



Regeneration International and 4 per 1000

Messaging and Communication





Montpellier 29th & 30th June 2017 – 2nd CONSORTIUM of MEMBERS

Regeneration International



An international nonprofit organization dedicated to building a global network of actors who promote and put into practice regenerative agriculture and land-use practices.



How RI Emerged

- Formed in 2015
- Group of activists, politicians, farmers and scientists
- Connecting the dots between movements to promote regenerative food and farming as a solution to climate change
- 83 partner organizations worldwide



DEGENERATIVE FOOD, FARMING AND LAND USE:

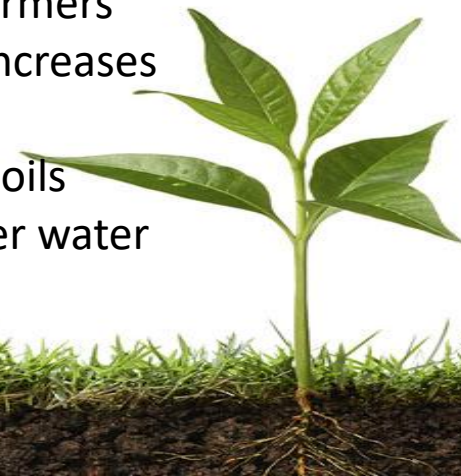


- Contributes to ½ of all human produced GHG emissions
- Degenerates public health, pollutes land and waterways
- Produces nutrient-poor food
- Makes food systems less resilient to climate change
- Intensifies rural poverty and hunger
- Destroys agricultural biodiversity
- Created a global water crisis by depleting water tables

REGENERATIVE FOOD, FARMING AND LAND USE:



- Reduces GHG emissions and could reverse global warming
- Reduces dependence on chemical inputs
- Produces nutrient-dense foods
- Produces climate resilient food systems
- Revitalises local economies and supports small farmers
- Safeguards and increases biodiversity
- Creates healthy soils that hold and filter water





Messaging and Communication

- Many Policy makers, politicians, funding bodies, farm organisations, NGOs, industry, consumers etc. do not read scientific papers because they cannot understand the technical language and the complex reasoning/logic.
- Messages have to be simplified, they have to be compelling and there is a need to repeat the messages often (Stay on Message)
- Too many issues being promoted in messages overwhelm and confuse most people and consequently they 'turn off', they disregard the whole message.





Messaging and Communication

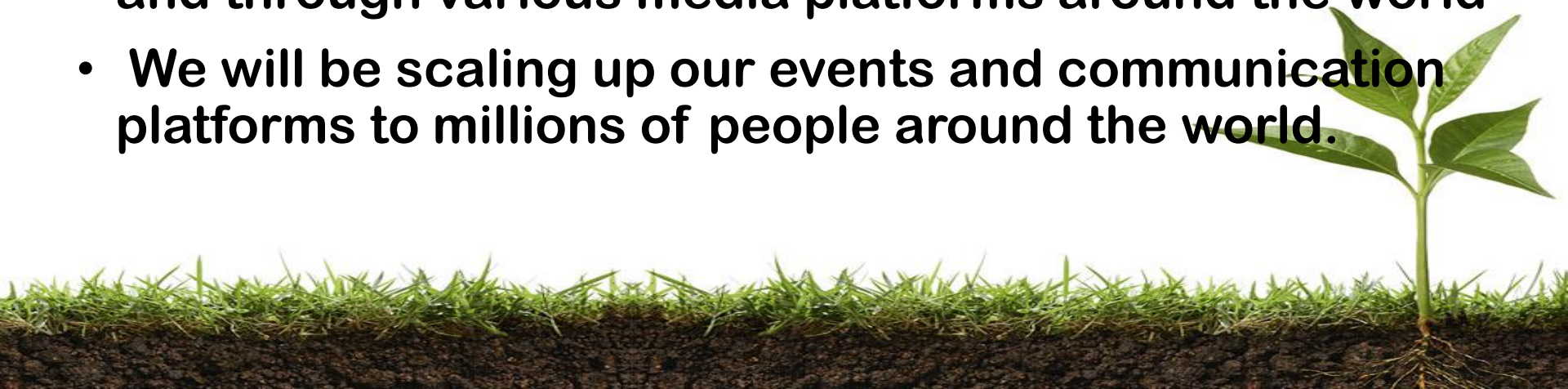
- Narrow casting – the messages have to be tailored for specific interest groups.
- The messages will have different styles and emphasis for the different groups.
- The messages for farmers will be different from the messages to politicians and policy makers.
- While the core message will be the same (ie 4 per 1000) each group will have different priorities in adopting the messages.





