



GREEN PIGEON CONSULTING

www.greenpigeonconsulting.com



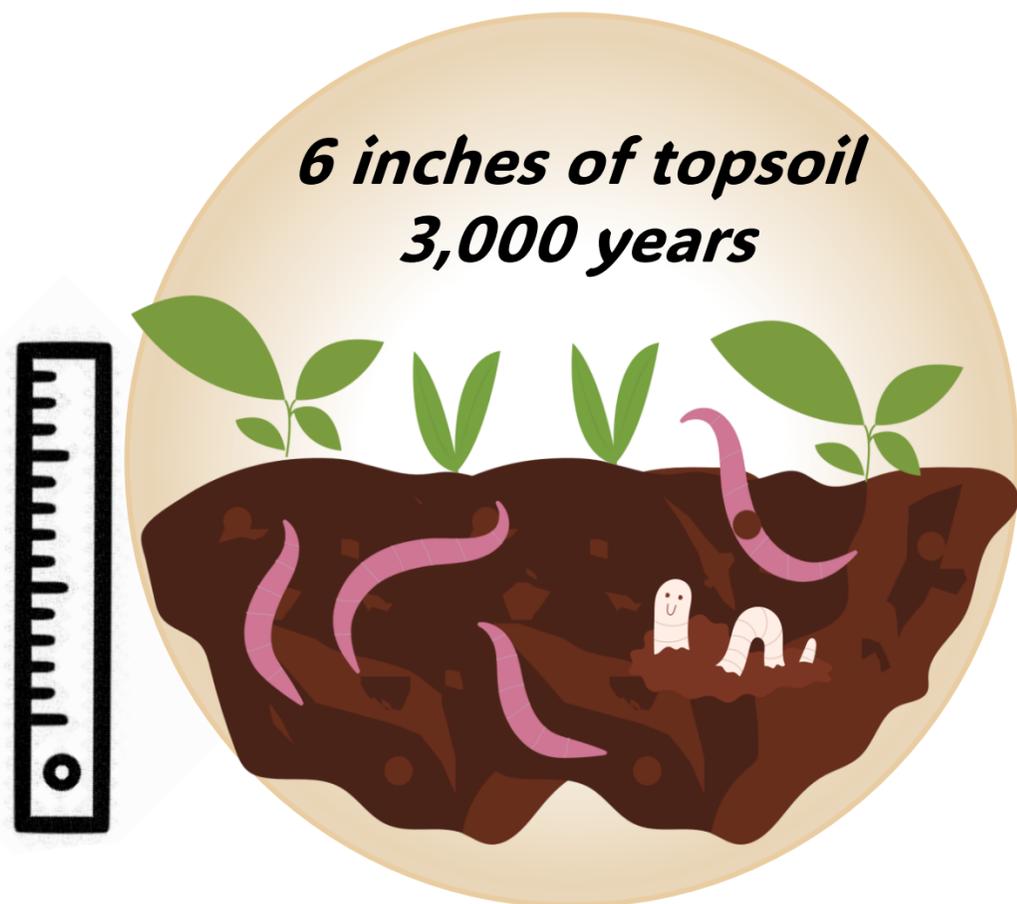
AN IN-DEPTH LOOK AT SOIL

Getting Down and Dirty!

Presented by
JUSTIN SMITH
Green Pigeon Consulting



THE UNTAPPED POWER BENEATH OUR FEET

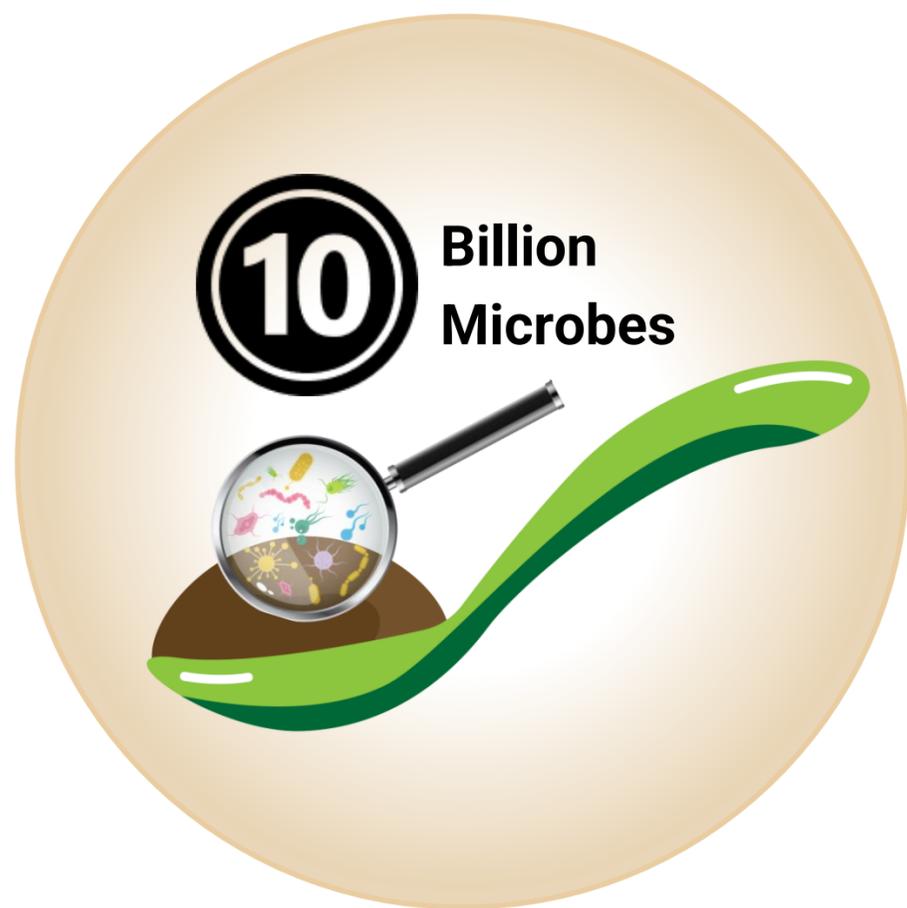


It can take **3,000 years** for 6 inches of topsoil to form.





