

Industrial Agriculture versus Agroecology: Which is Better for the People and the Planet?



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Beef production supplies less than 5% of the protein and 2% of the calories for people in the world, but uses about 60% of the world's agricultural land.



1 serving of beef > 20 servings of vegetables



Ruminant meats (beef and lamb) have GHG emissions per gram of protein that are about 250 times those of legumes.

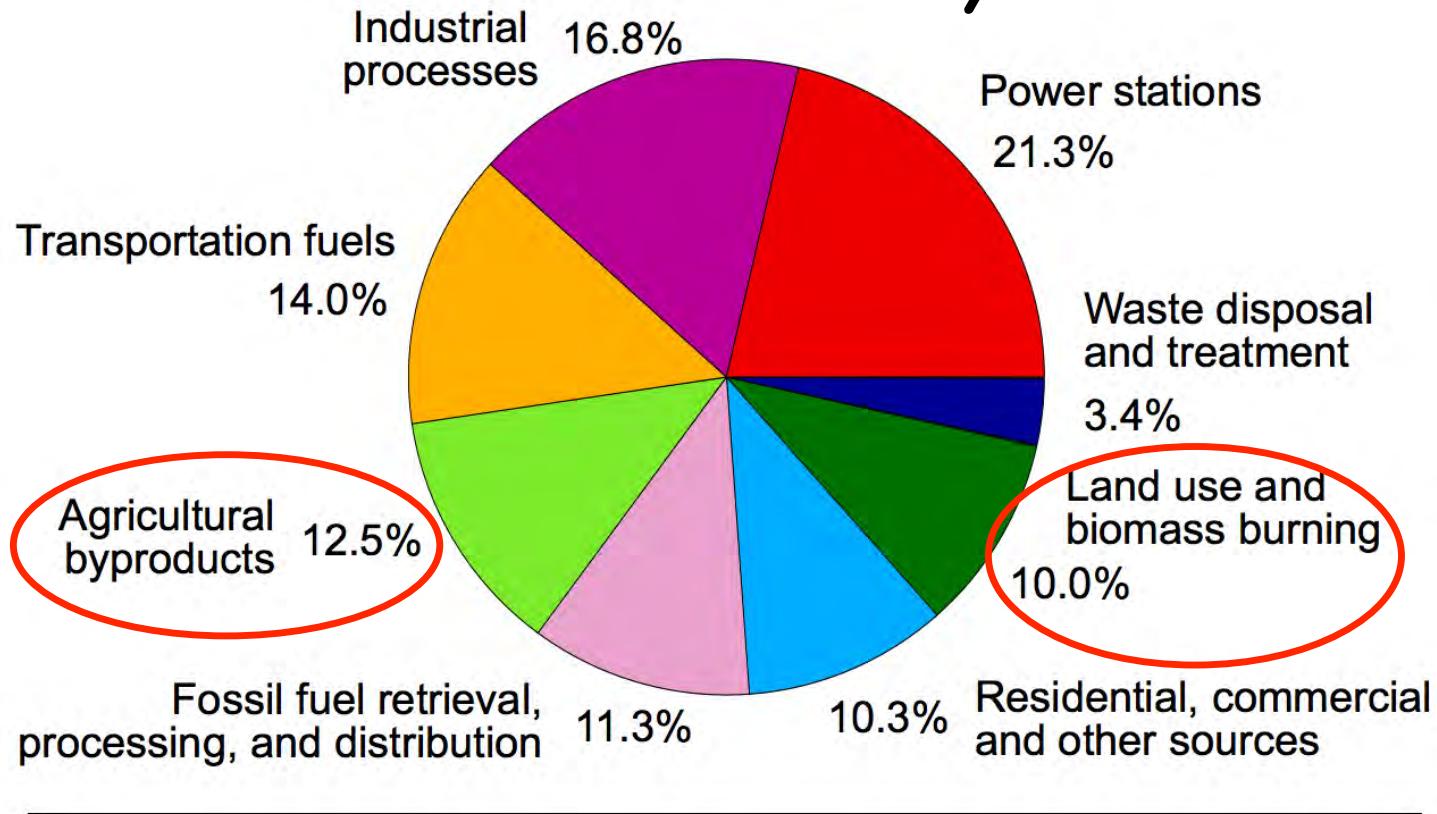




From the book, "Hungry Planet: What the World Eats" by Peter Menzel
and Faith D'Aluisio

