

All-organic farming could increase UK emissions: study

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An all-out shift to organic farming in England and Wales could lead to a net increase in Britain's greenhouse gas emissions as a drop in yields



would lead to higher food imports, scientists estimated Tuesday.

While going organic creates lower emissions per foodstuff—up to 20 percent lower for crops and 4 percent for livestock—it also makes farming less efficient, as fertiliser use encourages food to grow quicker.

A team of researchers from Cranfield University found that direct emissions from farming in England and Wales would go down if the <u>agriculture sector</u> ditched nitrogen-based fertilisers and went fully organic.

But yields would drop by up to 40 percent, meaning more land would need covering to pasture and cropland to make up for the losses—thereby contributing to a net increase in planet warming greenhouse gases.

"Although there are undoubted local environmental benefits to organic farming practices, including <u>soil carbon storage</u>, reduced exposure to pesticides and improved biodiversity, we need to set these against the requirement for greater production elsewhere," said Guy Kirk, professor of soil systems at Cranfield.

The farming sector contributes upwards of a quarter of all manmade emissions globally, and a string of high profile reports in recent years have warned that unsustainable mass-scale agriculture imperils the Paris climate goals.

While nitrogen-based fertilisers release powerful greenhouse gases, livestock release methane on a mass scale, leading some to call for diets lower in meat in developed nations.

Tuesday's study, published in the journal *Nature Communications*, found that purely <u>organic farming</u> would increase <u>beef cattle</u> and sheep



numbers due to increased pastureland, while pigs, poultry and eggs would decrease, largely because of a lack of concentrated feed.

The authors said that a net reduction in <u>greenhouse gas emissions</u> if Britain went fully organic would only be achievable in conjunction with "widespread changes to national diets".

More information: The greenhouse gas impacts of converting food production in England and Wales to organic methods, *Nature Communications* (2019). DOI: 10.1038/s41467-019-12622-7, www.nature.com/articles/s41467-019-12622-7

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