



Hectares of Vegetable Crops

This EnviroAtlas national map displays the hectares of land used to grow vegetables within each 12-digit hydrologic unit (HUC). It is based on the United States Department of Agriculture's 2010 Cropland Data Layer (CDL).

Why is the area farmed for vegetable crops important?

Hectares of vegetable crops is one measure of agricultural land use within a 12-digit HUC. Information about the location of crops can be useful for understanding land use. For example, much of the rural land that has been converted to urban uses was previously farmland, and farmland that is located near residential areas is often under development pressure. The area of cropland in the U.S. has been decreasing since the mid-twentieth century due to former cropland being converted to grazing, forest land uses, and urban development. However, about half of U.S. land area is still used for agriculture. Proximity to urban areas can affect farmers' decisions about what crops to grow or what production methods to use.

Vegetable crops can have high economic value and contribute to the economy of a region. Vegetables and fruits generate a high percentage of farm crop cash receipts and export value relative to the amount of land they are grown on, and typically receive few subsidies. Average net income from specialized vegetable and fruit farms more than tripled during the previous decade; the net worth of these farms has also grown.¹ Farms that grow fruits and vegetables are more likely to be in good financial standing compared to other types of farms. Most farm households depend on both farm and non-farm income; however, vegetable & fruit growers receive a greater proportion of their income from the farm than do most farmers, and their average household incomes are well above the national average. When compared to the economic values from grain and soybean production, fruit and vegetable farming have shown greater potential to produce more jobs and higher incomes.

The income from farms affects a wide group of stakeholders, including the farmers themselves, farm laborers, lenders, landlords, and the government. In particular, farms can contribute to the economic well-being of rural communities. Non-metro areas tend to have higher poverty rates than metro areas, and many rural counties that have the highest



rates of job growth also have a high percentage of agricultural jobs.

Local vegetable crops can play a role in people's access to fresh produce. There is evidence that eating fruits and vegetables may prevent some kinds of cancer, reduce the risk of heart disease and stroke, improve digestive health, and protect eyesight.

Hectares of vegetable crops within a 12-digit HUC may be one measure of the amount of produce available from local sources. Locally and regionally grown produce accounts for a relatively small but growing sector of the U.S. agriculture industry. Some consumers prefer to purchase food grown nearby because of perceived freshness and the opportunity to communicate with the producer, keep money in the local economy, and reduce energy consumption. However, the hectares of vegetable crops produced within a HUC are not necessarily indicative of access to vegetables in surrounding areas; some or most of the produce may be sold in other parts of the U.S. or exported.

Currently, 15.6% of U.S. energy consumption takes place in the food system.² Knowing where food is produced is important because the distance between farms and consumers can affect energy use and greenhouse gas emissions associated with producing and supplying that produce. However, distance is only one part of the equation; other factors like farming techniques or the transportation mode used for shipping can have equal or greater impacts on energy consumption and emissions.

How can I use this information?

The map, Hectares of Vegetable Crops, is one of nine maps that provide information about the agricultural productivity of each 12-digit HUC. Additional EnviroAtlas maps show vegetable, fruit and grain yields, the number of types of fruits, vegetables, and grains grown in each HUC, and the hectares of land used for fruit and grain crops summarized by 12-digit- HUC.

This map can show users where vegetables are heavily produced in the contiguous U.S, or the amount of land that is used to grow vegetables near them. The data presented in this map could be used to estimate the economic impacts of agriculture on a region or to analyze foodsheds, the potential sources of food for a region. The data could also be used in conjunction with other maps in EnviroAtlas. For example, it could be compared with maps showing nitrogen deposition or stream impairments to see how vegetable production affects air and water quality.

How were the data for this map created?

The land area used to grow vegetable crops within each 12-digit HUC was measured using the CDL, a map showing locations and types of crops. For detailed information on the processes through which this data was generated, see the metadata.

What are the limitations of these data?

The CDL is produced using satellite imagery, rather than farmer-reported data, and it is an estimation of the truth

based on the best available science. Calculations based on these data are therefore also estimations. Periodic updates to EnviroAtlas will reflect improvements to nationally available data.

Farms also do not necessarily produce the same crops every year; this map might not reflect the current vegetable crop area for a HUC. Accuracy information for the CDL can be found on its web site.

How can I access these data?

EnviroAtlas data can be viewed in the interactive map, accessed through web services, or downloaded. The Cropland Data Layer ([CDL](#)) is available from the U.S. Department of Agriculture.

Where can I get more information?

There are numerous resources available on vegetable crops and agriculture in general; a selection of these resources is below. For additional information on how the data were created, access the metadata for the data layer from the drop down menu on the interactive map table of contents and click again on metadata at the bottom of the metadata summary page for more details. To ask specific questions about this data layer, please contact the [EnviroAtlas Team](#).

Acknowledgments

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Selected Publications

1. Ali, M., and G. Lucier. 2011. [Financial characteristics of vegetable and melon farms](#). Outlook No. (VGS-342-01). U.S. Department of Agriculture, Economic Research Service, Washington, D.C.
2. Pirog, R., T. Van Pelt, K. Enshayan, and E. Cook. 2001. [Food, fuel, and freeways: An Iowa perspective on how far food travels, fuel usage, and greenhouse gas emission](#). Leopold Center for Sustainable Agriculture, Ames, Iowa.
- Fuglie, K.O., E. Ball, and J.M. MacDonald. 2007. [Productivity growth in U.S. agriculture](#). Economic brief number 9. U.S. Department of Agriculture, Economic Research Service, Washington, D.C.
- Harvard School of Public Health. [Vegetables and fruits](#). Accessed January, 2016.
- Kusmin, L. 2012. [Rural America at a glance, 2012 edition](#). Economic Brief No. 21 (EB-21). U.S. Department of Agriculture, Economic Research Service, Washington, D.C.
- O'Donoghue, E., R. Hoppe, D.E. Banker, R. Ebel, K. Fuglie, P. Korb, M. Livingston, C. Nickerson, and C. Sandretto. 2011. [The changing organization of U.S. farming](#). U.S. Department of Agriculture, Economic Research Service, Washington, D.C.
- Peters, C.J., N.L. Bills, J.L. Wilkins, and G.W. Fick. 2009. [Foodshed analysis and its relevance to sustainability](#). *Renewable Agriculture and Food Systems* 24:1-7.
- Swenson, D. 2006. [The economic impacts of increased fruit and vegetable production and consumption in Iowa: Phase II](#). Iowa State University, Leopold Center for Sustainable Agriculture, Ames, IA, USA.