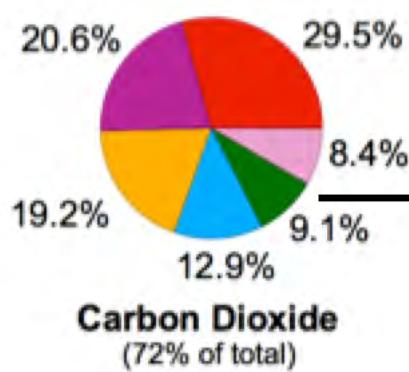
Agricultural production is responsible for about 22-25% of global greenhouse-gas emissions

Annual GHG Emissions by Sector



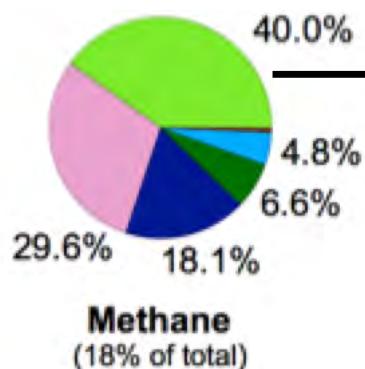
1/3 of GHG emissions from the food system!





Land
use and
biomass
burning



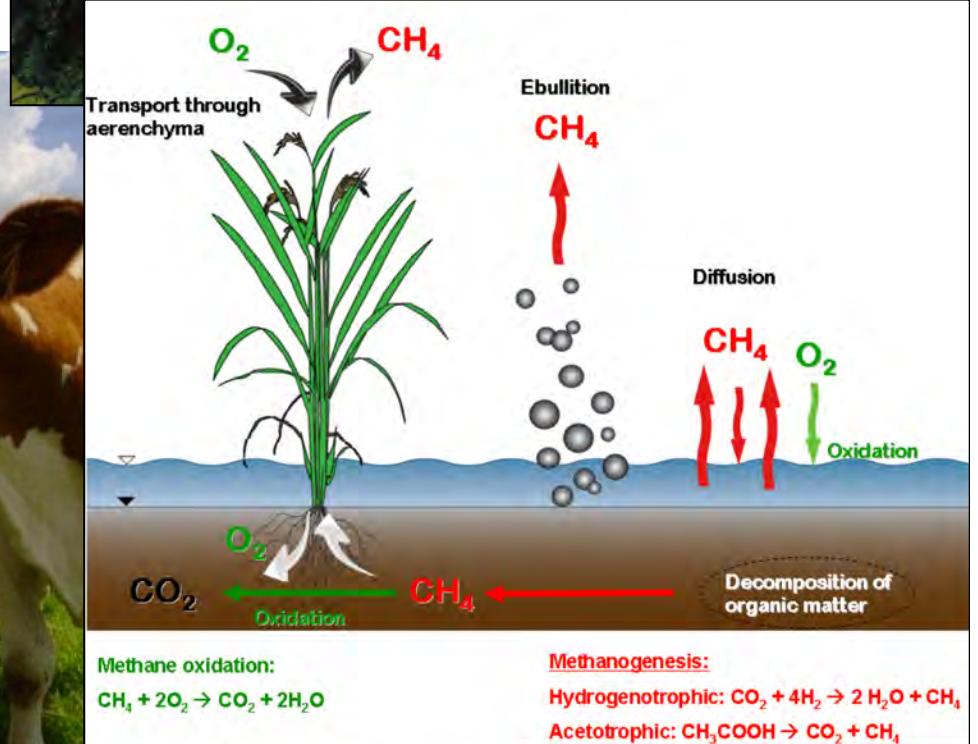
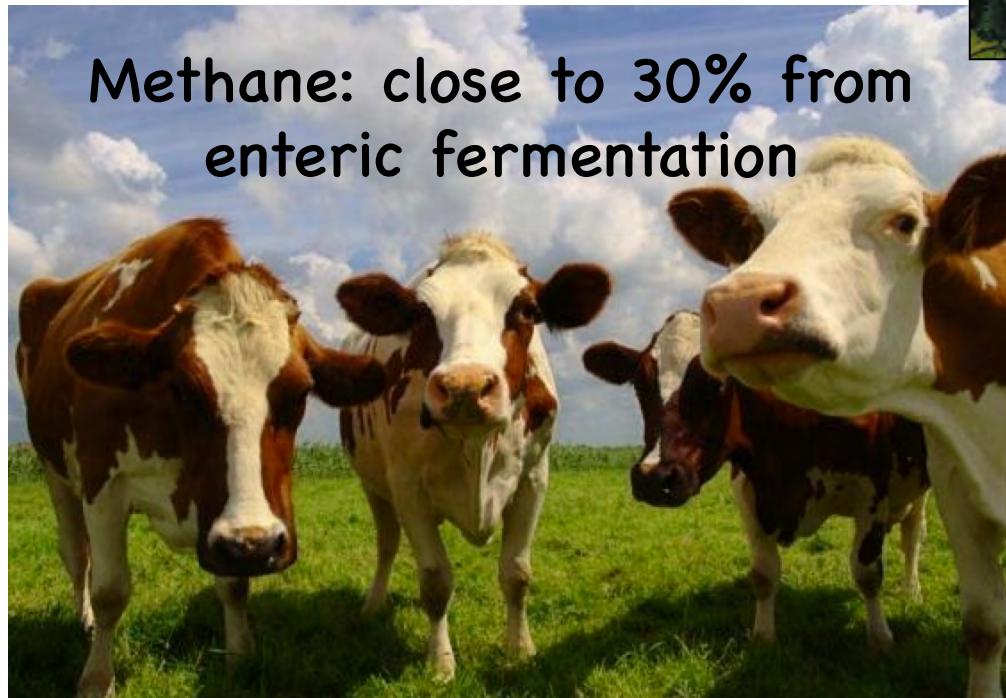


