

SECTION 1 FACT CHECK SOY DRINK

Conventional dairy farming is considered a climate killer. Industrial agriculture, factory farming, and feed production harm the environment. Many are therefore looking for alternatives and switching to plant-based drinks. But is this really more sustainable?

Fact check SOY DRINK



In Europe, soy drink is the bestseller among plant-based milk alternatives. Its composition is most similar to that of conventional cow's milk. With three to four grams of protein, soy drink provides the same amount of protein, but has a lower fat content and fewer calories. Depending on the variant, it provides between 27 and 54 calories per 100 ml. Compared to cow's milk, it contains four times the amount of folic acid. Its taste is slightly earthy and nutty.

Despite all this, the health aspects of the soy drink are also controversial. Rumors about hormone-like or even carcinogenic ingredients are circulating. So far, however, there is no solid evidence of this. However, the soy protein contained in the drink is said to cause food allergies.

The cultivation of soybeans is particularly criticized in South America. Large areas of rainforest there are falling victim to it. The pesticides used are supposed to protect the huge monocultures and pollute the soil and groundwater. Genetically modified seeds are also frequently used and reach us mainly as animal feed. According to the "Albert Schweizer Stiftung", however, the soybean for milk comes mainly from Europe, where it is cultivated in a more resource-friendly way.

Soy drink is a form of cereal milk. It is made from soybeans. In the EU, it is therefore not allowed to be sold as milk, but is marketed as a soy "drink," among other things. Soy drink is often available for just under 99 cents and is thus only slightly higher than the usual milk price.

As for the eco-balance....

Gather more information on the crop soybean to complete tasks 1-4.

1. In which countries is soy produced? What is the production volume in tons? Use the world map
2. describe the cultivation conditions. Are fertilizers and/or pesticides used?
3. who exports soy? Describes the world trade.
4. how is soy drink made? Outlines the technical process.

TASKS

Compare the tables in the DATA SHEET (SECTION 2). These values come from studies by the Water Footprint Network, the Öko-Institut and Statista. Other sources include the work of Mekonnen & Hoekstra (2010) and Poore & Nemecek (2018).

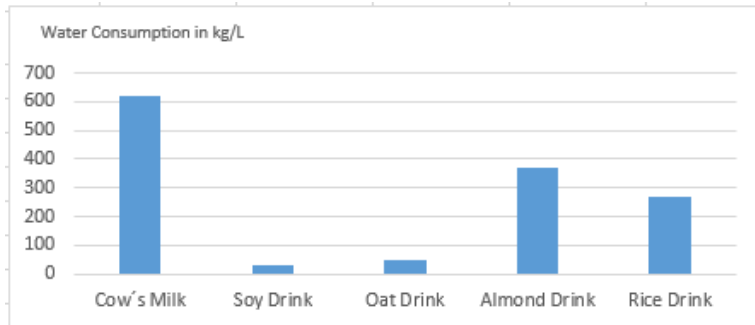
Gather more information about the crop soybean to complete Tasks 1-4.

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2. Describe the conditions of cultivation. Are fertilizers and/or pesticides used?
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SECTION 2 DATA SHEET (key data on water consumption, CO₂ footprint and land use)

Water consumption of cow's milk and plant-based drinks compared 2018

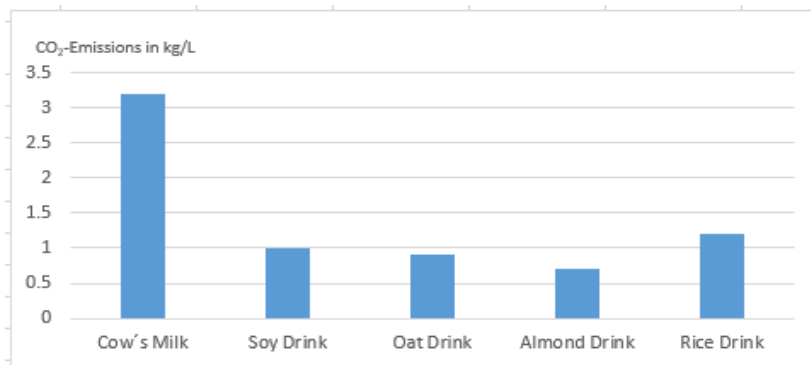
In terms of water consumption, plant-based drinks achieve a better eco-balance than cow's milk. While around 623 liters of water were consumed for one liter of cow's milk in 2018, the water consumption for the production of soy drink was only 28 liters.



