

GROUNDED

# Regenerative agriculture and Organic farming practices in Essential oil farming

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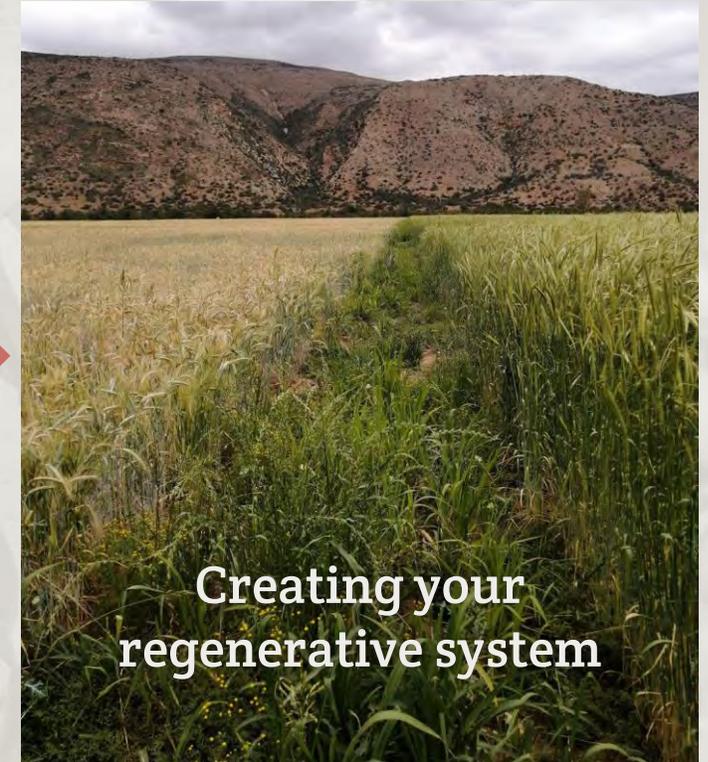
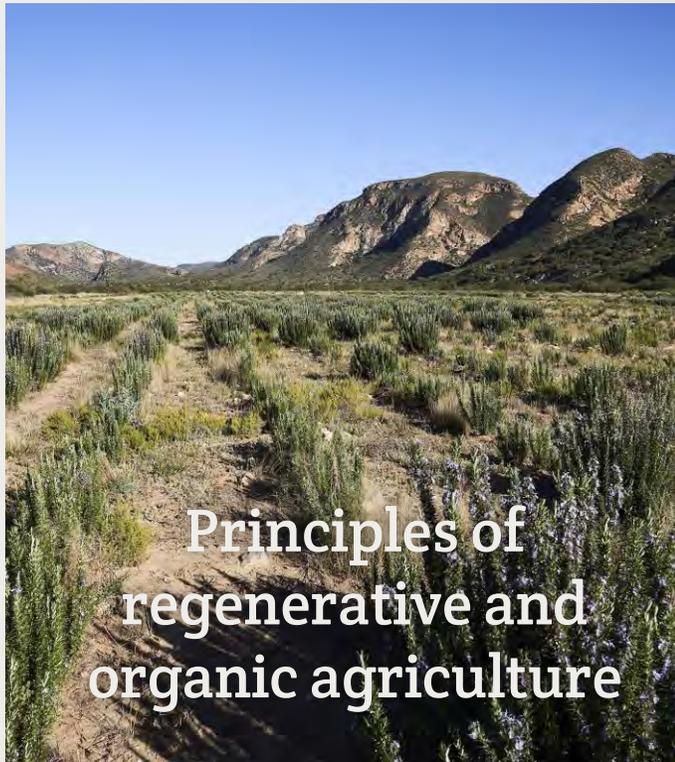


A nation that destroys its soil  
destroys itself

F.D. Roosevelt, 1937



# What will be covered in this presentation





# Regenerative agriculture?

In short, regenerative agriculture is a system of farming principles and practices that seeks to rehabilitate and enhance the entire ecosystem of the farm. \*The Climate reality project