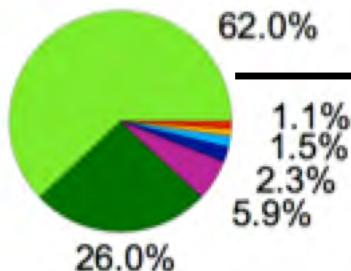
enteric
fermentation,
rice
production

Methane: about 10% from rice production

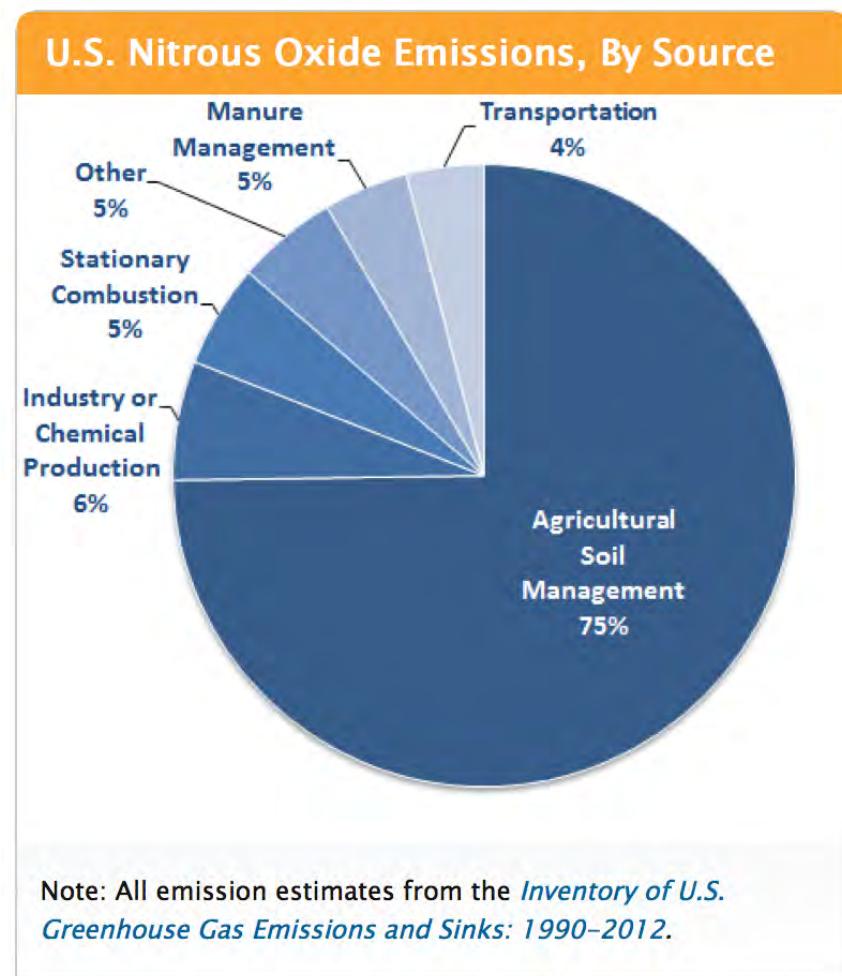


Methane: close to 30% from enteric fermentation





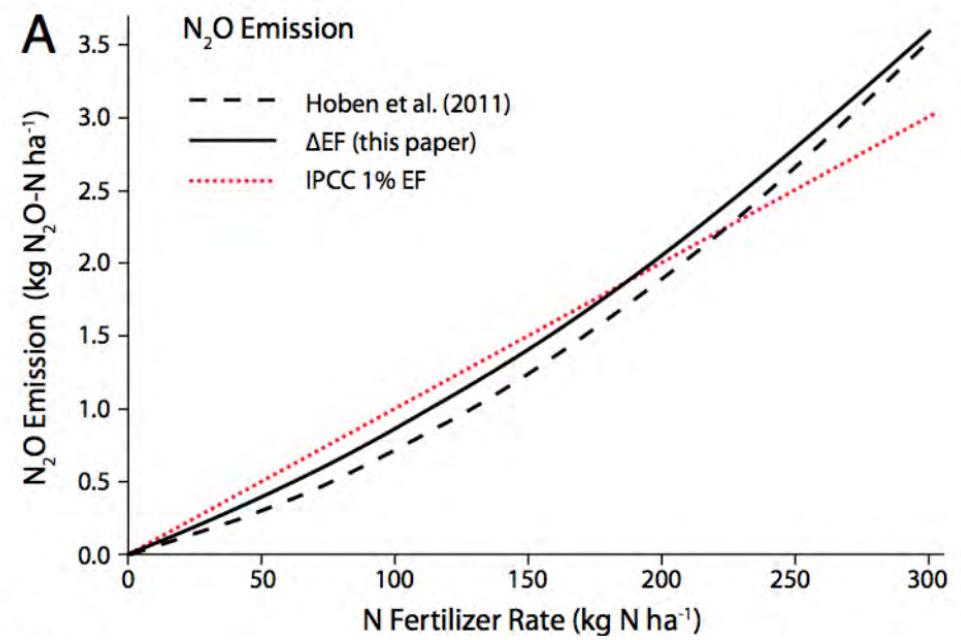
Soil management in agriculture



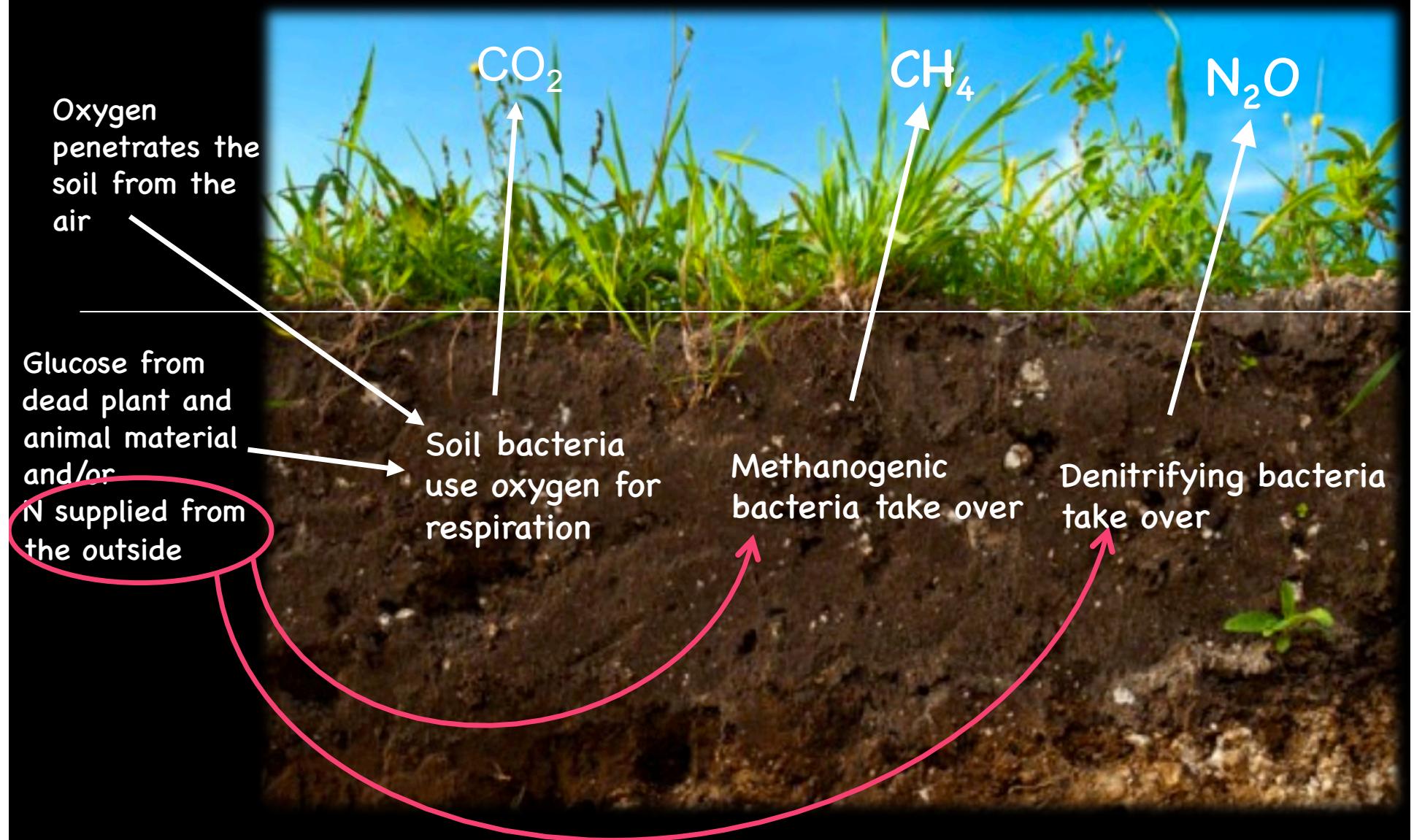
N Fertilizer applications

Fertilizer applications and N_2O emissions

IPCC: Micro-organisms in the soil release one kilogram of N_2O for every 100 kilograms of N fertilizer that is applied.



Overall picture of what goes on in the soil



It is not only what we eat (meat, versus chicken or beans), but also how we produce it.







