

Pistachio Tree Climate, Soil, Water Requirements

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Pistachio Production Requires:

- Climate
- Soils
- Water



Climate: Cannot Freeze

- Tree Death



Climatic Requirements:

- **< 1000 meters**
- **Chill: November - March**
 - **900 hours < 7.5°C**
- **April – October**
 - **3000 heat units > 7.5°C**
 - **30-80% relative humidity**



Climate: Rain or Humidity

- Fungal Diseases:
 - $> 50\%$ RH



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- **Want:**
 - pH 7:00 – 8.5
 - 1.5 - 2m even alluvial soils
 - Good drainage
- **Do not tolerate:**
 - Saturated soils
 - High water table
 - Saline, alkaline soils
 - Sodium, chloride, boron



Water Quality and Quantity:

- **Will live in rainfed conditions:**
 - Need water for commercial production
- **Varies by region: California**
 - 43 acre inches/year = 10,922 M³/hectare
 - Georgia may need less
- **Source:**
 - Groundwater wells
 - Snow-melt canals
 - Rivers



**Tolerate
saline soils:
< 6.00 dS.m**



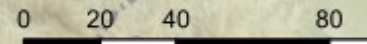
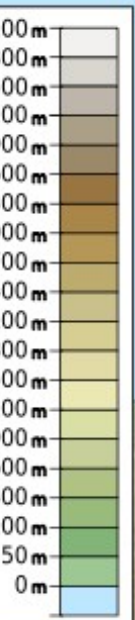
Potential Production Regions:

- **Kakheti: Alazani Valley**
- **Emereti: Kutaisi**
- **Tbilisi: ~40 kilometers surrounding**
- **Kartli: 2 year old trees**
 - **deep alluvial soils**
 - **pH 6-7**
 - **Mediterranean climate:**
 - **Moderate winter cold: $< 7.5^{\circ}\text{C}$**
 - **High summer heat: $30 - 40^{\circ}\text{C}$**
 - **Little spring - summer rain**
 - **Spring - summer relative humidity: $< 60\%$**

Physical Map of Georgia



Black Sea



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