**Do not disturb the soil**

**Keep the soil covered**

**Keep living roots on the soil**

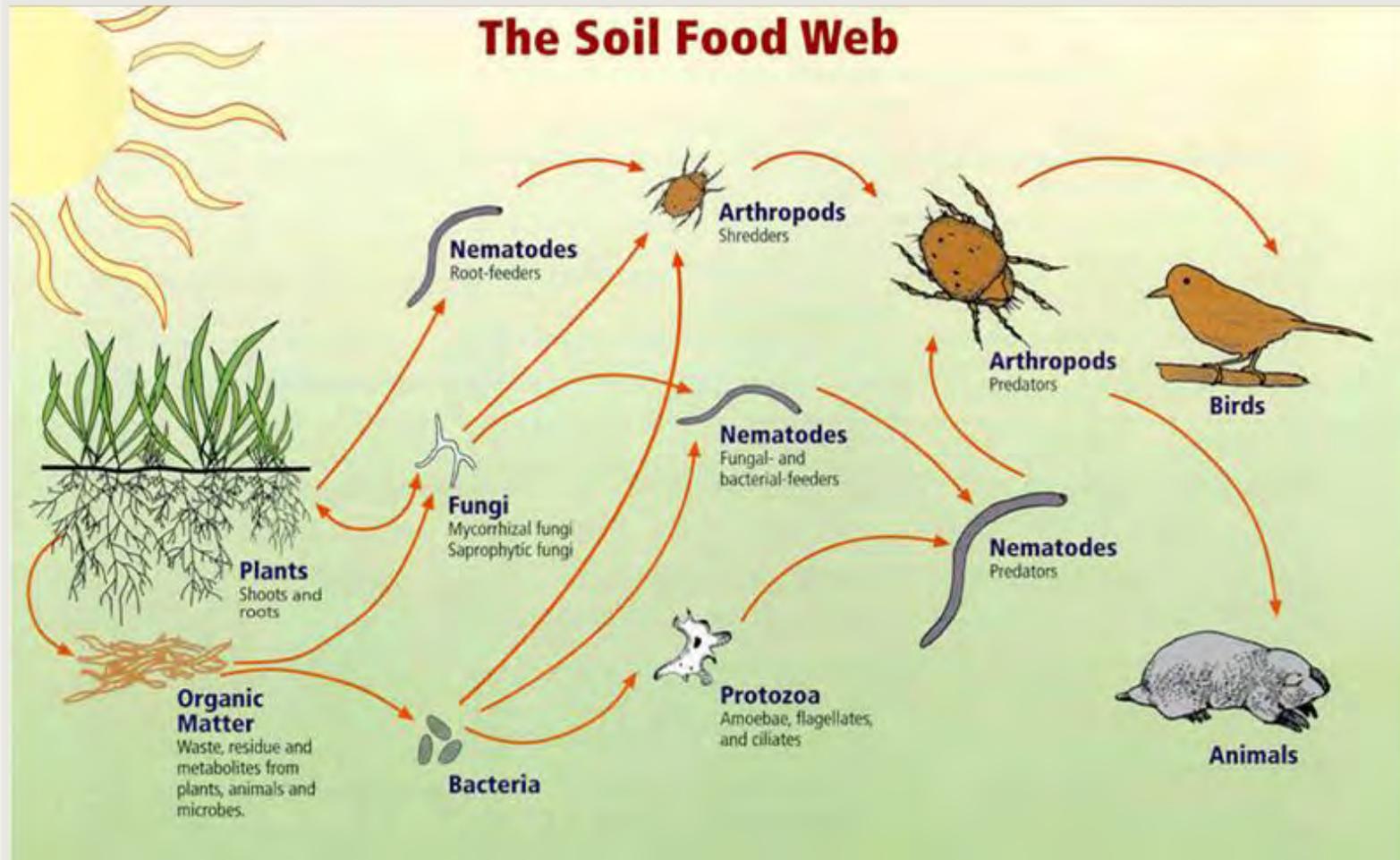
**Grow a diverse range of crops**

**Incorporate livestock**



# The soil ecosystem

The Soil food web is a model to show the interactions between different levels of soil biota.