Photo by Paul Mobley

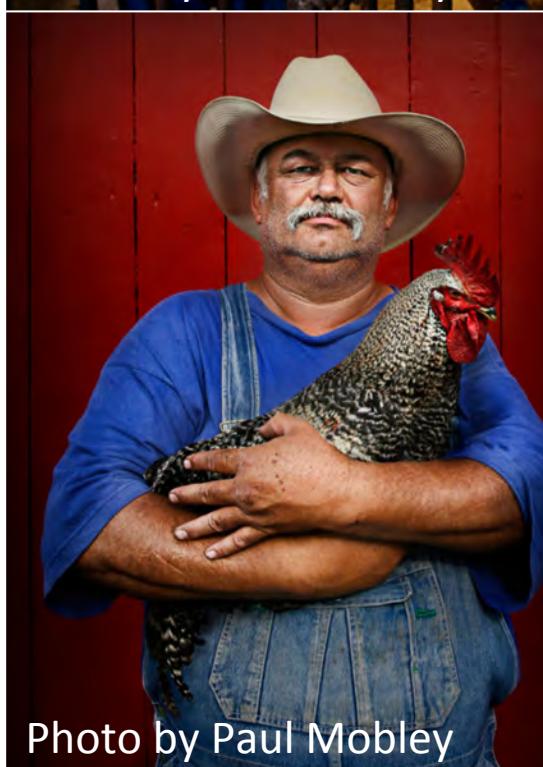


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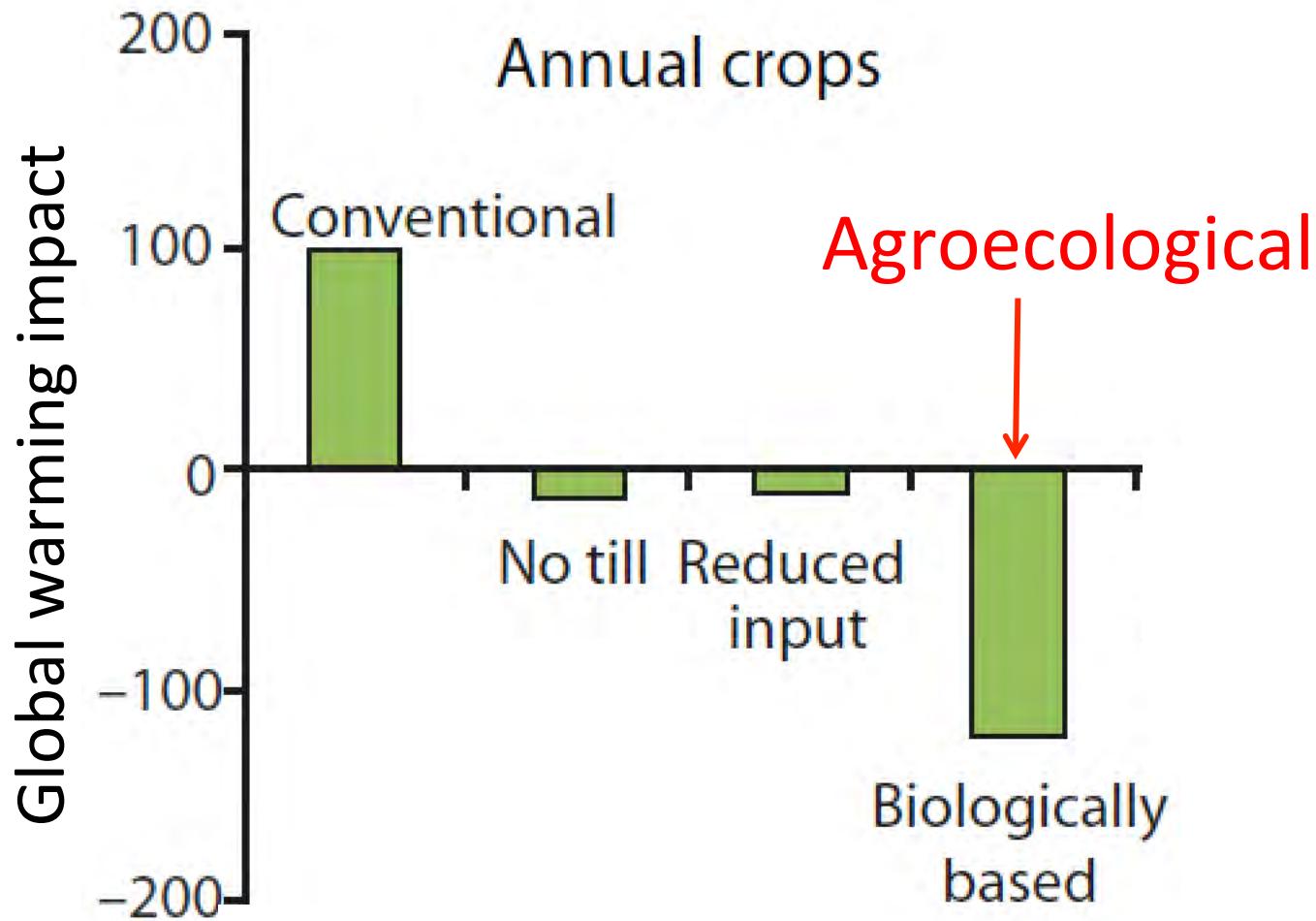








20 year study of row crops in Michigan at Kellogg Biological Station



Soil Management

- Organic/diversifies systems maintain more carbon in the soil.
- By locking nitrogen in organic matter, these systems also reduce general N losses to the environment and nitrous oxide emissions.
- They also maintain higher diversity and abundance of methanotrophic bacteria therefore reducing methane emissions.

