

Rural Migration News

Blog 242

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Vegetables: Global Production and Trade

Vegetables are edible plant matter that, by culinary and cultural tradition, exclude most fruits, flowers, nuts, and cereal grains, but include savory fruits such as tomatoes, flowers such as broccoli, and seeds such as pulses. Vegetables can be eaten raw or cooked. Most vegetables are low in fat and carbohydrates and high in vitamins, minerals and dietary fiber.

Production

The FAO estimated global vegetable production at over a billion tons

from 56 million hectares in 2010. Potatoes and cassava are the leading vegetables by weight, followed by tomatoes and onions.

Over half of the world's vegetables were produced in China, followed by 10 percent in India, four percent in the US, and two percent each in Turkey, Iran, and Egypt.

Trade

Most vegetables are consumed in the country in which they are produced. About five percent of the

world's vegetables cross national borders, compared with 10 percent of fruits.

Trade patterns follow production volumes. The most traded fresh vegetable in 2016 was tomatoes, followed by peppers and chiles, onions, and cucumbers.

The top fresh vegetable exporters in 2016 by value were China (\$9 billion), Mexico (\$7 billion), the Netherlands (\$6 billion including re-exports), and Spain (\$6 billion).

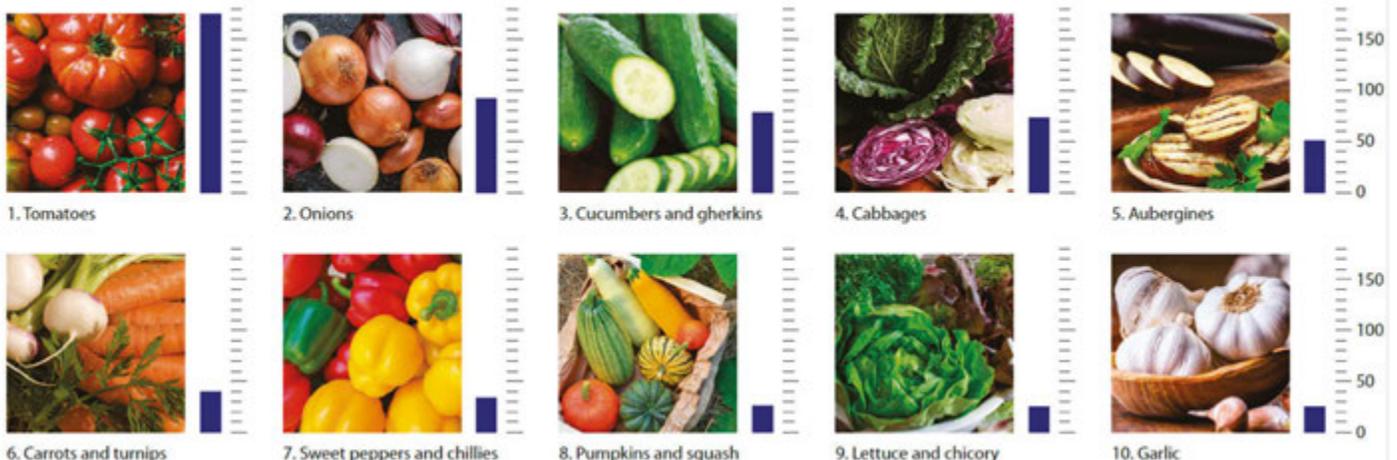
The top fresh vegetable importers in 2016 by value were the US (\$9 billion), Germany (\$6 billion), and India (\$4 billion).

The map of intra-EU trade in vegetables highlights the importance of Spain as a producer and exporter and the Netherlands as a producer and re-exporter of vegetables that arrive in Rotterdam, Europe's largest port.

The global map of trade in vegetables highlights the importance of Mexico as a source of vegetables for the US, China as a source of vegetables for Japan, and Morocco as a source of vegetables for the

Tomatoes and Onions were the Leading Non-Potato Vegetables by Volume in 2017

Top 10 vegetables by global production volume, 2017



EU. India imports vegetables from Australia, North America, and Myanmar.

