

# Persimmons

**1. Some persimmon varieties contain tannins, which cause astringency. What are tannins? What are other sources of tannins?**

- Tannins are astringent polyphenols found in some plants or unripe fruit that give off a bitter taste.
- Tannins help to bind and build proteins.
- Other sources of tannins can be found in: green tea plants, pomegranates, blueberries, chocolate and red wine. (The skins of red grapes contain small traces of tannins, but they are sometimes compounded during fermentation.)

**2. Persimmons are high in antioxidants. What are antioxidants and what do they do for the body?**

*(Depending on grade level, answers may be more or less scientifically advanced.)*

The burning of nutrient fuel (fats and carbohydrates) to provide energy for bodily functions occurs by oxidation. A constant supply of oxygen is required for these oxidative processes. Even so, if oxidation occurs too vigorously, damage to the body's molecules and tissues can occur. This damage is particularly likely to occur when oxidation occurs by highly reactive oxygen molecules called free radicals. If the body's DNA is damaged by free radicals and is not repaired, the long-term risk for cancer increases.

Antioxidants are chemical substances that help protect the body's cells against damage from cancer-causing free radicals. Common vitamins with antioxidant properties include vitamins A, C and E, carotenoids, and bioflavonoids.

**3. What are the top three persimmon-producing counties in California? Locate on a map. When do these regions harvest persimmons? What similarities are there between these counties (e.g., climate, location, geography)?**

- The top three persimmon-producing counties are:
  - 1) Fresno (4,390 tons)

- 2) San Diego (3,195 tons)
- 3) Tulare (3,030 tons)
- Harvesting takes place from October through mid-December.
- These counties are in warm, sunny areas with temperatures that generally do not drop below freezing.
- Fresno and Tulare counties are inland and do not have high winds.
- Persimmons grown in San Diego are grown more inland and also protected from winds by mountains.

**4. Create a presentation on the five fruit and vegetable color groups. List the key nutrients and health benefits provided by each color group. Of the health benefits, which are most important to you?**

*(Presentations will vary. Lower grade levels should just provide common nutrients found in these groups.)*

<b>Color Group</b>	<b>Key Nutrients</b>	<b>Sample Health Benefits</b>
Red	Lycopene, anthocyanins	Heart health, memory function, urinary tract health; may lower risk of certain cancers
Yellow/Orange	Antioxidants such as vitamin C, carotenoids, bioflavonoids	Heart health, vision health, healthy immune system; may lower risk of certain cancers
Green	Phytochemicals such as lutein and indoles	Vision health, strong bones and teeth; may lower risk of certain cancers
White/Tan/Brown	Phytochemical allicin	Heart health, cholesterol levels that are already healthy; may lower risk of certain cancers
Blue/Purple	Varying amounts of health-promoting phytochemicals such as anthocyanins and phenolics	Urinary tract health, memory function, healthy aging; may lower risk of certain cancers

Sources:

[www.nass.usda.gov/ca](http://www.nass.usda.gov/ca)

[www.pestdata.ncsu.edu/cropprofiles/docs/capersimmons.html](http://www.pestdata.ncsu.edu/cropprofiles/docs/capersimmons.html)

[www.nutritiondata.com](http://www.nutritiondata.com)

[www.fruitsandveggiesmatter.gov/benefits/index.html](http://www.fruitsandveggiesmatter.gov/benefits/index.html)

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