

# Source to sink in arable farming

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## Climate Change

*longer dry periods and  
heavy rain in summer  
Improving soil conditions  
for water retention*

Picture taken just outside Waalre in June 2016



A photograph of a man, Leo Hooijen, standing in a field of tall sorghum plants. He is wearing a light blue button-down shirt and dark jeans. He is holding a vertical measuring tool, possibly a height gauge, against the plants. The sorghum plants are very tall and dense, reaching up to his head. The background shows a clear blue sky and some distant hills.

## Crops with extensive and deep root system

Drought resistant, improving soil structure and adding carbon to the soil

In this picture Leo Hooijen local farmer experimenting with Sorghum.



**Local small scale  
production of soil  
conditioners**

**Bokashi**

*fermenting organic matter  
anaerobically - fungus dominant*

**Compost**

*aerobically processing organic  
matter into stable organic fraction*



*Foto Bokashi middag 17 februari 2017.*



Green Deal



Just started with **Food Forrest / Agroforestry**  
*Intercropping, perennials*

**Exploring Paludi Culture:**  
Rewetting peat soils,  
growing Cattail, Azolla ....

Jac Hendriks DB lid Waterschap de Dommel tekend de Green Deal Voedselbossen, op de foto ook een van de initiatiefnemers Frans Jan de Waard, nov 2017



**Soil Mgt Practices:**  
Projects with different cover  
crops / winter crops / crop  
rotation , No-Tillage, Bio-  
stimulants (Mycorrhiza)

Nick van Eekeren van het Louis Bolk Institute geeft kennissessie over bodembeheer aan medewerkers van Waterschap de Dommel bij Project Bodem en Water september 2017

# Verhogen organische stof bodem

**HOE?** Definiëren "best practices" voor maatregelen als toedienen compost, biochar, en toepassen van niet kerende grondbewerking, tegengaan grondverdichting.

## **HOEVEEL CO<sub>2</sub> VASTLEGGEN?**

- Groencompost: 410 kg CO<sub>2</sub>/ton vers gewicht
- 117,6 kg CO<sub>2</sub>-eq/ton vastgelegd na 10 jaar
- NL compost productie legt 0,6 Mton CO<sub>2</sub>/jaar vast

(bron Elferink en Vlaar 2010)

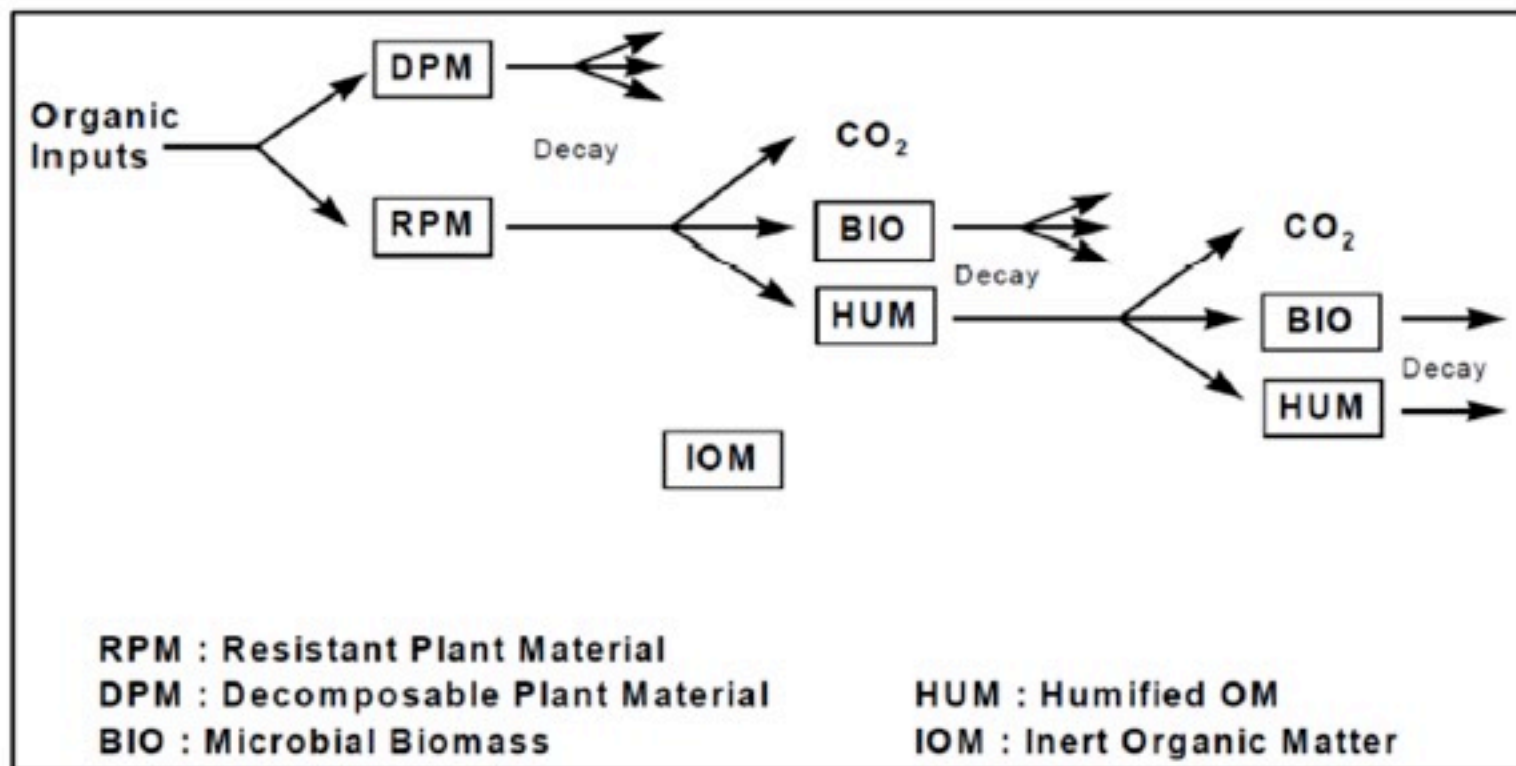
## **VOOR- & NADELEN:**

Verskil per grondsoort, maximum?, meer opbrengst,...

# Changes in SOM based on Roth C model:

First order decomposition processes, modified by temperature, soil moisture and soil cover.

Inert Organic Matter (IOM) does not compose



**Figure 4.2** Structure of the RothC model (from: Coleman & Jenkinson, 2005)