

Carbon in plants is only sequestered temporarily, and only a portion of soil organic matter is stably sequestered over a several- year time span.

I've read that trees in our woodlands (maple, etc) are sequestering about 1.4 to 2.3 tons of carbon from the air per year. Much of that wood is maple that goes in to making furniture from our logging so that means it is sequestered for the life of the tree (70 years?) plus the life of the furniture. About half is left on the forest floor and composts to become part of the top soil in time. Some gets burnt so it only sees about the 70 years of sequestering.

Note that the half on the forest floor doesn't simply melt into the soil. Just like a field of mowed hay loses dry matter overnight to the atmosphere, some of the carbon in forest litter is also lost back into the atmosphere.

How much and what mechanism? Sure the water is lost but is the carbon being breathed out by organisms that are decaying the wood? Watching it decay it seems that most of it goes down into the forest floor but I haven't taken weight measurements. Any percentages? Likely similar to a compost pile.

Any calculations on how many acres of forest it takes to offset one cow's lifetime of farts? Or perhaps I should ask that the other way around, how many cows are offset per acre of forest? I'm not sure how much carbon a cow farts and belches per year.

250 to 500 L of methane per day per cow (J. Anim Sci, Vol 73, Issue 8 2483-2492).

That sounds like a lot but what is it really? Under what pressure? Slightly above atmospheric I would suspect. Without knowing that we don't know how many moles and how much carbon. So how much carbon does that really amount to compared with say to burning a gallon of gasoline when one drives a vehicle? It is so out of context as to be hard to relate to. It would be best to keep it all in the same units which for the general discussion seems to be tons of carbon.

The point about misplaced concern is well taken. The paper above estimates cattle contribute 2% of the overall greenhouse gasses

That 2% must be compared with the percent that would be generated to replace that meat with vegetables for people to eat which is highly petroleum intensive farming with all the harvesters, transport, storage, processing, etc. Meat is very nutritious food. A little goes a long ways. It takes a lot of veggies to replace meat which means a much higher amount must be grown to replace the cows than just a 1:1 ratio. I'm willing to hazard that the difference between the two is a fraction of a percent so I'm not going to get excited about that. I'll grow a couple of extra trees.

Then there's the fact that the cows produce valuable manure and other 'byproducts' which I never seen taken into account in these sorts of articles. Manure was the reason we originally got livestock. It's black gold and I need it to grow good veggies and fruit.

This whole worrying about a tiny fraction of a percent (after offsetting the veggies to replace the meat) is rather like the Vermont legislature wasting so much time debating global warming and other grand political issues while our bridges and roads fall apart and our taxes go up because of excessive educational system costs. We need to be focused on the things that really make a difference.

which is similar to the more recent NY paper I cited and gave a link to earlier. The UN's dire assessment was critical of deforestation and overgrazing in semi-arid environments - these aren't major issues in Vermont.

Very good point. And that large scale deforestation is caused by large scale farming for the most part from what I have read. Huge cattle ranges that are tens of thousands of acres. Different kettle of fish.

We started down this road with an article that differentiated between the environmental effect of animals fed only forages from animals fed grain. This comparison needs to take into account the differences in methane production from forage versus grain, and that difference negates some of the environmental cost of producing grain. I have heard reports that it (combined with the longer lifespan) negates all the benefit, but I have been unable to confirm them with published research.

Given that the difference is such a small percentage (<<1%) of the overall issue and there are so many other causes that are orders of magnitude more important it seems that it isn't worth wasting much effort on this other than as a thought exercise. I would rather not see my taxes wasted on discussions of how many legislators can recite Goreisms on the head of a pin. In the process they may generate more CO2 than they discuss.

As to magazine articles, the one in question is written for the popular press. I didn't get the impression it was really focused much on real scientific thought. It is emotion that sways the masses, not logic. That's why it was written where it was.

Cheers,

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