THE UNTAPPED POWER BENEATH OUR FEET

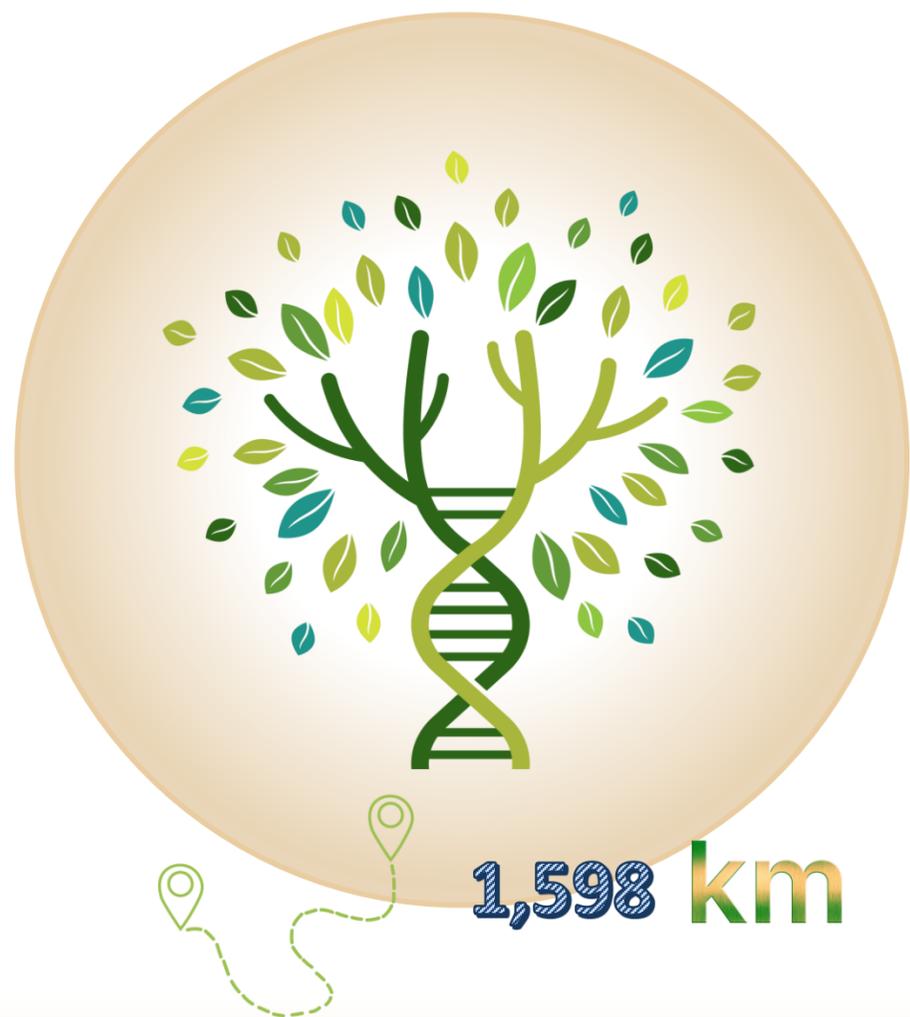


A single teaspoon of soil is home to approximately **10 billion** micro-organisms.





THE UNTAPPED POWER BENEATH OUR FEET

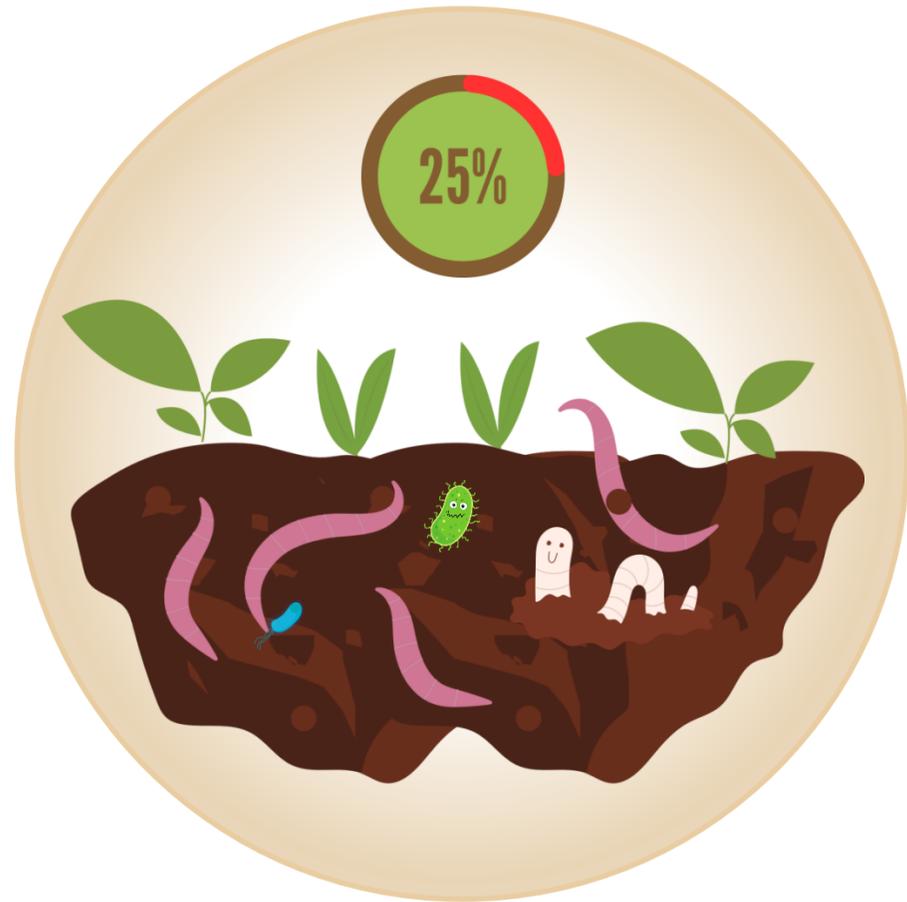


One gram of soil contains enough DNA to stretch an impressive **1,598 kilometers**.