# Practical examples of regenerative and organic farming practices for essential oil crops



The first step of moving into a regenerative system is to remove the destructive elements. Stop soil disturbance

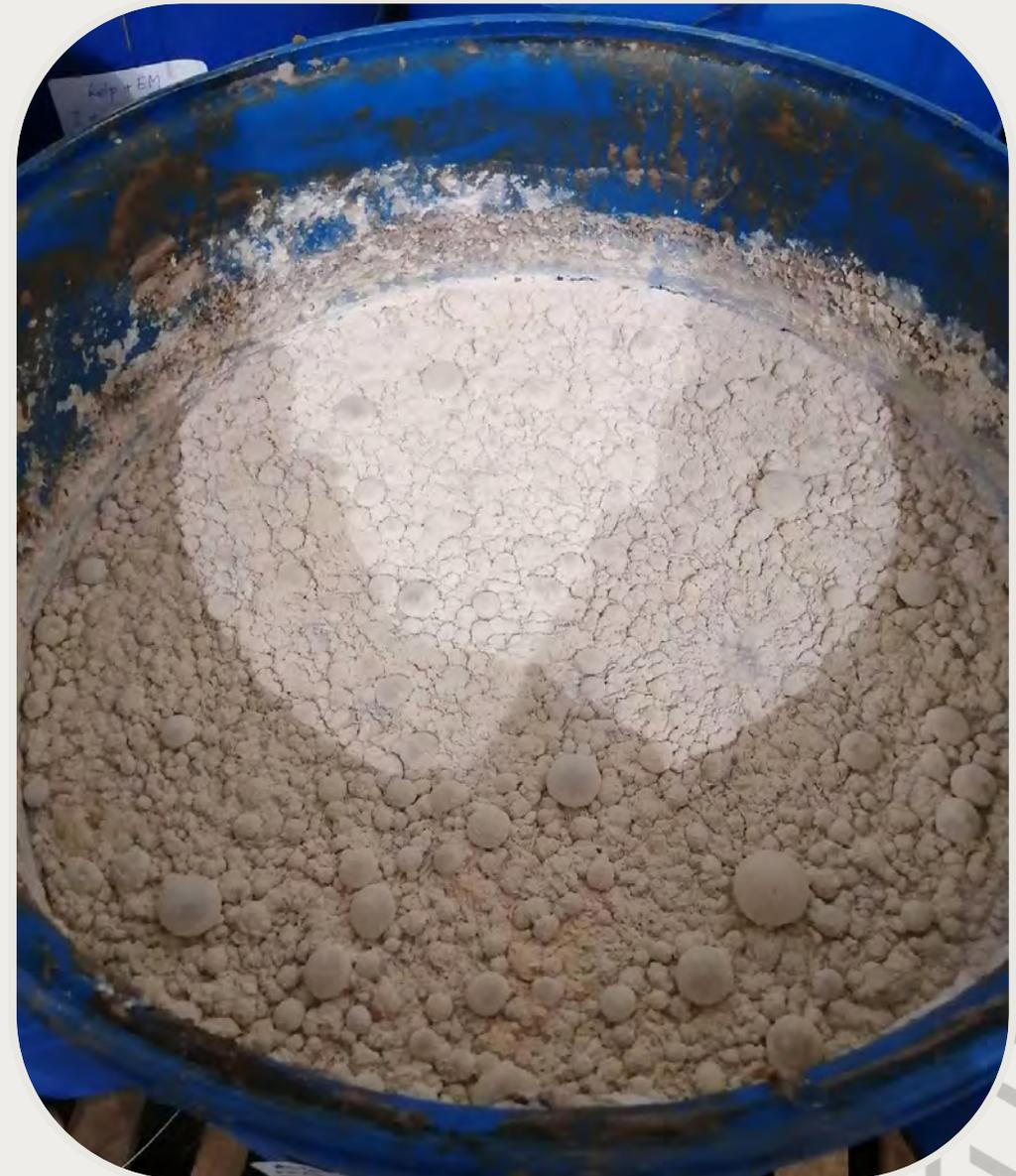
High analysis chemical fertilizers and excessive tillage are very detrimental to soil biology.