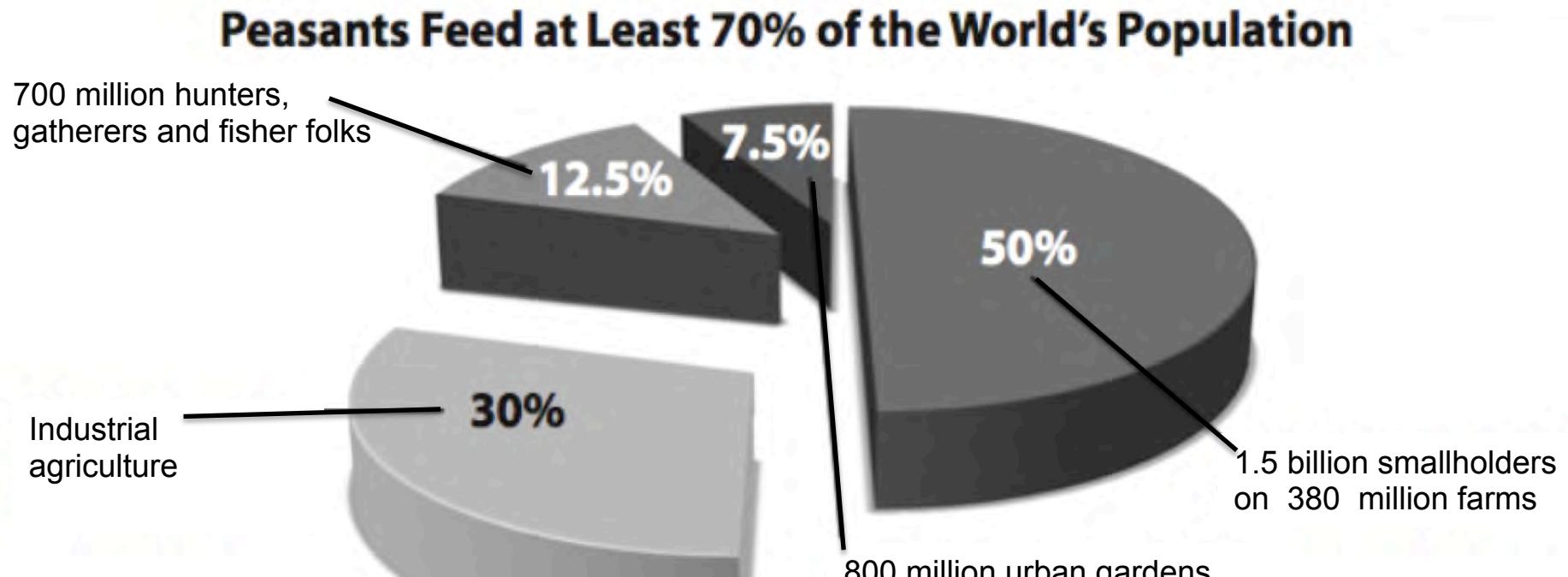


Soil matters!





Smallholder are already feeding the world



(ETC, 2009; GRAIN, 2014)

Agroecology and the Right to Food:

“Small scale farmers using agroecology can double food production in entire regions within 10 years while mitigating climate change, conserving biodiversity and alleviating rural poverty.”

-Olivier De Schutter, UN Special Rapporteur on the Right to Food (March 2011)



La Via Campesina using the “farmer to farmer” methodology is transforming smallholder agriculture with agroecology.



REVOLUCIÓN AGROECOLÓGICA:
El Movimiento de Campesino a Campesino
de la ANAP en Cuba

Cuando el campesino ve, hace fe



ANAP

Braulio Machín Sosa
Adilén María Roque Jaime
Dana Rocío Ávila Lozano
Peter Michael Rosset

Resilient agroecological systems that contribute to the mitigation and adaptation to climate change





“Small scale farmers can feed the world and cool the planet!”