THE UNTAPPED POWER BENEATH OUR FEET



Approximately 25% of all living organisms on Earth inhabit the soil.

Soil can be considered a living entity in its own right.





THE UNTAPPED POWER BENEATH OUR FEET



Topsoil is a non-renewable resource.
It is being depleted at a rate four times faster
than it can be regenerated.





THE UNTAPPED POWER BENEATH OUR FEET



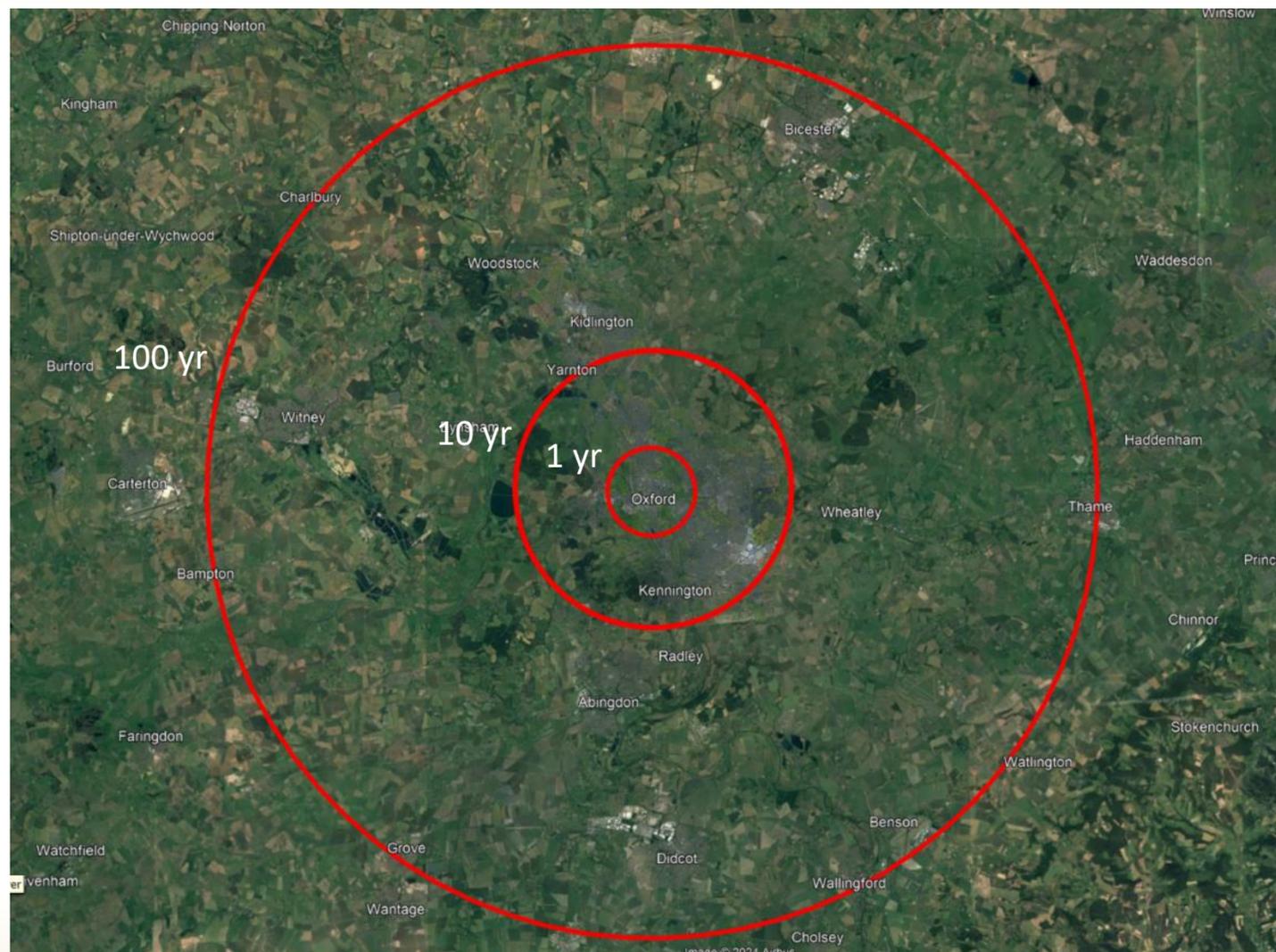
The world loses the equivalent of **6.3 million** soccer fields every year, or one pitch every five seconds.

