Critical Temperatures	
					T10	T90
	Begin CU Accum.		Sept. 30	Oct. 3		
	Rest Completion	(788)	Dec. 14	Dec. 28		
1	First Swell	2,533	Apr. 7	Mar. 18	14°F	0°F
2	Side White	3,056	Apr. 12	Mar. 20	17°F	3°F
3	Tip Green	3,623	Apr. 17	Mar. 28	20°F	7°F
4	Tight Cluster	4,489	Apr. 23	Apr. 14	24°F	16°F
→ 5	First White	5,417	Apr. 29	Apr. 22	26°F	22°F
6	First Bloom	5,684	May 1	Apr. 23	27°F	23°F
7	Full bloom	6,412	May 4	Apr. 26*	28°F	23°F
8	Fruit Growth				28°F	23°F

¹ Critical temperatures from Wash. St. Univ. researchers, Prosser, WA (1964-76) and are based on 30 min. exposure to that temperature.

Date: 4/23/2009

Crop: PEACH Cultivar: Elberta
 CU Accumulated: 802
 Calculated Stage of Development: 6.7

Deviation from normal: -7 days
 Growing Degree Hours Accumulated: 5,863
 Spring T50 temperature (Model): 27 °F

Stage	Description	Req'd. (CU) / GDH	Normal Date	Observed or Estimated (*) Date	Estimated Critical Temperatures T10 T90	
	Begin CU Accum.		Sept. 30	Oct. 3		
	Rest Completion	(800)	Dec. 15	Dec. 31		
1	First Swell	2,196	Apr. 4	Mar. 14	18°F	1°F
2	Calyx Green	2,662	Apr. 9	Mar. 18	21°F	5°F
3	Calyx Red	3,169	Apr. 13	Mar. 21	23°F	9°F
4	First Pink	3,729	Apr. 18	Apr. 2	25°F	15°F
5	First Bloom	4,365	Apr. 23	Apr. 13	26°F	21°F
→ 6	Full Bloom	5,116	Apr. 28	Apr. 20	27°F	24°F
7	Post Bloom	6,089	May 2	Apr. 24*	28°F	25°F
8	Fruit Growth				28°F	25°F

¹ Critical temperatures from Wash. St. Univ. researchers, Prosser, WA (1964-76) and are based on 30 min. exposure to that temperature.

Crop: PEACH Cultivar: Redhaven
 CU Accumulated: 873
 Calculated Stage of Development: 6.5

Deviation from normal: -7 days
 Growing Degree Hours Accumulated: 5,783
 Spring T50 temperature (Model): 30 °F

Stage	Description	Req'd (CU) / GDH	Normal Date	Observed or Estimated (*) Date	Estimated Critical Temperatures T10 T90	
	Begin CU Accum.		Sept 30	Oct. 3		
	Rest Completion	(870)	Dec. 28	Jan. 10		
1	First Swell	1,592	Mar. 27	Mar. 4	18°F	1°F
2	Calyx Green	2,449	Apr. 6	Mar. 18	21°F	5°F
3	Calyx Red	3,193	Apr. 14	Mar. 21	23°F	9°F
4	First Pink	3,860	Apr. 19	Apr. 8	25°F	15°F
5	First Bloom	4,470	Apr. 23	Apr. 14	26°F	21°F
→ 6	Full Bloom	5,036	Apr. 27	Apr. 20	27°F	24°F
7	Post Bloom	5,565	Apr. 29	Apr. 22	28°F	25°F
8	Fruit Growth				28°F	25°F

¹ Critical temperatures from Wash. St. Univ. researchers, Prosser, WA (1964-76) and are based on 30 min. exposure to that temperature.

NOTE: Current actual bud development (arrow) probably is behind the model.

Date: 4/23/2009

Crop: Sweet CHERRY Cultivar: Bing
 CU Accumulated: 884
 Calculated Stage of Development: 8.6

Deviation from normal: -7 days
 Growing Degree Hours Accumulated: 5,783
 Spring T50 temperature (Model): 27 °F

Stage	Description	Req'd. (CU) / GDH	Normal Date	Observed or Estimated (*) Date	Estimated Critical Temperatures ¹ T10	T90
	Begin CU Accum.		Sept 30	Oct. 3		
	Rest Completion	(880)	Dec. 30	Jan. 13		
1	First Swell	2,356	Apr. 5	Mar. 17	17°F	5°F
2	Side Green	2,683	Apr. 9	Mar. 19	22°F	9°F
3	Green Tip	3,533	Apr. 16	Mar. 28	25°F	14°F
4	Tight Cluster	4,050	Apr. 20	Apr. 10	26°F	17°F
5	Open Cluster	4,417	Apr. 23	Apr. 14	27°F	21°F
6	First White	4,661	Apr. 25	Apr. 16	27°F	24°F
→ 7	First Bloom	5,328	Apr. 29	Apr. 22	28°F	25°F
8	Full Bloom	6,172	May 4	Apr. 25*	28°F	25°F
9	Post Bloom	7,528	May 10	May 2*	28°F	25°F
10	Fruit Growth				28°F	25°F

¹ Critical temperatures from Wash. St. Univ. researchers, Prosser, WA (1964-76) and are based on 30 min. exposure to that temperature.

