

Climate change to deal blow to fruits, nuts: study

May 30 2011, by Shaun Tandon



Pennsylvania-grown cherries sit on a table for sale at an open air farmers market in Fairfax, Virginia, in 2008. Climate change is expected to alter the global industry in fruits and nuts dramatically as tree crops such as pistachios and cherries struggle in the rising temperatures, researchers said.

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A study said that even if [polluters](#) took greater action to cut [carbon emissions](#), the impact of climate change will likely be severe enough that the nearly \$100 billion-a-year fruit and nut industry needs to reassess planning.

Trees in temperate regions evolved to need a chilly period so they can grow in the spring. Rising temperatures pose a special problem for temperate but comparatively warm areas where the winter chill is already in short supply.

The study, published in May by the online journal [PLoS One](#), expected fruit and nut trees to be highly affected in California, the southeastern United States, China's Yunnan province and southern and southwestern Australia.

Areas that have already seen the worst losses of winter chill include Israel, Morocco, Tunisia and the Cape region of South Africa, the study said.

Common fruits and nuts in the warmer temperate areas include [pistachios](#), which are popular in Iran and California, along with [walnuts](#), [cherries](#) and peaches.

Co-author Eike Luedeling of the Nairobi-based World Agroforestry Centre said that farmers making long-term investments needed to realize quickly that fruits and nuts are more vulnerable than many other crops.



A pistachio wholesaler shows his goods at his shop in Tehran in 2006. Climate change is expected to alter the global industry in fruits and nuts dramatically as

tree crops such as pistachios and cherries struggle in the rising temperatures, researchers said.

"If I'm growing wheat or maize, then from one year to the next I can decide whether to plant a little late or plant a little earlier or plant a different variety," Luedeling said.

"But for trees, you can't. Once you've made a decision to plant a certain crop, you're locked in for 30 years," he said.

Luedeling, who observed the problem of declining yields while researching trees in Oman, said that the economic impact of climate change to fruits and nuts would depend on decisions being made now.

"If farmers wake up to the reality of climate change and start making these adjustments -- switching to cultivars that are appropriate in the future, but not necessarily now yet -- then the disruption to markets could be minimal," he said.

"But if we don't, if farmers believe they can keep doing what their grandfathers have done, then we will see some serious problems," he said.

Climate change is forecast to have less impact on cooler temperate regions and the winter chill may actually increase in some colder regions, the study found.

Co-author Evan Girvetz, a senior climate scientist at The Nature Conservancy, a US environmental group, said cooler regions had a greater window for rising temperatures as they started out with more days of winter chill.

But many warmer areas are "already on that edge of not having enough cold temperatures during the winter for good fruit and nut production," Girvetz said.

"They have years when you don't have enough full production and as we move into the future, we are finding that that's going to become more common," he said.

Even if the world cuts down on greenhouse gas emissions, "we are still projecting that the suitability for growing these crops is likely to decrease," he said.

The UN Intergovernmental Panel on Climate Change in a major report in 2007 forecast that the world would heat up by 1.8 to 4.0 degrees Celsius (3.2-7.2 degrees Fahrenheit) by 2100 compared with pre-industrial levels and that some damage was irreversible.

However, political momentum to fight [climate change](#) has since declined, especially in the United States, with a number of conservative lawmakers raising doubts about the science and saying that action is too costly.

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