That's more than the entire land area of the UK every **5 years!**





THE UNTAPPED POWER BENEATH OUR FEET



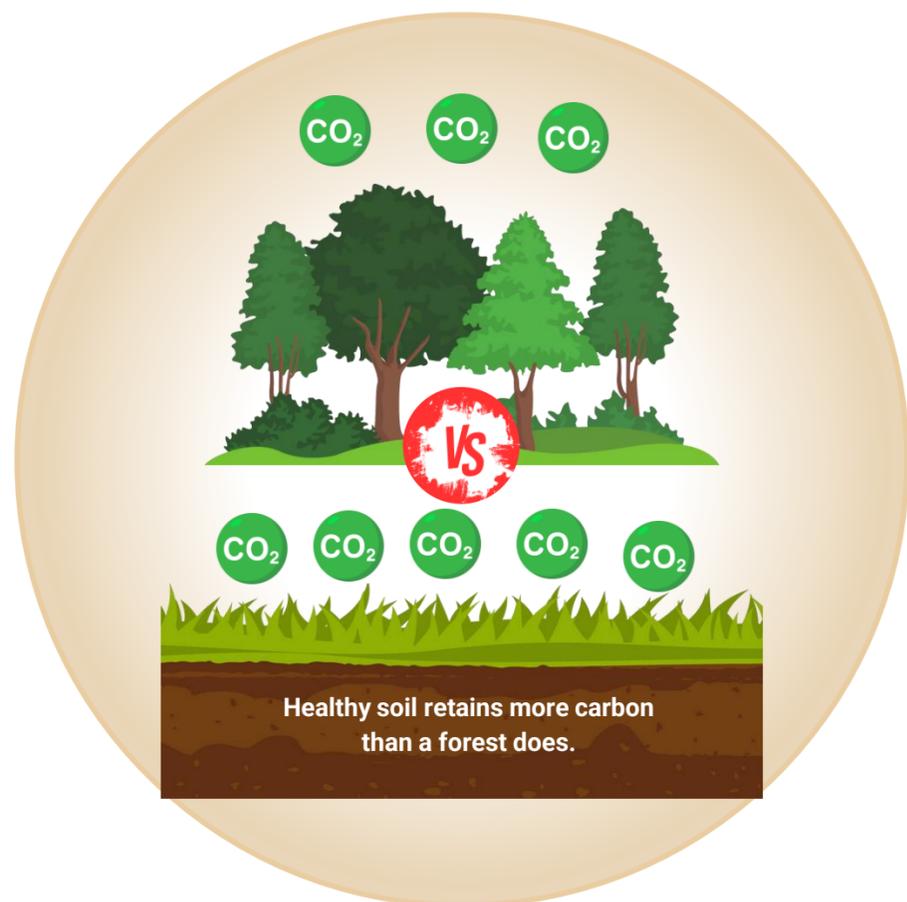
The UK loses **2.9 million tonnes of topsoil every year!**

1,200 hectares per year





THE UNTAPPED POWER BENEATH OUR FEET



Healthy soil is a vital carbon sink.

Soils store **more carbon** than all the world's forests combined.



UNLOCKING THE HIDDEN POTENTIAL OF AMENITY SPACES



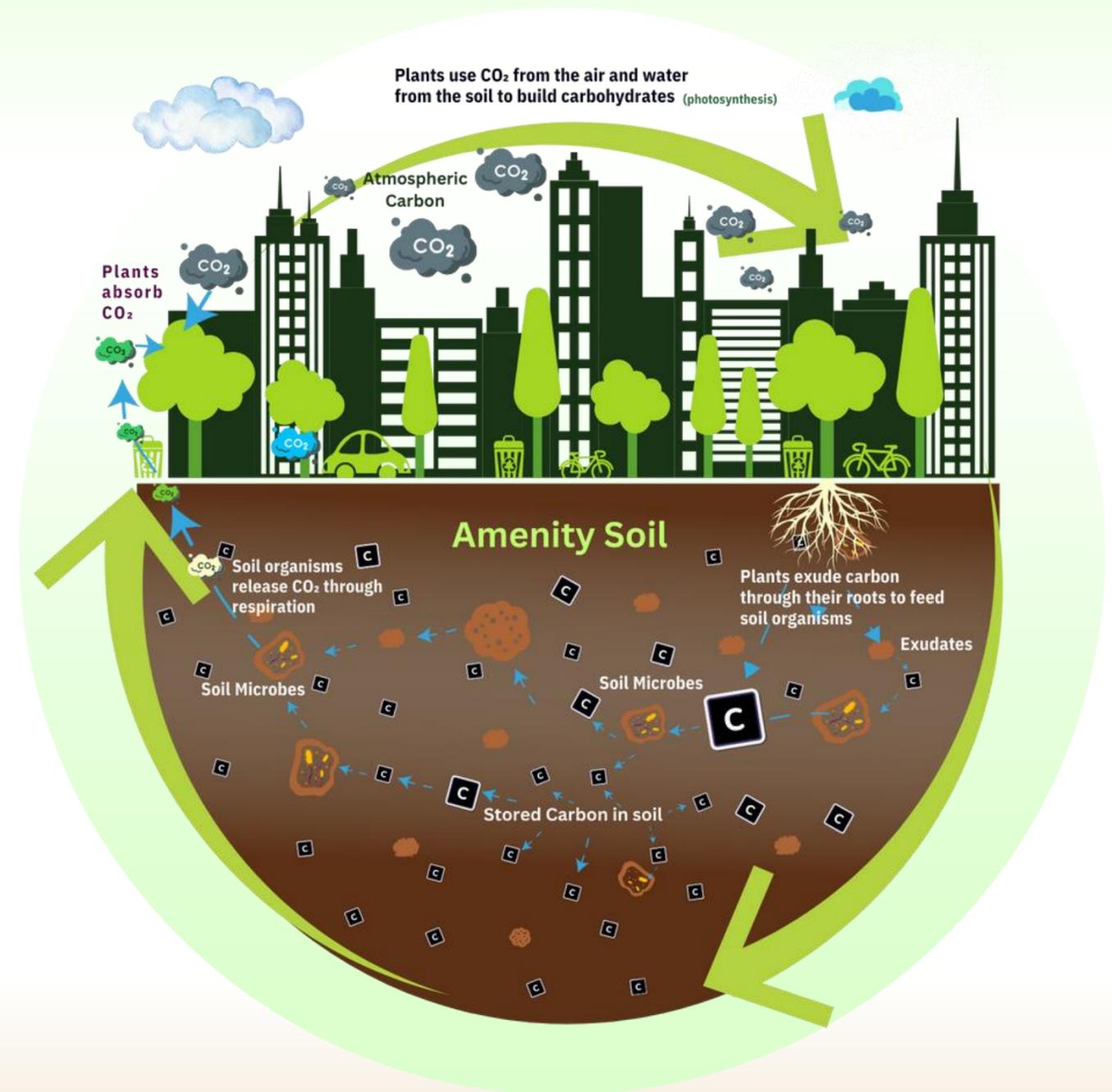
Amenity spaces represent a vast, often overlooked opportunity for carbon sequestration and ecosystem restoration.