## Switch to lower impact fertilizers and inputs

Organic based fertilizers and certain balanced mineral fertilizers have less impact on soil microbes but still deliver the much needed additional fertility to plants.

Organic materials can also be pre-fermented to increase nutrient availability and make a cheap but effective fertilizer.





## Reuse and recycle farm waste byproducts

Composting is a simple method of recycling farm waste products into a useful input. Good compost has an excellent diversity of microbes and nutrients that are easily absorbed by plants.





## Increase plant-microbe interactions

Soil microorganisms require living plants to thrive. Plants feed microbes root exudates (sugars and proteins) in exchange for nutrients and water that the microbes can more efficiently access from the soil. By planting more plants and reducing dead space in the fields you can maximise this mutualistic relationship.





# Integrate livestock and manage them holistically to encourage nutrient cycling.



Animals perform a critical ecosystem service that has a huge impact on soil health. They create disturbance, deposit nutrients and cross inoculate microbes from one place to another.



## Just start and keep it simple

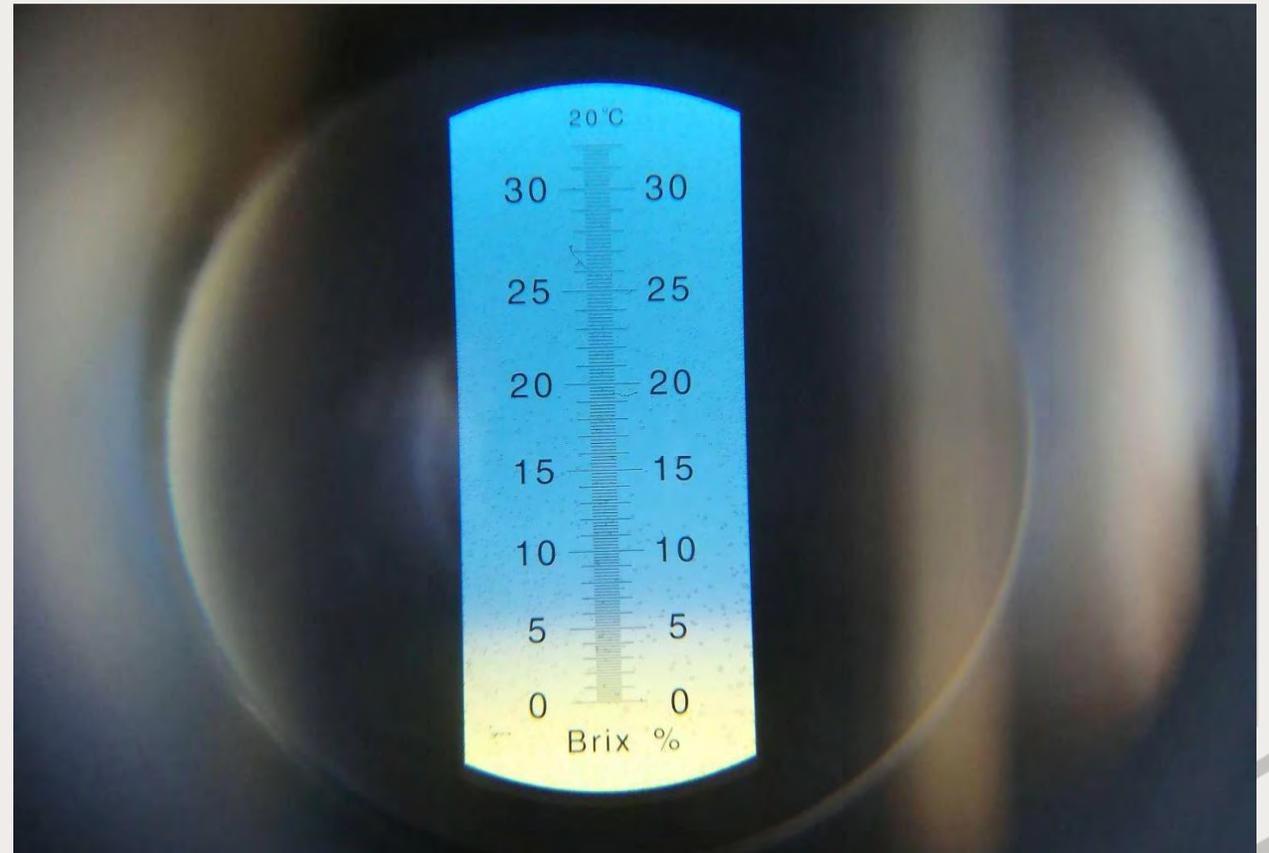