Messaging and Communication

- As an example showing how 4 per 1000 will help countries meet the SDGs will be relevant to UN organisations, national politicians and government policy makers however they will be largely irrelevant to farmers, industry and consumers.
- Food security, Food safety, nutritional density and resilient production etc. will be more relevant to these groups.
- RI has been promoting 4 per 1000 at different events and through various media platforms around the world
- We will be scaling up our events and communication platforms to millions of people around the world.





RI 4p1000 Educational Events 2016-2017

Bilingual 4p1000 Educational Events:

- March 9 2016, Washington DC
 - add # of attendees?
- April 18 2016, Mexico City
 - add # of attendees
- October 18 2017, Montreal



Event Objectives

- To educate on the relationship between soil and climate and the benefits of soil health
- To mobilize stakeholders of all different sectors that relate to soils
- To facilitate cross-pollination between participants
- To have tangible impacts on policy in favour of practices that restore soil organic carbon stocks



Climate Resilience

Food Security

- World food production is already being effected by climate change
- More frequent and longer droughts
- Irregular rainfall that tends to be heavy and destructive
- Increases in climate extremes
- 1 in 30 years events now occur in 1 in 5 year cycles

Supplying adequate food is vital



Soil Organic Matter

Higher Yields in Climate Extremes

- **Regenerative Organic systems have higher yields** than conventional farming systems in weather extremes such as heavy rains and droughts. (Drinkwater, Wagoner and Sarrantonio 1998; Welsh, 1999; Lotter 2004)
- The Wisconsin Integrated Cropping Systems Trials found that organic yields were higher in drought years and the same as conventional in normal weather years. (*Posner et al. 2008*)
- The Rodale FST showed that the organic systems produced 30 per cent more corn than the conventional system in drought years. (*Pimentel D 2005, La Salle and Hepperly 2008*)

Organic Matter Increases Infiltration and Soil Stability



Organic



Conventional

Picture: FiBL DOK Trials



Soil Organic Carbon Mitigates and Adapts

- *Higher corn and soybean yields in drought years*
- *Increased soil C and N*



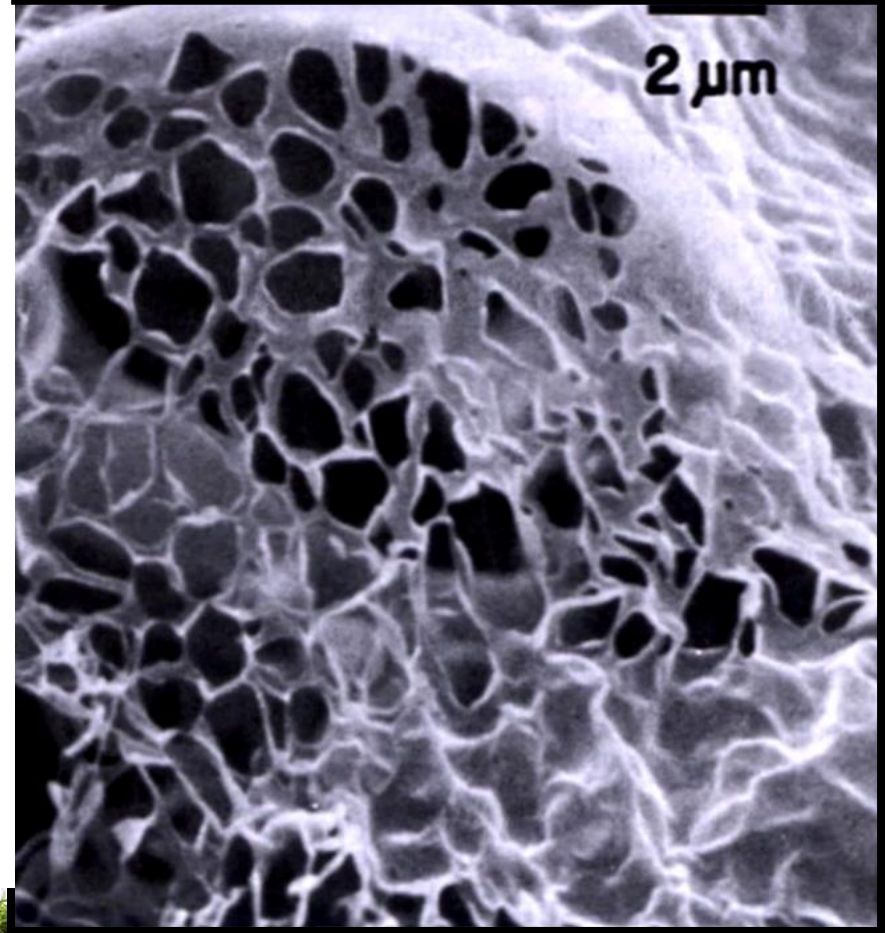
- *Higher water infiltration*
- *Higher water holding cap*
- *Higher microbial activity*
- *Increased stability*



