The world consumes trillions of virtual gallons. Sever a pound of beef and you are also serving up 1,857 gallons of water. A cup of coffee? That’s 37 gallons, enough to fill the average bathtub. Pull on a pair of jeans and you’re soaking in 2,900 gallons. This is our freshwater consumption we don’t directly see. It’s called virtual water: the amount of water used to create a product. The concept was coined by geographer Tony Allan of King’s College London in the early 1990’s to explain why Middle Eastern countries, with limited water resources, were not in outright wars over water. His answer? They imported food—food grown with other countries’ water. Dutch scientist Arjen Hoekstra and colleagues at UNESCO and the University of Twente later calculated the virtual water in commodities as a tool for water management and to give countries, companies and individuals a clearer measure of their water footprint.

VIRTUAL-WATER FLOW
Trillions of gallon of virtual water are transferred in the global trade of agricultural products – comparable to the volume of water that yearly flows down the Congo River. Regions leading in beef and grain exports are the top exporters of virtual water. To feed a growing population, experts say that water-use efficiency will need to double in the next 20 years. Weighing the export value of a crop against its impact on the local water supply, and charging more to reflect the water’s value, could become part of the equation.

MEAT
The virtual water in cattle, pig and fowl is the water they drink and the water used to grow their feed and clean their waste.

Gallons used to produce one pound of :
Beef 1,857 gallons  Pork 756 gallons  Sheep 731 gallons  Chicken 469 gallons

ANIMAL PRODUCTS
Virtual-water totals include the water used to raise the animals and process the edible end product.

Gallons used to produce one pound of :
Sausage 1,382 gallons  Cheese 589 gallons  Eggs 400 gallons  Yogurt 138 gallons

FRUITS AND VEGETABLES
Both rainwater and irrigation water are included in virtual-water totals.

Gallons used to produce one pound of :
Figs 379 gallons  Plums 193 gallons  Cherries 185 gallons  Banana 103 gallons  Apples 84 gallons  Grapes 78 gallons  Oranges 55 gallons  Strawberries 33 gallons  Avocados 154 gallons  Corn 109 gallons  Beans 43 gallons  Potatoes 31 gallons

COMMONS GOODS
Cotton is a water-intensive crop-and heavily fertilized. Nearly 15 percent of the virtual water in cotton goods represents water used to dilute wastewater for fertilized fields plus the water used to transform cotton into fabric. Coffee requires about the same amount of water as tea to grow, but it ranks far higher in virtual water because of the lower yield of end product per acre. That doesn’t make drinking coffee a bad choice: More important than any product’s virtual-water total is whether the region it comes from has sustainable water to grow the crop.

Gallons used to produce one :
Blue jeans 2,900 gallons  Hamburger 634 gallons  Cotton T-Shirt 766 gallon  Glass of Milk 53 gallons  Cotton Bed sheet 2,800 gallons  Cup of Coffee 37 gallons  Glass of Wine 32 gallons  Glass of Beer 20 gallons  Cup of Tea 9 gallons

Virtual-water totals given here are global averages. They will vary by region, depending on farming practices and how raw materials are processed.