Vegetated soils have the potential to lower urban temperatures by as much as 4°C, contributing to the creation of more comfortable and sustainable cities.



Local governments can lead the way in sustainable land management, creating greener, healthier communities.





THE GREEN PIGEON VISION



Green Pigeon's commitment to decarbonisation extends beyond buildings, recognising the potential of amenity spaces.

A holistic approach to sustainability, integrating soil health, carbon reduction, and community well-being.



SUSTAINABILITY



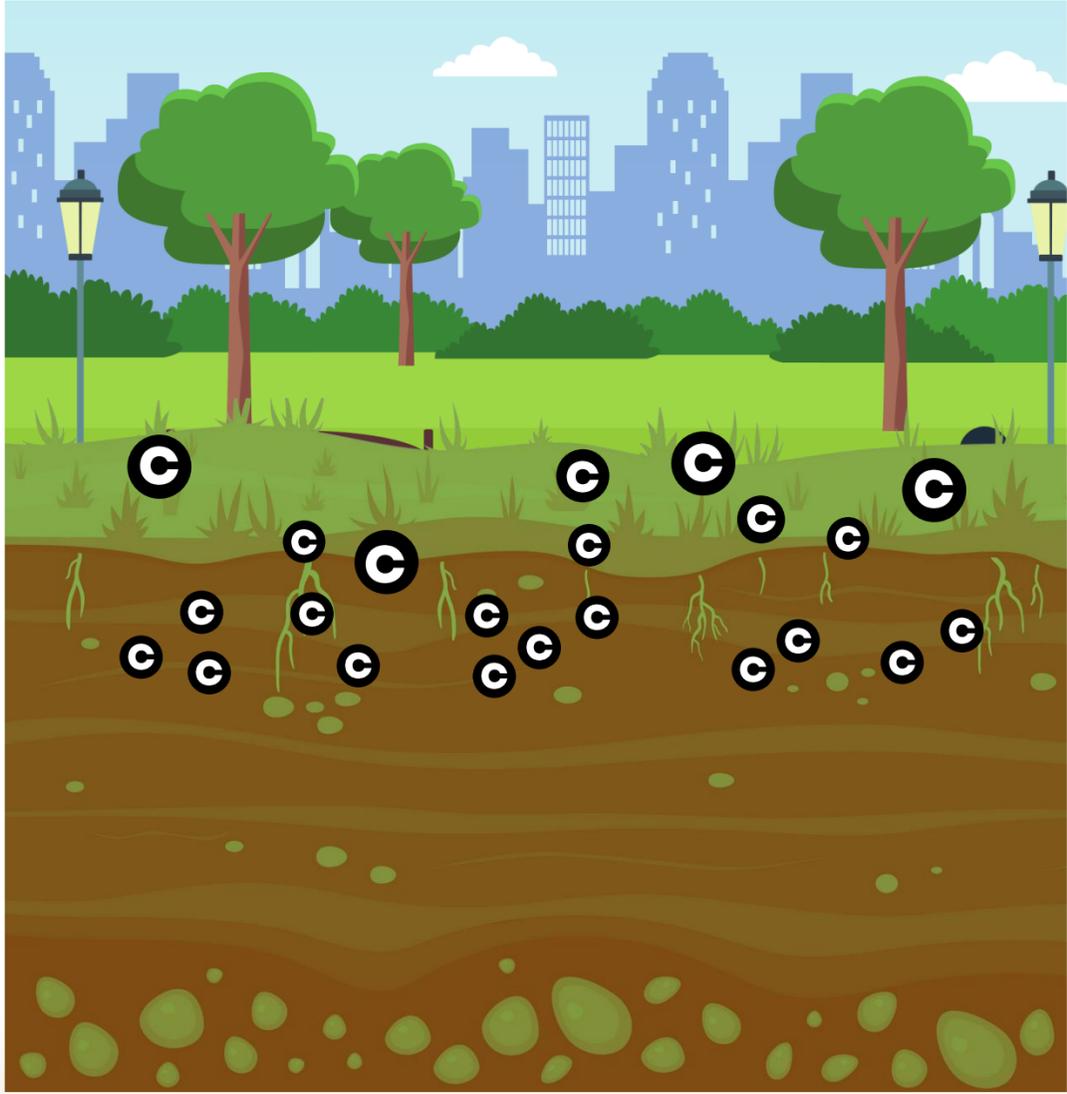
CARBON REDUCTION



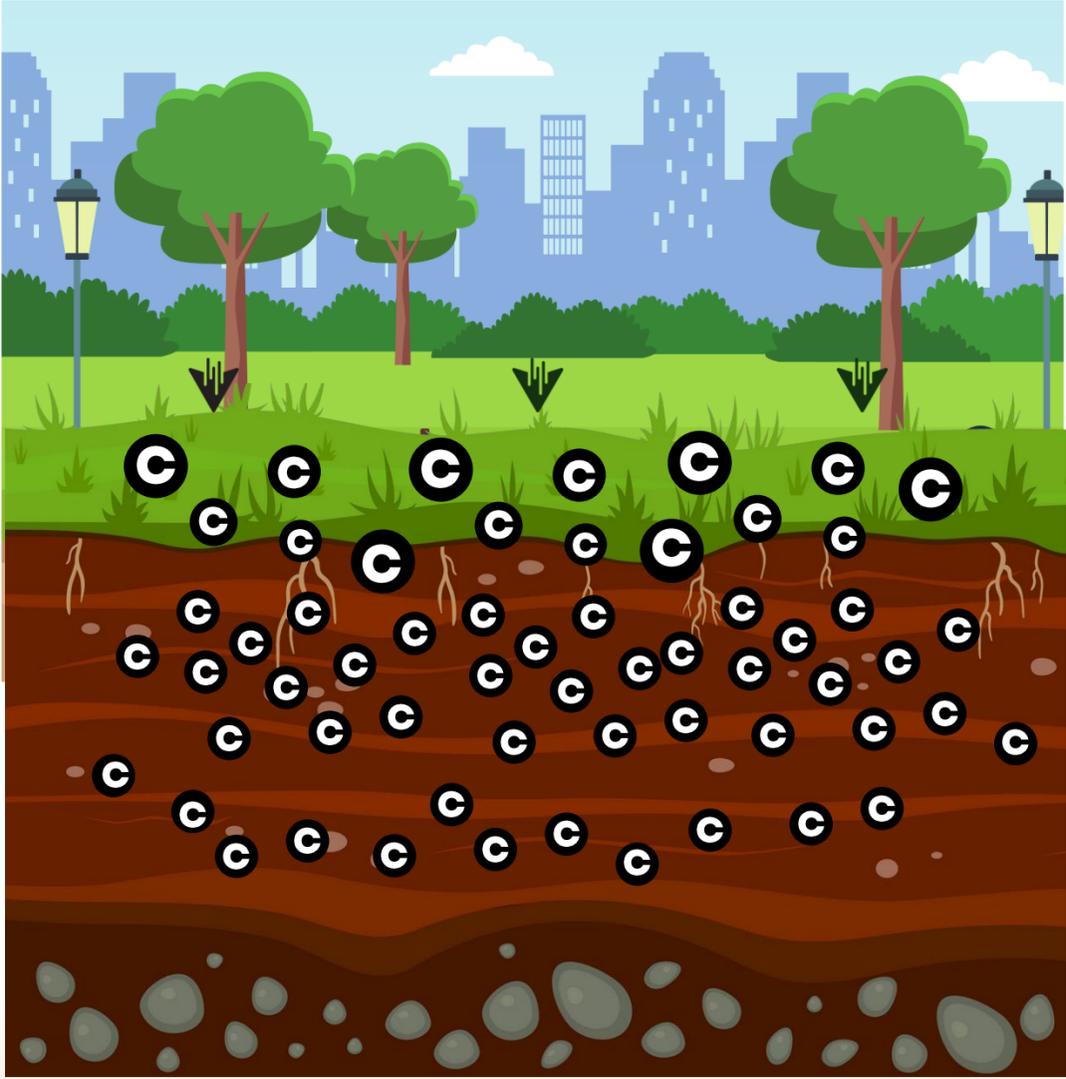
SOIL HEALTH



OUR GOAL : Green Pigeon



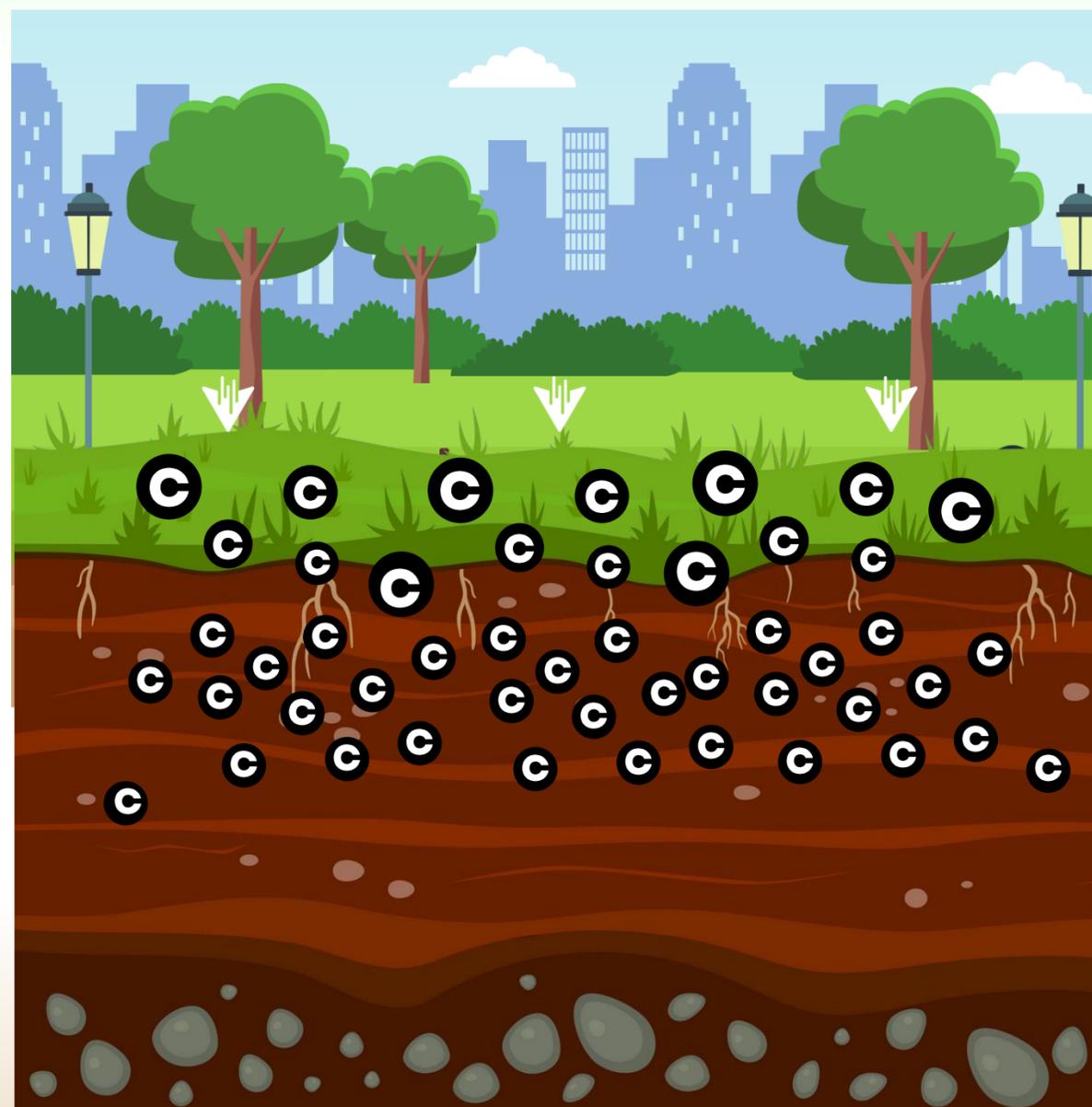
Amenity soil with Low Carbon



Amenity soil with Elevated Carbon



INCREASING SOIL ORGANIC CARBON(SOC)



- Organic matter is the key to carbon sequestration and soil health.



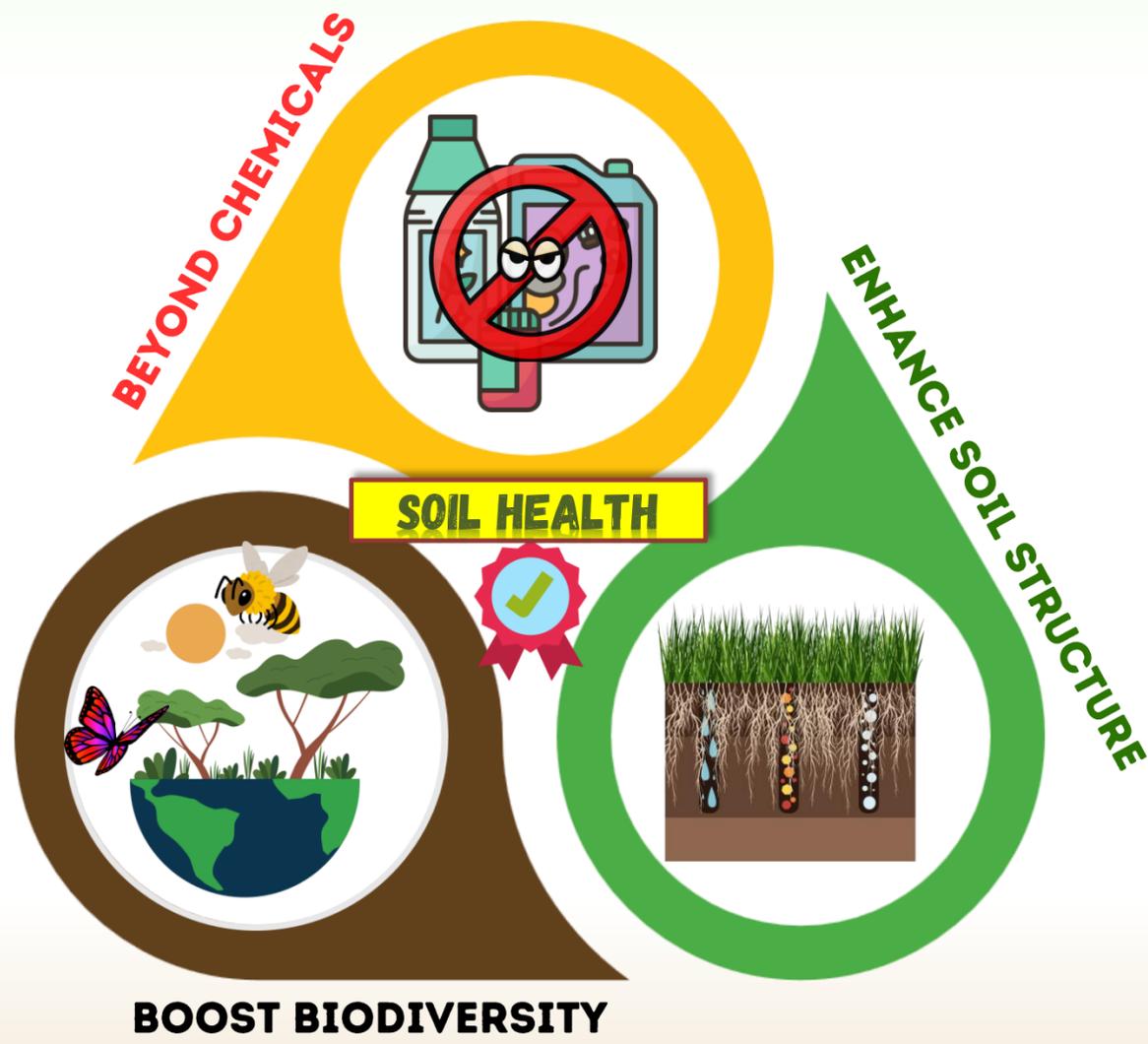
- Every 1% increase in soil organic carbon can sequester tons of carbon per acre.



- Organic fertilisers, overseeding, aeration, and improved drainage can significantly increase soil organic carbon levels.



IMPROVING SOIL HEALTH





IMPROVING SOIL HEALTH



Implementing best practices in maintenance, agronomy, and aeration to enhance **soil structure** and fertility.





IMPROVING SOIL HEALTH



GREEN PIGEON CONSULTING



Promoting **biodiversity** through the use of native plants and pollinator-friendly habitats.