Humus and Soil Organic Matter

- Holds up to 30X its weight in water
- Cements soil particles and reduces soil erosion
- Increases nutrient storage & availability
- Humus can last 2000 years in the soil

Electron micrograph of
soil humus





Improved Efficiency of Water Use

Research Shows that Organic Systems use Water More Efficiently

Volume of Water Retained per hectare (to 30 cm) in relation to soil organic matter (SOM)

- **0.5% SOM = 80,000 litres (common level Africa, Asia)**
- **1 % SOM = 160,000 litres (common level Africa, Asia)**
- **2 % SOM = 320,000 litres**
- **3 % SOM = 480,000 litres**
- **4 % SOM = 640,000 litres (levels pre farming)**
- **5 % SOM = 800,000 litres (levels pre farming)**
- **6 % SOM = 960,000 litres (levels pre farming)**

Adapted from Morris, 2004.



Organic Corn - 1995 Drought

Better infiltration, retention, and delivery to plants helps avoid drought damage

Organic

Conventional

Picture: Rodale Institute



High Yield Regenerative Organic Agriculture

The average corn yields during the drought years were from 28% to 34% higher in the two organic systems.

The yields were 6,938 and 7,235 kg per ha in the organic animal and the organic legume systems, respectively, compared with 5,333 kg per ha in the conventional system (Pimentel et al. 2005)

Lbs per Acre = Kg per ha (close enough)





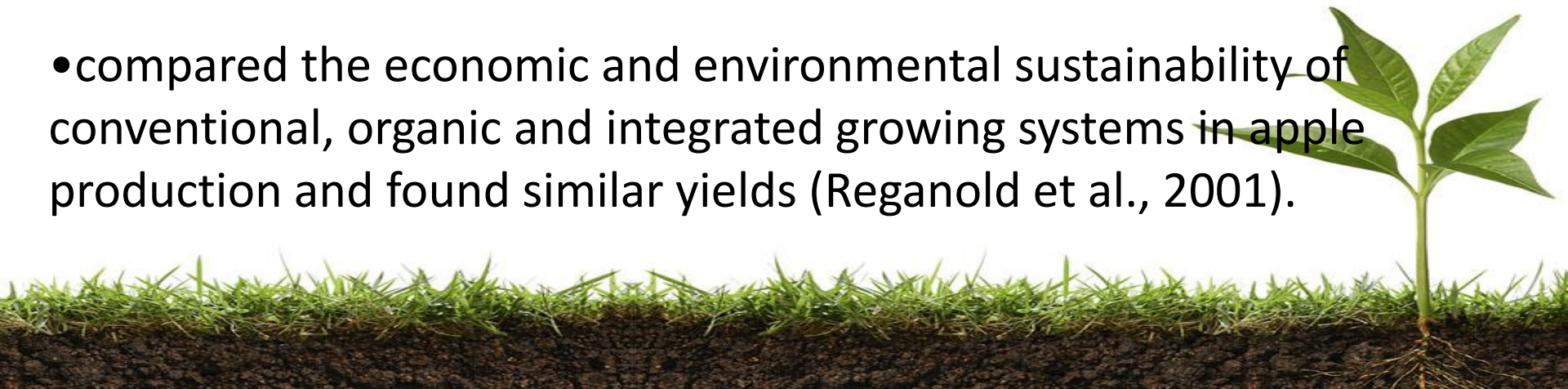
High Yield Regenerative Organic Agriculture

Iowa State University Long Term Agroecological Research

- organic corn harvests averaged 130 bushels per acre while conventional corn yield was 112 bushels per acre
- organic soybean yield was 45 bu/ac compared to the conventional yield of 40 bu/ac in the fourth year (Delate, 2010).

Washington State University Study

- compared the economic and environmental sustainability of conventional, organic and integrated growing systems in apple production and found similar yields (Reganold et al., 2001).





