

# Modifying British wheat with 'magic' mineral will make healthier bread, scientists say

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Britain would be healthier if wheat farms were treated with an important mineral to produce more nutritious bread, scientists have claimed.

Crops in Britain have never been altered for human health reasons in this manner, but Professor Steve McGrath, of Rothamsted Research, said that adding selenium to fertilisers would have a wide range of health benefits.

The proposal has angered campaigners, who have compared it to what they call the mass medication of the population through fluoridisation of water supplies.

Selenium is associated with a strengthened immune system, slower cognitive decline and lower cancer rates, but Britain is consuming only about half the recommended amount. Government guidelines recommend a daily dose of 60 micrograms for women and 75mg for men.

"We now know how to correct this problem by adding small amounts of selenium to fertiliser," Professor McGrath told the British Science Festival at the University of Surrey. "The aim is to boost amounts of selenium in cereal products, particularly wheat, so that three or four slices of bread per day made from wheat that had been fortified would give us the right amount of selenium."

He believes that this could be done without risks to health or the environment because only very small amounts of the mineral are needed. His research suggests that adding about 20 grams of selenium per hectare of wheat would give 10mg in each slice of bread.

Such tiny amounts minimised any environmental risk, he said. "The next year there is no detectable selenium in the soil. That minimises risk of any build-up in the environment."

Professor McGrath said that Fin-

land had been successfully treating its wheat with selenium for 30 years. In Britain, some pastureland has been grown with selenium-enriched fertiliser, and Professor McGrath said that animals grazing on it were healthier as a result.

Studies in the US suggest that people with the right amount of selenium in their body had a mortality risk that was 20 per cent lower than normal over a 12-year period. Those with British levels of the minerals had a risk 40 per cent higher than average.

Margaret Rayman, Professor of Nutritional Medicine at the University of Surrey, said that although it was difficult to quantify the risks in Britain it was clear that we should be getting more selenium. "We have a long way

Se<sup>34</sup>

is the symbol in the periodic table for selenium. It is associated with a strengthened immune system and lower cancer rates

to go before our mortality goes to a minimum."

In the US, soil naturally rich in selenium ensures that Americans get enough of the mineral. Until a few decades ago, imported American wheat meant that Britain was also getting enough. But as we have replaced it with home-grown wheat our selenium intake has declined.

Other dietary changes may also play a part — liver and kidneys are a rich source and fish and Brazil nuts also contain high levels of the mineral. Professor McGrath said he hoped to persuade supermarkets to demand that their suppliers use selenium-enriched fertilisers.

A spokesman for the Department of

the Environment, Food and Rural Affairs said that it had no plans to adopt such a scheme. However, Stuart Jeffery, the Green Party's health spokesman, said however: "We are opposed to mass-medication, which this would clearly be. It's wrong whether its fluoride in water or minerals in wheat."