

# 4 PER 1000

## CARBON SEQUESTRATION IN SOILS FOR FOOD SECURITY AND THE CLIMATE

The quantity of carbon contained in the **atmosphere** increases by **4.3 billion tons** every year

**+4.3** bn tons carbon / year

↑↑  
CO<sub>2</sub> emissions



Forests ⊖⊖

Oceans ⊖⊖

Human activities ⊕⊕⊕⊕

Deforestation ⊕

⊖ absorption ⊕ emission

The world's **soils** contain **1 500 billion tons** of carbon in the form of organic material

absorption of CO<sub>2</sub> by plants



↓ ↓  
storage of organic carbon in soils

**1 500** bn tons carbon

If we increase by **4‰ (0.4%)** a year the quantity of carbon contained in soils, **we can halt the annual increase in CO<sub>2</sub> in the atmosphere**, which is a major contributor to the greenhouse effect and climate change

increased absorption of CO<sub>2</sub> by plants :



farmlands, meadows, forests...

↓ ↓

**+4‰** carbon storage in the world's soils

= more fertile soils

= soils better able to cope with the effects of climate change

### HOW CAN SOILS STORE MORE CARBON?

The more soil is covered, the richer it will be in organic material and therefore in carbon. Until now, the combat against global warming has largely focused on the protection and restoration of forests. In addition to forests, we must encourage more plant cover in all its forms.



Never leave soil bare and work it less, for example by using no-till methods



Introduce more intermediate crops, more row intercropping and more grass strips



Add to the hedges at field boundaries and develop agroforestry



Optimize pasture management - with longer grazing periods, for example



Restore land in poor condition e.g. the world's arid and semi-arid regions

"This international initiative can reconcile the aims of **food security** and the **combat against climate change**, and therefore engage every concerned country in COP21."

Stéphane Le Foll, French Minister of Agriculture, Agrifood and Forestry