High Yield Regenerative Organic Agriculture

- A report by the United National Conference on Trade and Development (UNCTAD) and the United Nations Environment Programme (UNEP) stated on Organic Agriculture:
- 114 projects in 24 African Countries covering 2 million hectares and 1.9 million farmers
- *'...the average crop yield was ... 116 per cent increase for all African projects and 128 per cent increase for the projects in East Africa.'*
- *Organic Agriculture and Food Security in Africa 2008*
- 80% of the food consumed in the developing world comes from small (5 acres or less) family farmers (FAO)
- The vast majority of the world's food insecure people live in the developing world (FAO)



Tigray, Ethiopia

High over-grazing and
burning = Deep, wide and
long erosion gullies

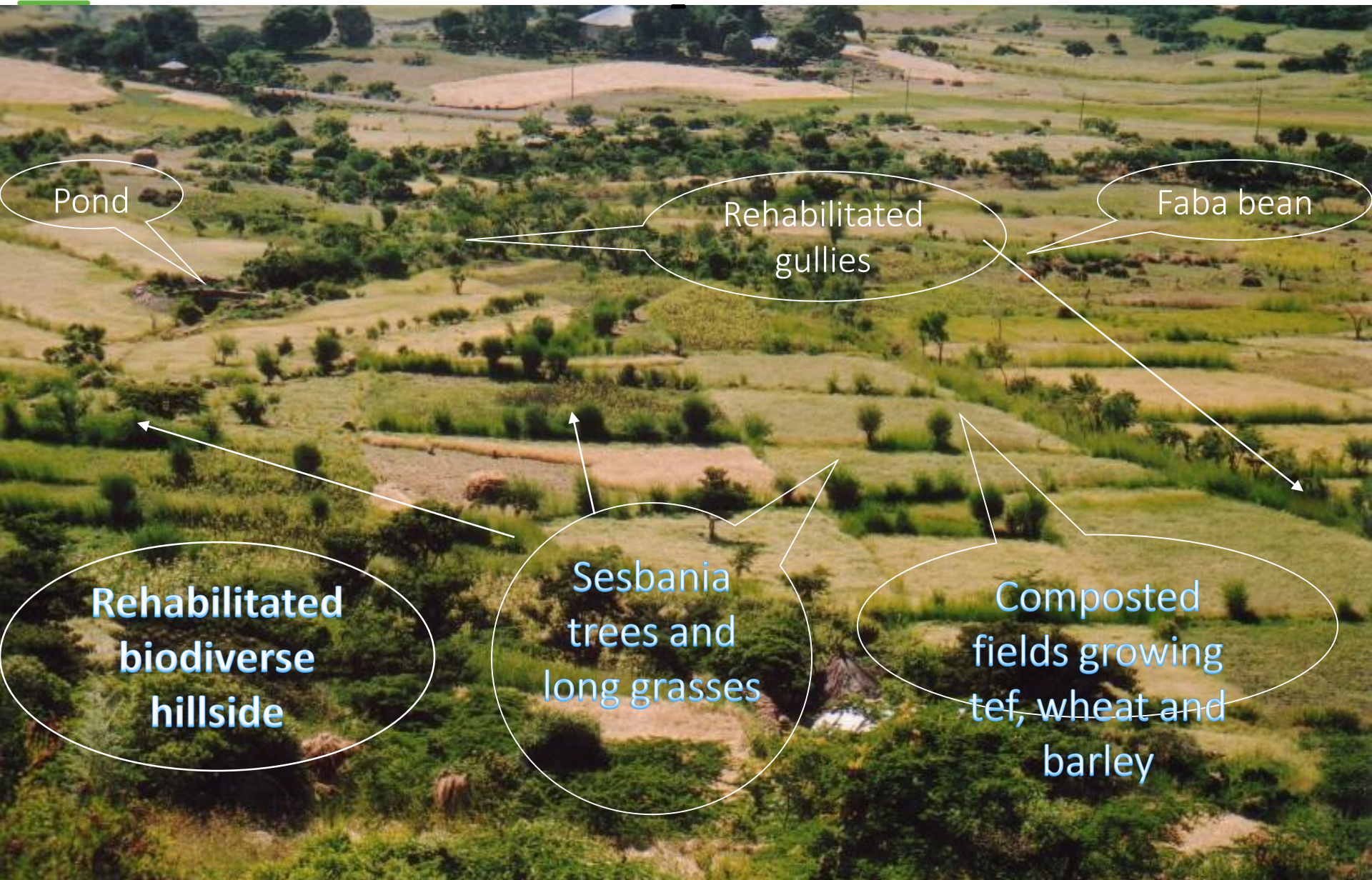
Low soil organic matter =
Low soil fertility

