GOLD NUGGET

What If the World's Soil Runs Out? It's a strange notion, but some experts fear the world, at its current pace of consumption, is running out of useable topsoil. ***University of Sydney professor John Crawford talks on the seismic implications soil erosion and degradation may have in the decades to come. Part 3***

Why is the food system broken? *(Continued)*
Governments have not got this right. We're subsidising unsustainable food production systems at the cost of our health and our environment. Soil is not costed into food, which means that farmers don't have the financial capacity to invest in their soil to turn the situation around. Crop breeding is exacerbating this situation. Modern wheat varieties, for example, have half the micronutrients of older strains, and it's pretty much the same for fruit and vegetables. The focus has been on breeding high-yield crops which can survive on degraded soil, so it's hardly surprising that 60% of the world's population is deficient in nutrients like iron. If it's not in the soil, it's not in our food.

What should be done about this?
Significant progress is technically quite straightforward. There's a lot we can do, we just have to choose to do it and provide the right support where it is needed.
First-off I'd focus on getting carbon back into the soil by reversing bad farming practices like

- tillage,
- nutrient mismanagement,
- removing stubble
- and over-grazing.

We can add manure and consider using human waste from cities as fertiliser, instead of just flushing it all out to sea.

In the longer term, breeding targets need to focus more on human nutrition as well as productivity, and on traits that improve the soil. We need to find new ways of bringing together scientists and farmers to harness the expertise of both. From a policy standpoint, probably the most important thing is to find pricing mechanisms that take into account the environmental, health and other costs of a broken system. Farmers need to be appropriately rewarded for regenerating the environment and producing food that supports a healthier society.

Finally we need to recognise that this is a global problem that would benefit from a global approach. We don't need to reinvent the wheel in each country, and we don't have time to do so. It takes decades to regenerate soil. I find it quite ironic that while the Mars Curiosity Rover is poking around looking for life in Martian soil, we're in the process of extinguishing life in our own.

Farming Secrets says: ***Adopt farming practices that grow your topsoil***
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