The hardest step is the first one. Most farmers overthink how to start doing regenerative agriculture and never actually get to the doing, best is to choose 1 small and simple change to your system and start from there. Avoid the opposite where you try change too much at once as well.



## Test, measure and manage

Regenerative agriculture is a bunch of different practices but not all the practices are suitable for every farm or crop type. When testing different practices its best to set up a evaluation system first, choose some indicators (eg soil carbon, microbial diversity, Base saturation % etc) and then measure these indicators as you apply the different practices.





## Get educated



Regenerative farming is a way of life that farmers adopt and get passionate about. Its about pushing the boundaries of conventional farming and finding new and better ways. The best tool in regenerative agriculture is curiosity and the best practitioners are the ones who are constantly learning.



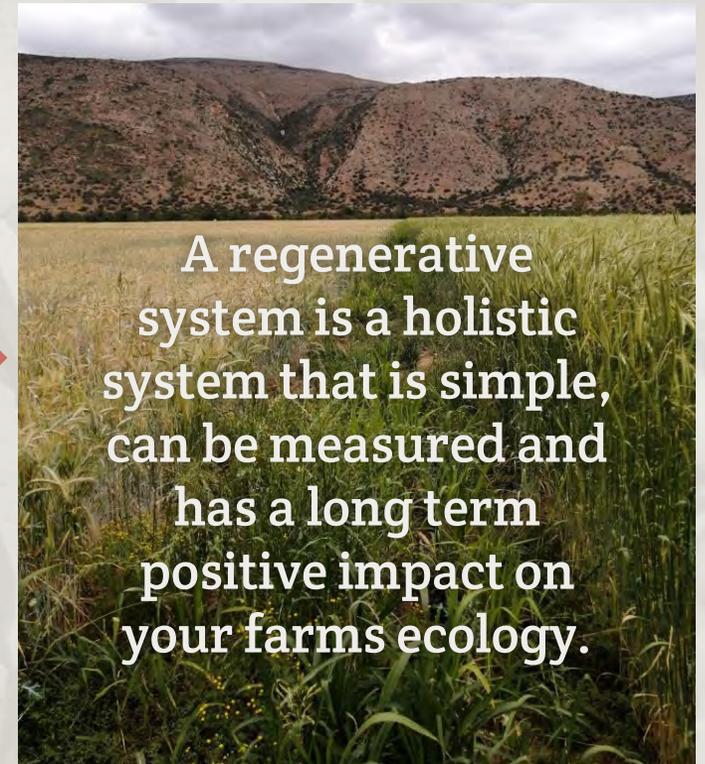
## See the bigger picture

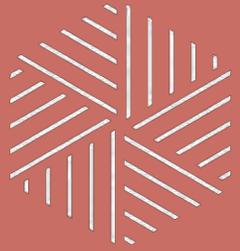
Regenerative farming is about creating a holistic system that ties all parts of your farming operation together and creates unity and harmony with nature.





## So in summary





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# Thank you for your time.

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