

Cherry (sweet & tart) – *Prunus avium* & *Prunus cerasus*

Key Cultivars:

Sweet

- Lapins
- Rainier

Tart

- Montmorency
- North Star
- Jubileum

Climate Risk Notes:

Absolute minimum temperature during dormancy is very dependent on the crop's acclimation to changing temperatures. If changes in temperature are gradual, cherries can survive winters more extreme winter temperatures. However, damage will occur with sudden temperature changes at any level.

Bud break and **spring frost** are factors that are almost impossible to predict but are extremely important when determining the survival of apples. As climate changes, the timing of these events is likely to shift, with early bud break followed by a late frost proving especially detrimental.

Sudden changes in temperature causes physiological stress on plants, making them more susceptible to pest & disease outbreaks in single species cropping systems. Integrated pest & disease management in a changing climate is recommended.

Different cultivars are bred to withstand different temperatures, moisture requirements, and soil types. Our model tries to capture many cultivars in each dataset, but more research must be done to determine the requirement for specific cultivars

Precipitation requirements is very dependent on soil type and soil drainage. Additional information on the specifics of each soil type will need to be ascertained before determining more specific water requirements

	<i>Key Months for Crop (Fruit) Development and Thresholds</i>											
	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV
Stage of growth <i>(under current conditions)</i>	Dormant, Flower buds ^{a, b, i}	Dormant, Flower buds ^{a, b, i}	Dormant, Flower buds ^{a, b, i}	Dormant, Flower buds ^{a, b, i}	Planting, Bud break ^{a, b, i}	Flowering, Fruit set ^{b, i}	Fruit set, Harvest ^{b, i}	Harvest ^{b, i}	Tree growth, Bud development ^{a, b, i}	Tree growth, Bud development ^{a, b, i}	Tree growth, Bud development ^{a, b, i}	Dormant, Flower buds ^{a, b, i}
Min Temp (°F)	-13 ^{a, c, d}	-13 ^{a, c, d}	-13 ^{a, c, d}	-4 ^{a, c, d}	25 ^h	28 ^h	30 ^h	30 ^h	23 ^a	23 ^a	14-23 ^a	-4 ^{a, c, d}
Max Temp (°F)					86 ^{a, c, d, f}	86 ^{a, c, d, f}	95 ^{c, d, f}	95 ^{c, d, f}	95 ^{c, d, f}	95 ^{c, d, f}	95 ^{c, d, f}	

<i>Climate</i>								<i>Soil</i>							
Min Optimal Temp (°F)	Max Optimal Temp (°F)	Min Absolute Temp (°F)	Max Absolute Temp (°F)	Germination Soil Temp (°F)	Growing Degree Days (50°F base)	Chilling Hours (32-45°C)	Min Rainfall (in/year)	Max Rainfall (in/year)	Min pH	Max pH	Optimal Soil Texture	Absolute Soil Texture	Optimal Soil Drainage	Absolute Soil Drainage	Soil Depth (in)
14-45 ^{a, c, d, j}	77 ^{a, c, d, f}	-13 ^{a, c, d, j}	95 ^{a, c, d, f}	NA	NA	200-1500 ^{a, f, g}	12 ^{a, c, d, e}	62 ^{a, c, d, e}	5.5 ^{c, d, h}	7.5 ^{c, d, h}	Loam, silt loam, sandy loam ^{c, d, f}	Clay loam, sandy clay loam, loamy sand ^{c, d, f}	Well drained ^{c, d, h}	Excessively drained, somewhat excessively drained, moderately well drained ^{c, d, h}	24 ^{c, d}

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