

CLIMATE CHANGE & FARMING

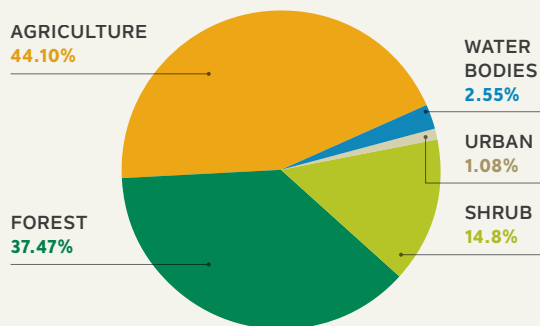
Q&A WITH RODALE INSTITUTE'S CLIMATE SCIENTIST MICHAEL GRAHAM, PHD

With so much talk about farming, greenhouse gases, and climate change, it can be difficult to separate fact from opinion. We asked our climate scientist to clear the air.

WHY IS FARMING SUCH A BIG DEAL FOR CLIMATE CHANGE?

Dr. Graham: Over 44% of Earth's habitable land is used for growing crops and rearing livestock. Because of this massive footprint, the way in which we farm — whether or not we use synthetic fertilizers and pesticides, how we manage livestock grazing, how we preserve soil health — has an oversized impact on the environment and climate.

HABITABLE LAND USAGE



Data source: UN Food and Agriculture Organization

HOW DOES FARMING IMPACT THE CLIMATE?

Dr. Graham: Primarily through greenhouse gas emissions. Conventional crop farming relies on synthetic fertilizers. As they break down, these chemicals emit nitrous oxide, a greenhouse gas 273 times more harmful to our atmosphere than carbon dioxide. Similarly, 99% of livestock farms use Confined Animal Feeding Operations (CAFOs), a harmful practice that elevates methane gas emissions. This doesn't even take into account the fossil fuels used to manufacture, transport, and distribute synthetic fertilizers, pesticides, herbicides, and feed.

BUT WE NEED FARMS. SO WHAT CAN WE DO?

Dr. Graham: Farming is a necessary human activity. It's *how* we farm that makes all the difference. At Rodale Institute, we're uncovering the best ways to grow crops without harmful chemical fertilizers and pesticides, how to rear livestock without CAFOs, and how to maximize the soil's potential for sequestering carbon. At the moment, **less than 1% of US farms are using these proven regenerative organic practices**, and we need that to change.

DR. GRAHAM'S **TOP FIVE WAYS** YOU CAN FIGHT CLIMATE CHANGE



Learn more at
RodaleInstitute.org

1



Advocate for climate action.

Support the transition to low-carbon and renewable energy sources like wind, solar, and geothermal, and vote for elected officials who also support it.

2



Reduce food waste.

When we waste food, we also waste the energy and greenhouse gas emissions it took to produce that food. Buy and make only what you will eat, and compost food scraps to keep them out of landfills.

3



Eat less meat.

99% of the meat consumed in the US comes from Confined Animal Feeding Operations (CAFOs), a major source of greenhouse gas emissions. When you do choose an animal protein, go for local, pasture-raised options.

4



Drive less.

Consider walking, riding a bike, or using public transportation whenever possible. When you do need to drive, plan your route to reduce mileage and, if possible, drive an EV or hybrid vehicle.

5



Support Rodale Institute.

Help us transition more conventional farms to regenerative organic farms, train a new generation of organic farmers, and continue doing the vital science that is directly addressing the climate crisis.



MICHAEL GRAHAM, PHD, CLIMATE SCIENTIST

Dr. Graham studies soil tillage, carbon, and climate with remote sensing and modeling at Rodale Institute.