Serious food insecurity in
dry years

Thousands died in
famines



Adi Nefas, Tigray, Ethiopia



Pond

Rehabilitated
gullies

Faba bean

Rehabilitated
biodiverse
hillside

Sesbania
trees and
long grasses

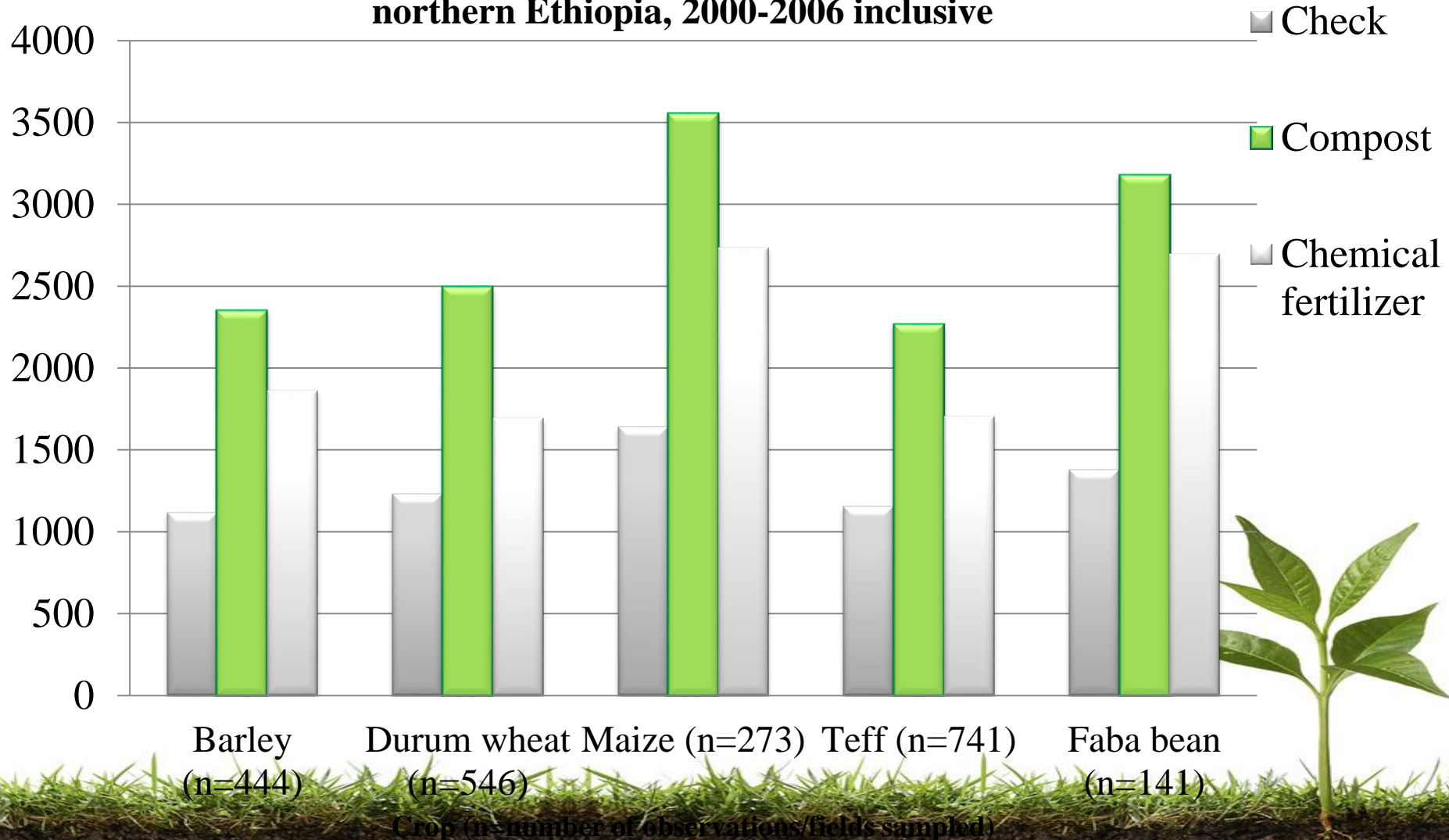
Composted
fields growing
tef, wheat and
barley



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Impact of using compost - Grain yields from over 900 samples from farmers fields over 7 years

Average mean grain yields in kg/ha for 4 cereals and 1 pulse crop from Tigray, northern Ethiopia, 2000-2006 inclusive





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Thank You

