Twitter Thread by George Monbiot

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I've just finished some research about the use of biosolids (human sewage sludge) as farm manure. The results will keep me awake at night.
¾ of biosolids in the UK are spread on farmland. The rules about what it can contain are not fit for purpose. Please read and share this ■

Biosolids typically contain a wide range of synthetic chemicals, including antibiotics and other pharmaceuticals, personal care products, microplastics and persistant organic pollutants, among them "forever chemicals". Yet testing is restricted to a small number of contaminants.

Spreading them across the land means spreading them through the foodchain and the ecosystem. There's plenty of evidence of uptake of many of these chemicals by crops, earthworms and other soil animals, and of large-scale antibiotic resistance developing among soil bacteria.

When soil is blown or washed off the land, these chemicals enter the air and water. Some seep into groundwater. We're likely to eat, drink and breathe them. It's hard to say what the health thresholds are, or what the combined impact of this cocktail of synthetics might be.

Yet the issue has been wilfully neglected by governments. Regulation is negligible. Farmers in the UK are "responsible for knowing the levels of any potentially toxic elements" before spreading sludge. But how? With an on-farm lab that can test for 80,000 possible contaminants?

There's no enforcement anyway. Even if there were strong rules, the crippling of the regulatory agencies by government cuts would ensure they remained a dead letter. There are scarcely any inspections or enforcement even of the existing rules.

What is the cumulative impact on human health?
What is the cumulative impact on ecosystems?
We haven't the faintest idea.

One thing I haven't discovered is whether biosolids are also being sold as garden fertilisers. I can't find any garden fertiliser or manure application on sale which states that sewage is the source. Does anyone know?

In theory, we *should* be able to use biosolids to grow food. Closing the nutrient loop is an important aspect of the circular economy. But at the moment, in closing the nutrient loop we are opening the chemicals loop, spreading potentially dangerous toxins far and wide.