

Science for Environment Policy

Reduced meat consumption in the EU would significantly lessen water usage

A study on how diet can affect water usage in the EU has concluded that a vegetarian diet is the most sustainable, but any reduction in meat consumption would be a move towards more sustainable water use.

This study compared the average [water](#) footprints, a measure of water use which accounts for both direct and indirect requirements, of four different [diets](#) across the EU-27 and Croatia (EU-28). These included the average diet for a European citizen; a healthy diet as recommended by nutritionists; a vegetarian diet and a combined diet midway between the healthy and vegetarian. In the vegetarian diet, meat was substituted with pulses, nuts and oil crops and also contained milk, yoghurt and cheese. The average calorific intake of all diets was 2200 kcal.

The researchers separated water into three categories; blue (freshwater from rivers, lakes and aquifers), green (rainwater contained in the soil), and grey (polluted water associated with the production of goods), to assess the impact of the different diets. The water footprints were calculated using food [consumption](#) data for the region from the Food and Agriculture Organization and the total amount of water needed for production.

The results showed that the current average EU diet requires more water than is available within the EU-28, making the EU-28 a net importer of water. Animal products, including dairy, particularly make up the largest fraction of the water footprint, with a 46% share. Agricultural crops make up 37% of requirements, non-edible agricultural products (such as cotton, leather and rubber) 5%, industrial products 9% and domestic water usage 3%.

The other three diets all had smaller water footprints compared with the current average diet. The water footprint of the vegetarian diet was 38% smaller, the combined diet's was 30% smaller and the healthy diet's was 23% smaller. For the vegetarian diet there was a decrease in requirements of all types of water, with blue, green and grey all showing a reduction, compared to the average diet. Whilst the largest reduction in water consumption was the result of less meat being eaten, there was also a significant reduction from reduced sugar and oil intake in the other diets.

Providing a healthy diet in both an equitable and sustainable way is a local as well as a global challenge. Currently, European citizens over-consume, both in terms of total calories and meat consumption, and so moving towards a greater proportion of fruit and vegetables could be important to a healthy diet and to reducing the total water footprint. This study lends support to the claim that a diet with reduced meat content, as well as having health benefits, would be a more sustainable option.

The study's authors also highlight that water stress is significant in several European river basins, which may reduce the sustainability of agricultural food production local to those catchments. They therefore recommend conducting an analysis of the maximum sustainable amount of water per catchment available for food production.



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