	Water Consumption in kg/L
Cow's Milk	623
Soy Drink	28
Oat Drink	48
Almond Drink	371
Rice Drink	270

CO₂ emissions of cow's milk and plant-based drinks in comparison 2018

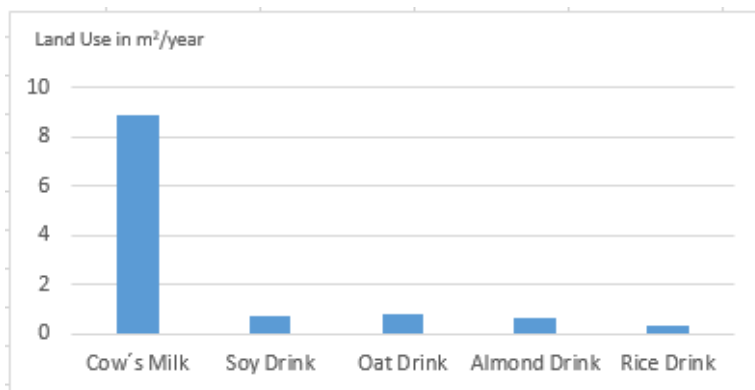
In terms of CO₂ emissions, plant-based milk achieves a better eco-balance than cow's milk. While around 3.2 kilograms of carbon dioxide were emitted in 2018 for one liter of cow's milk, CO₂ emissions in the production of almond drink were 0.7 kilograms.



	CO ₂ -Emissions in kg/L
Cow's Milk	3.2
Soy Drink	1
Oat Drink	0.9
Almond Drink	0.7
Rice Drink	1.2

Land consumption of cow's milk and plant-based alternatives in comparison 2018

In terms of land consumption, plant-based milk achieves a better eco-balance than cow's milk. While around 8.9 square meters were required for one liter of cow's milk in 2018, the land required for the production of soy drink was only 0.7 square meters.



	Land Use in m ² /year
Cow's Milk	8.9
Soy Drink	0.7
Oat Drink	0.8
Almond Drink	0.6
Rice Drink	0.3

TASK: Create an overview chart for the 5 products and discuss their life cycle assessments. The reference value should be one liter of cow's milk or plant-based drinks.

These values come from studies by the Water Footprint Network, the Öko-Institut, FAOSTAT and Statista.



SECTION 3 FACTS TABLE WITH GROUP DISCUSSION - EXPERT ROUND TABLE

Cow's Milk substitutes: What the plant-based alternatives can do

In some refrigerators, plant-based milk alternatives have now displaced classic cow's milk. In any case, cow's milk is ahead in terms of price. While it is sometimes offered for as little as 78 cents, consumers often think twice about whether they really need the almond drink e.g. for around 2 \$. Obviously, cow's milk consumption continues to be a subject of debate.

We want to shed some light on the subject and present some representatives of milk alternatives. From a purely legal point of view, only animal milk from cows, goats or horses is entitled to the name "milk". Most plant-based milk representatives therefore adorn themselves with the title "drink," which not infrequently causes additional confusion among consumers.

Overview of arguments pro / contra milk and plant-based alternatives	
SOY DRINK	
Animal Welfare	
Factory farming	
Handling calves	
Life expectancy	
Attitudes	
other	
ecological reasons	
Land consumption	
Water consumption	
other	
Health	
Vitamin B12	
Calcium	
Allergies	
World population, hunger	
economic reasons	

Other arguments:

The great advantage of the vegetable alternatives is the absence of cholesterol and lactose. In terms of taste, some products are not convincing in their natural form. Manufacturers often add sugar, additives and flavorings, which quickly turns the supposedly healthy drink into a calorie bomb. In this case, it is worth taking a look at the nutritional information on the packaging. The missing calcium is now also added industrially to most milk alternatives.