Crop: Tart CHERRY Cv. Montmorency
 CU Accumulated: 954
 Calculated Stage of Development: 4.4

Deviation from normal: -7 days
 Growing Degree Hours Accumulated: 5,739
 Spring T50 temperature (Model): 26 °F

Stage	Description	Req'd. (CU) / GDH	Normal Date	Observed or Estimated (*) Date	Estimated Critical Temperatures ¹ T10	T90
	Begin CU Accum.		Sept. 30	Oct. 3		
	Rest Completion	(950)	Jan. 13	Jan. 20		
1	First Swell	1,703	Mar. 28	Mar. 5	15°F	0°F
2	Side Green	2,327	Apr. 5	Mar. 17	24°F	10°F
3	Green Tip	2,988	Apr. 12	Mar. 21	26°F	22°F
4	Tight Cluster	3,690	Apr. 18	Apr. 7	26°F	24°F
5	Open Cluster	4,446	Apr. 23	Apr. 15	28°F	24°F
→ 6	First White	5,267	Apr. 29	Apr. 22	28°F	24°F
7	First Bloom	6,176	May 4	Apr. 25*	28°F	24°F
8	Full Bloom	7,208	May 9	Apr. 30*	28°F	25°F
9	Post Bloom	8,433	May 14	May 5*	28°F	25°F
10	Fruit Growth				28°F	25°F

¹ Critical temperatures from researchers at Michigan State University, and mortality is based on 30 min. exposure to that temperature.

NOTE: Current actual bud development (arrow) probably is behind the model.

Date: 4/23/2009

Crop: PEAR Cultivar: Bartlett
 CU Accumulated: 1,213
 Calculated Stage of Development: 6.4

Deviation from normal: -6 days
 Growing Degree Hours Accumulated: 5,290
 Spring T50 temperature (Model): 25 °F

Stage	Description	Req'd. (CU) / GDH	Normal Date	Observed or Estimated (*) Date	Estimated Critical Temperatures ¹ T10	T90
	Begin CU Accum.		Sept. 30	Oct. 3		
	Rest Completion	(1,210)	Feb. 14	Feb. 7		
1	Scale Separation	1,794	Mar. 30	Mar. 16	15°F	0°F
2	Blsm Buds Exposed	2,722	Apr. 10	Mar. 21	20°F	6°F
3	Tight Cluster	3,128	Apr. 14	Mar. 30	24°F	15°F
4	First White	4,244	Apr. 22	Apr. 18	25°F	19°F
→ 5	Full White	4,750	Apr. 26	Apr. 21	26°F	22°F
6	First Bloom	5,044	Apr. 27	Apr. 23	27°F	23°F
7	Full Bloom	5,644	May 1	Apr. 25*	28°F	24°F
8	Post Bloom	6,817	May 7	May 2*	28°F	24°F
9	Fruit Growth				28°F	24°F

¹ Critical temperatures from Wash. St. Univ. researchers, Prosser, WA (1964-76) and are based on 30 min. exposure to that temperature.

Crop: APPLE Cultivar: (red) Delicious
 CU Accumulated: 1,240
 Calculated Stage of Development: 5.7

Deviation from normal: -6 days
 Growing Degree Hours Accumulated: 5,266
 Spring T50 temperature (Model): 27 °F

Stage	Description	Req'd. (CU) / GDH	Normal Date	Observed or Estimated (*) Date	Estimated Critical Temperatures ¹ T10	T90
	Begin CU Accum.		Sept. 30	Oct. 3		
	Rest Completion	(1,234)	Feb. 18	Feb. 11		
1	Silver Tip	2,061	Apr. 3	Mar. 18	15°F	2°F
2	Green Tip	2,544	Apr. 8	Mar. 21	18°F	10°F
3	1/2 in. Green Tip	3,100	Apr. 13	Mar. 30	23°F	15°F
4	Tight Cluster	3,939	Apr. 20	Apr. 14	27°F	21°F
→ 5	First Pink	4,856	Apr. 26	Apr. 22	28°F	24°F
6	Full Pink	5,394	Apr. 30	Apr. 24*	28°F	25°F
7	First Bloom	6,172	May 4	Apr. 28*	28°F	25°F
8	Full Bloom	6,933	May 7	May 2*	28°F	25°F
9	Fruit Growth				28°F	25°F

¹ For red Delicious. Critical temperatures prior to petal fall are approx. 1° lower for Golden Delicious and Winesap and approx. 2° lower for Rome Beauty. All varieties are equally tender after petal fall. Temperatures from Wash. St. Univ. researchers, Prosser, WA (1964-76) and are based on 30 min. exposure to that temperature.

NOTE: Current actual bud development (arrow) probably is behind the model.