Foodprints and Foodsheds PROJECT

What Is a Foodprint?

The term "foodprint" has become somewhat of a buzzword in recent years, resulting in a wide variety of definitions. However, consensus among definitions seems to include that a foodprint is a component of an individual's ecological footprint, including all the resources required to support a healthy diet for one person over the course of a year. Foodprints are often discussed synonymously with an individual's contribution to greenhouse gas emissions and subsequent climate change.

One highly important resource that contributes to a person's foodprint is the land required to support a healthy diet, which varies given a number of factors. The model developed in "Testing a complete-diet model for estimating the land resource requirements of food consumption and agricultural carrying capacity: The New York state example" (NYS study) serves as an example of a methodology to determine how diets differ in their land use.[1]

GENERALLY, HOW DO DIETS DIFFER IN THEIR LAND USE?

Strictly vegan diets made up primarily of fruits, grains and vegetables require high-quality land, whereas the land required to support meat- and dairy-producing animals can be much lower in quality.

WHAT METHODOLOGY WAS USED IN THE NEW YORK STUDY TO ARRIVE AT THESE FINDINGS?

Researchers in the NYS study developed and analyzed 42 diets, all of which were based on 2,300 calories per day and consisted of products grown and sourced within the boundaries of New York state. The content of grains, fruits and vegetables generally complied with the recommendations of the U.S. Department of Agriculture's Food Guide Pyramid, though small changes were made in some cases to keep total calories the same across all diets. Dairy was constant across diets. The variables analyzed included varying amounts of meat and the amount of energy supplied by fats.

WHAT RESULTS DID THE NEW YORK STATE STUDY YIELD REGARDING THE MOST EFFICIENT DIET GIVEN ITS LAND BASE?

The study found that a strictly vegetarian diet required less than half an acre to provide the food needs for one person for a year, whereas a diet low in fat and high in meat required more than 2 acres. However, New York state consists of a higher degree of lands suitable for the production of perennial forage crops, or crops that grown back annually, than lands required to support crops that must be replanted annually. Therefore, the most efficient diet (defined in terms of the amount of people who can be fed) given the land base in New York state consists of modest meat intake, which requires a decrease in meat consumption for most American consumers.

In cases in which the available land is all high-quality, the resulting land use could favor a strictly vegan or vegetarian diet, as opposed to a diet high in meat, since land suitable to support forage crops is not as prevalent.

[1] Peters, C. J., Wilkins, J. L., & Fick, G. W. (2007). Testing a complete-diet model for estimating the land resource requirements of food consumption and agricultural carrying capacity: The New York state example. *Renewable Agriculture and Food Systems, 22,* 2, 145-153.