

Meet the super-nutritious new pasta with a greener footprint

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The more environmentally minded and diet-conscious among us may soon be tinkering with age-old Italian recipes after scientists have shown a tasty new pasta made from chickpeas greatly improves the environmental sustainability and nutritional quality of one of humanity's most popular food chains.

For the millions of us who love Italian [food](#) a delicious bowl of [pasta](#) is one of the images we will conjure when asked to visualise our favourite meal.

But new research shows that traditional pasta—made from wheat—very much falls into our modern food system characterised by unsustainable agricultural practices that use environmentally damaging nitrogen fertilisers, and an over-consumption of nutrient-poor foods that contribute to non-communicable disease and malnutrition.

In contrast, the chickpea pasta developed by the Bulgarian company Variva, and assessed in terms of environmental burden and nutrient density by scientists from Trinity, the University of Bangor and the Catholic University of Portugal, negates many of the issues that spring from producing wheat.

The chickpea pasta, when cooked, contains 1.5 times more protein, 3.2 times more fibre, and 5 times more essential fatty acids than durum wheat pasta. Additionally, it is more filling—so you need smaller portions—and it mitigates global warming impacts as the associated

resource use and eutrophication values are 79—95% less than those associated with durum wheat pasta.

Sophie Saget and Mike Williams from Trinity's School of Natural Science, are co-authors of the research article, which was recently published in the peer-reviewed journal *Sustainable Production and Consumption*.

Professor Williams said:

"This pasta provides another excellent example of how legumes—such as lentils, beans, and the chickpeas that are used in this case—can be incorporated into conventional diets with significant benefits to our health and nutrition and the environment, which is under increasing pressure from current agricultural practices. The higher protein content of chickpea pasta could also contribute towards wider environmental benefits if we were to substitute it for some of the [animal protein](#) that typically takes up too big a part of many Irish and European diets.

"People can be slow to change their habits, especially when it comes to our diets and substituting foods that have been commonly eaten and enjoyed for a long time. But tastes adapt quite quickly, and humanity will have to adapt very quickly to meet the nutritional demands of a rapidly increasing [global population](#) while safeguarding our already fragile environment that is key to feeding billions of mouths.

"Happily, this [chickpea](#) pasta is very tasty and has a subtle, nutty flavor. We recommend cooking it al dente and adding a typical pasta sauce of your choice to achieve a taste and texture that is very similar to the traditional one."

More information: Sophie Saget et al. Substituting wheat with chickpea flour in pasta production delivers more nutrition at a lower

environmental cost, *Sustainable Production and Consumption* (2020).
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