Controlled Environment

Plants use photosynthesis to convert light energy into chemical energy stored in sugars and starches. Instead of sunlight, more vegetables are being produced under structures that protect growing plants from weather and insects and use artificial light for photosynthesis.

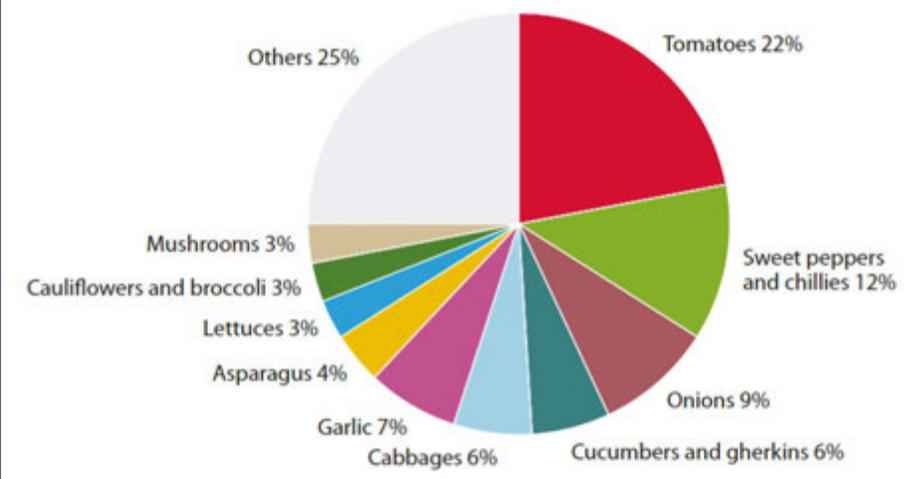
Globally, there are 500,000 hectares of protected structure buildings used to grow vegetables and herbs are grown, including 40,000 or eight percent that are glass houses.

Plants grown in controlled environments use a variety of techniques, from growing in soils to hydroponics. Most protected structure farming involves leafy greens grown in rich countries near consumers willing to pay premium prices; costs are high due to the need to pay for lighting.

China has the largest area of vegetables under protected structures, some 82,000 hectares, followed in Asia by South Korea with 52,000 hectares. Europe has 210,000 hectares of protected structures that are used to grow vegetables, 40 percent of the global total, including 70,000 hectares in Spain and 43,000 hectares in Italy. Turkey has 51,000 hectares of protected vegetable production and Morocco 20,000 hectares. In the Americas, Mexico dominates with 20,000 of the total 37,000 hectares.

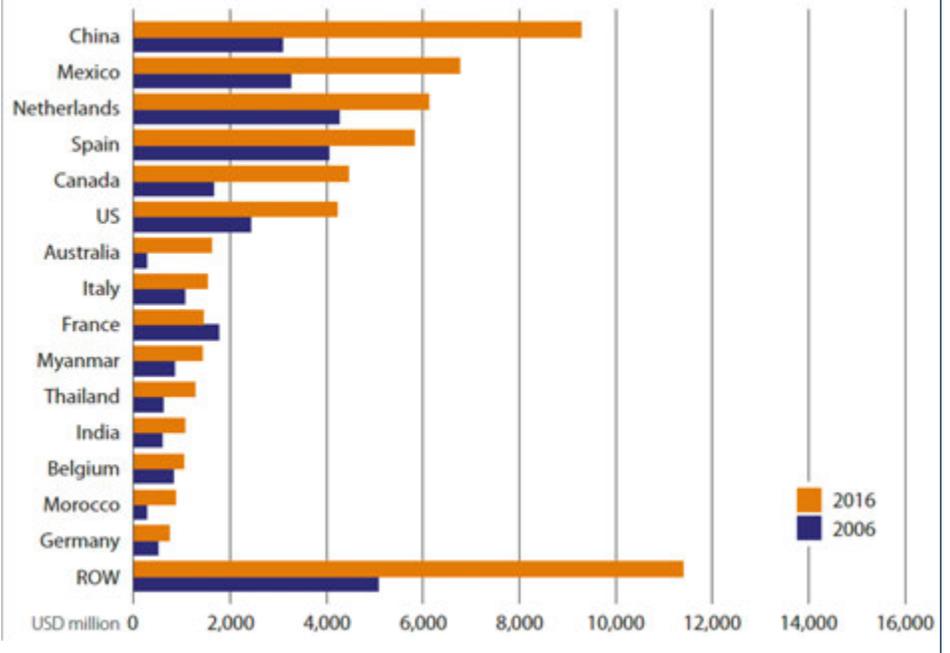
Four Vegetables Accounted for Half of Fresh Vegetables Export in 2016

