

## Critical Spring Temperatures for Tree Fruit and Small Fruit Bud Stages

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<b>Pome Fruit</b>									
<b>Apples</b>	Silver Tip	Green Tip	½ inch green	Tight Cluster	First Pink	Full Pink	First Bloom	Full Bloom	Post Bloom
Old temp	16	16	22	27	27	28	28	29	29
10% kill	15	18	23	27	28	28	28	28	28
90% kill	2	10	15	21	24	25	25	25	25
<b>Pears</b>	Bud Swell	Bud Burst		Tight cluster	First White	Full White	First Bloom	Full Bloom	Post Bloom
Old temp	18	23		24	28	29	29	29	30
10% kill	15	20		24	25	26	27	28	28
90% kill	0	6		15	19	22	23	24	24
<b>Stone Fruit</b>									
<b>Apricots</b>	Bud Swell	Bud Burst	Red Tip	First White	First Bloom	Full Bloom	In the Shuck	Green Fruit	
Old temp	--	23	--	25	--	28	--	31	
10% kill	15	20	22	24	25	27	27	28	
90% kill	--	0	9	14	19	22	24	25	
<b>Peaches</b>	Bud Swell	Calyx Green	Calyx Red		First Pink	First Bloom	Full Bloom	Post Bloom	
Old temp	23	--	--		25	--	27	30	
10% kill	18	21	23		25	26	27	28	
90% kill	1	5	9		15	21	24	25	
<b>European Plums</b>	Bud Swell	Side White	Tip Green	Tight Cluster	First White	First Bloom	Full Bloom	Post Bloom	
Old temp	--	--	--	--	23	27	27	30	
10% kill	14	17	20	24	26	27	28	28	
90% kill	0	3	7	16	22	23	23	23	
<b>Sweet Cherries</b>	Bud Swell	Side Green	Green Tip	Tight Cluster	Open Cluster	First White	First Bloom	Full Bloom	Post Bloom
Old temp	23	23	25	28	28	29	29	29	30
10% kill	17	22	25	26	27	27	28	28	28
90% kill	5	9	14	17	21	24	25	25	25
<b>Tart Cherries</b>	Bud Swell	Side Green	Green Tip	Tight Cluster	Open Cluster	First White	First Bloom	Full Bloom	
10% kill	15	24	26	26	28	28	28	28	
90% kill	0	10	22	24	24	24	24	24	
<b>Small Fruits</b>									
<b>Concord Grapes</b>	First Swell	Full Swell	Bud Burst	First Leaf	Second Leaf	Third Leaf	Fourth Leaf		
10% kill	13	21	25	27	28	28	28		
90% kill	-3	10	16	21	22	26	27		
<b>Strawberries</b>	Buds Emerged		Buds Closed			Bloom		Small Fruit	
Damage	10		22-27			28		28	
<b>Blueberries</b>	Bud Burst	Pink Bud	Open Flower		Petal Fall		Green Fruit		
Damage	< 20	< 25	27		28		28		

Old standard temperature is the lowest temperature that can be endured for 30 minutes without damage.

This chart also shows the temperature that will kill 10 % and 90 % of normal fruit buds.

These numbers were taken from Washington (WSU), Michigan (MSU) and North Carolina (NCS) Extension Bulletins. Apple - WSU EB0913, Pears - WSU EB0978, Sweet Cherries - WSU EB1128, Peaches - WSU EB0914, Apricots - WSU EB1240, Tart Cherries - MSU Research. Rpt. 220,

Portions of these bulletins are posted at Gregg Lang's [Fruit Bud Hardiness](#) Page at the [MSU Horticulture Department](#)  
Two others are posted on the web: Concord Grapes - [WSU EB1615](#), Blueberries, [NCS- HIL-201-E](#)

For information on current SW Michigan Fruit Development see the [Fruit Update](#).

For more information on freezing injury see my [Frost Freeze Page](#)



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