Top 10 exported fresh vegetables by volume, 2016



China and Mexico were the Leading Exporters of Fresh Vegetables by Value in 2016

Top 15 fresh vegetable export countries, 2006 vs. 2016



References

Rabobank. 2021. World Vegetable Map 2018: More than Just a Local Affair.

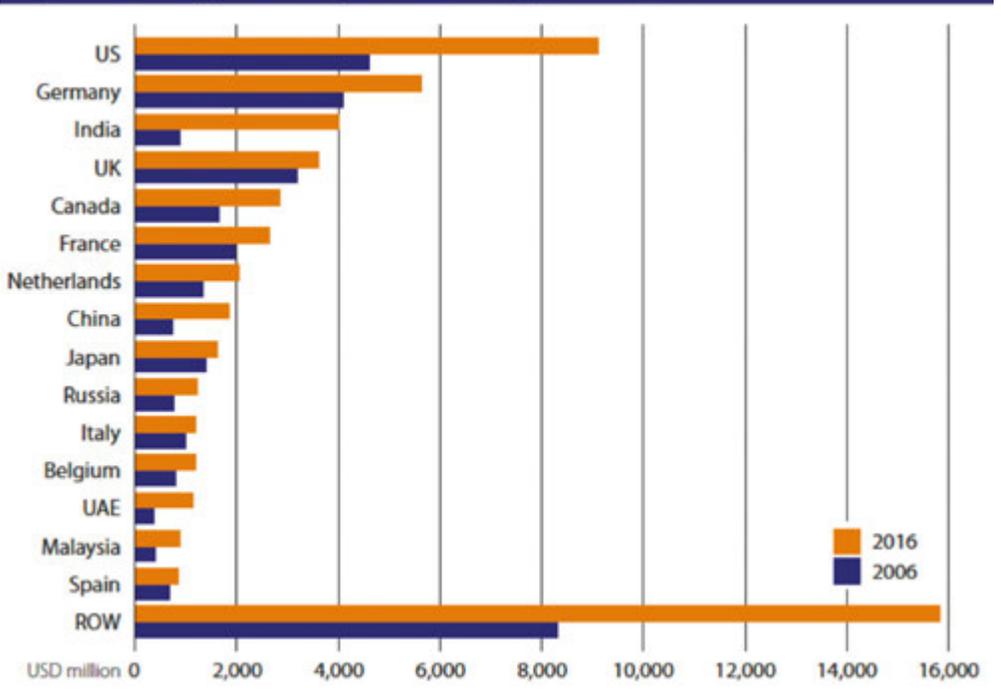
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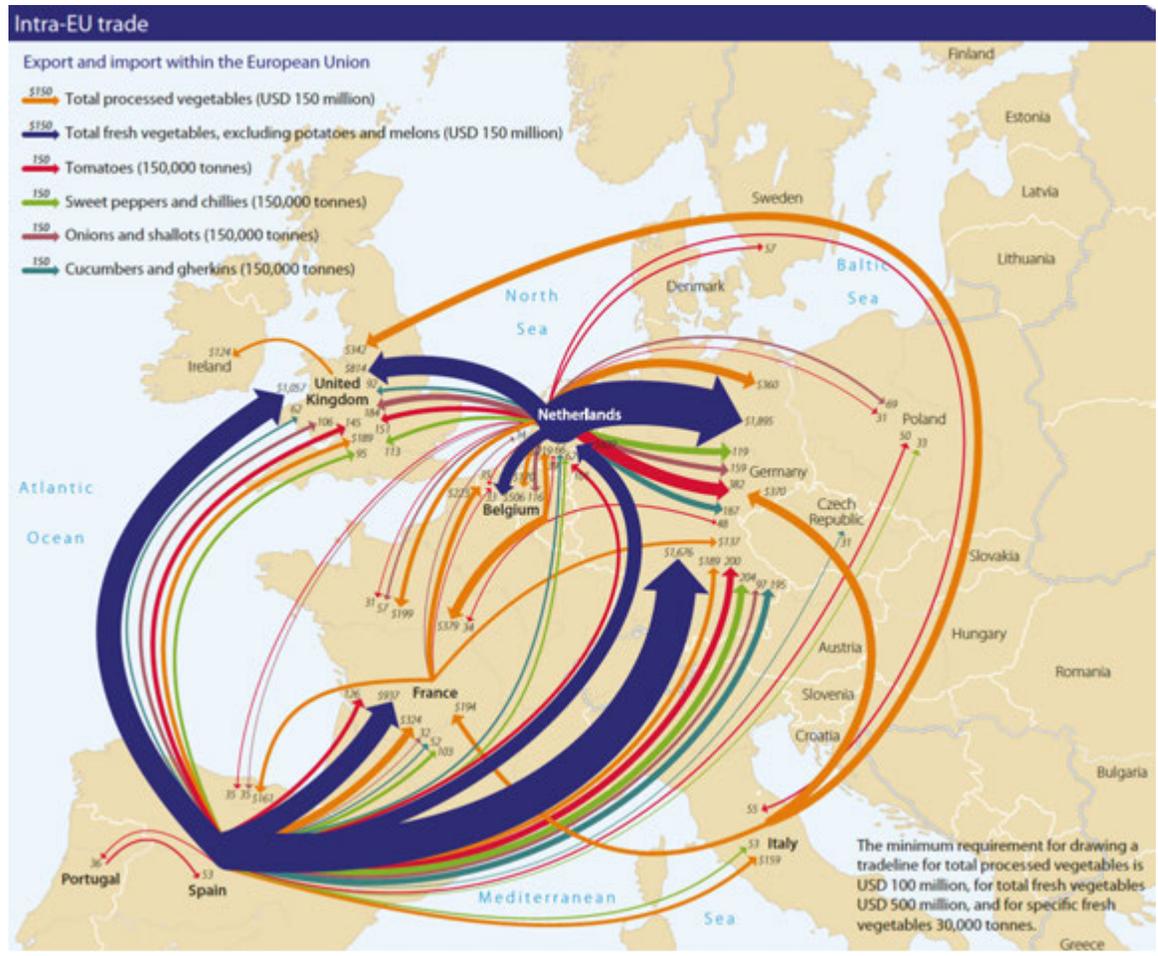
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The US and Germany were the Leading Fresh Vegetable Importers by Value in 2016

Top 15 fresh vegetable import countries, 2006 vs. 2016



Spain Produces and Exports Fresh Vegetables (Blue) to Other EU Countries, While the Netherlands Both Produces and Re-Exports Fresh Vegetables



Mexico Provides ¾ of U.S. Vegetable Imports



Europe has 40% of the 500,000 Hectares of Protected Structures Used to Grow Vegetables

Estimated greenhouse vegetable production area and vertical farming concentrations

Total global area of vegetables and herbs grown in greenhouses (permanent structures) is estimated at about 500,000 hectares, of which about 40,000 hectares in glasshouses and the remainder in plastic greenhouses.