IMPROVING SOIL HEALTH

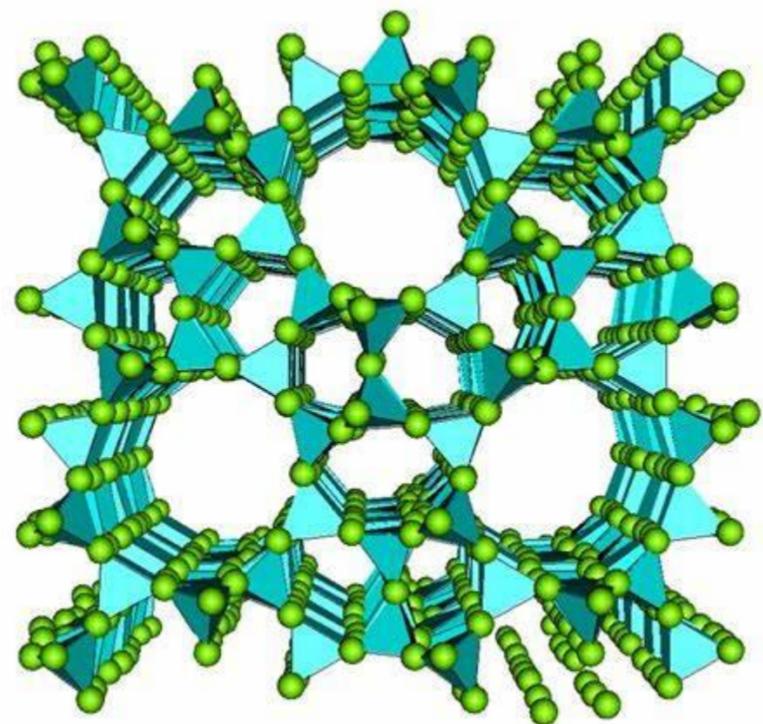


Reducing reliance on **synthetic fertilizers** and pesticides, fostering a healthy soil ecosystem.





IMPROVING SOIL HEALTH



Zeolites can maintain soil water, nutrients and some studies show a 30% increase in soil carbon sequestration.



HARNESSING THE POWER OF BIOFERTILIZERS



Alternative Fertilizers

Biofertilisers from anaerobic digestion offer a sustainable alternative to synthetic fertilisers.



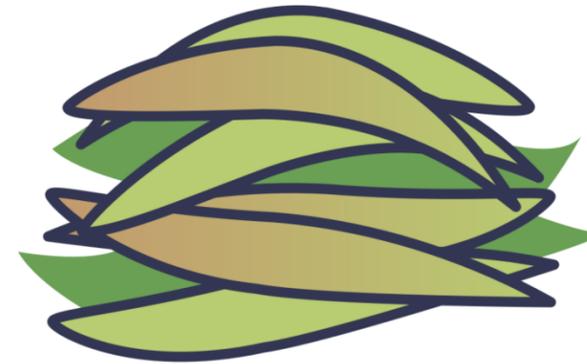
Benefits

They enhance soil fertility, promote plant growth, and reduce greenhouse gas emissions.

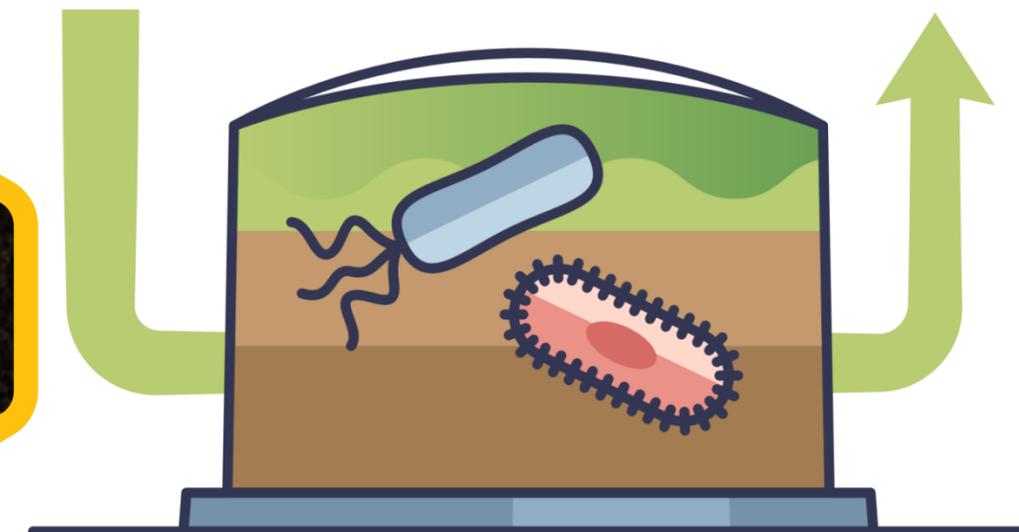


Utilise Waste

A circular economy approach, turning waste into a valuable resource.



BIOFERTILISERS



ANAEROBIC DIGESTION





INTRODUCING CARBON GRASSES

INCREASE BIO-SEQUESTRATION

A hectare of Carbon Grass sequesters 13 tonnes per Ha per annum of atmospheric carbon into the soil sink.

CARBON CAPTURE

Deep-rooted grasses effectively capture carbon, enhance water infiltration, and facilitate groundwater recharge, which aids in minimizing runoff.

VERSATILE

These grasses are versatile and can flourish in diverse environments, making them ideal for both urban and rural settings.

300% MORE EFFICIENT THAN TRADITIONAL AMENITY GRASS



 Carbon in the soil

INTRODUCING CARBON GRASSES

Tons of CO₂ /Ha Stocked in Turf Grass After 30 months

	Leaves	Roots
Mixture	3.7	9.92
Smoot stalked meadow grass	4.42	20.60
Hard fescue	3.46	14.17
Ryegrass	4.56	11.61
Agrostis Stolonifera (C Bent)	5.48	15.96
Red Fescue	6.17	47.26
Average	4.63	19.92

Tons of CO₂ /Ha/Yr Sequestered into the soil

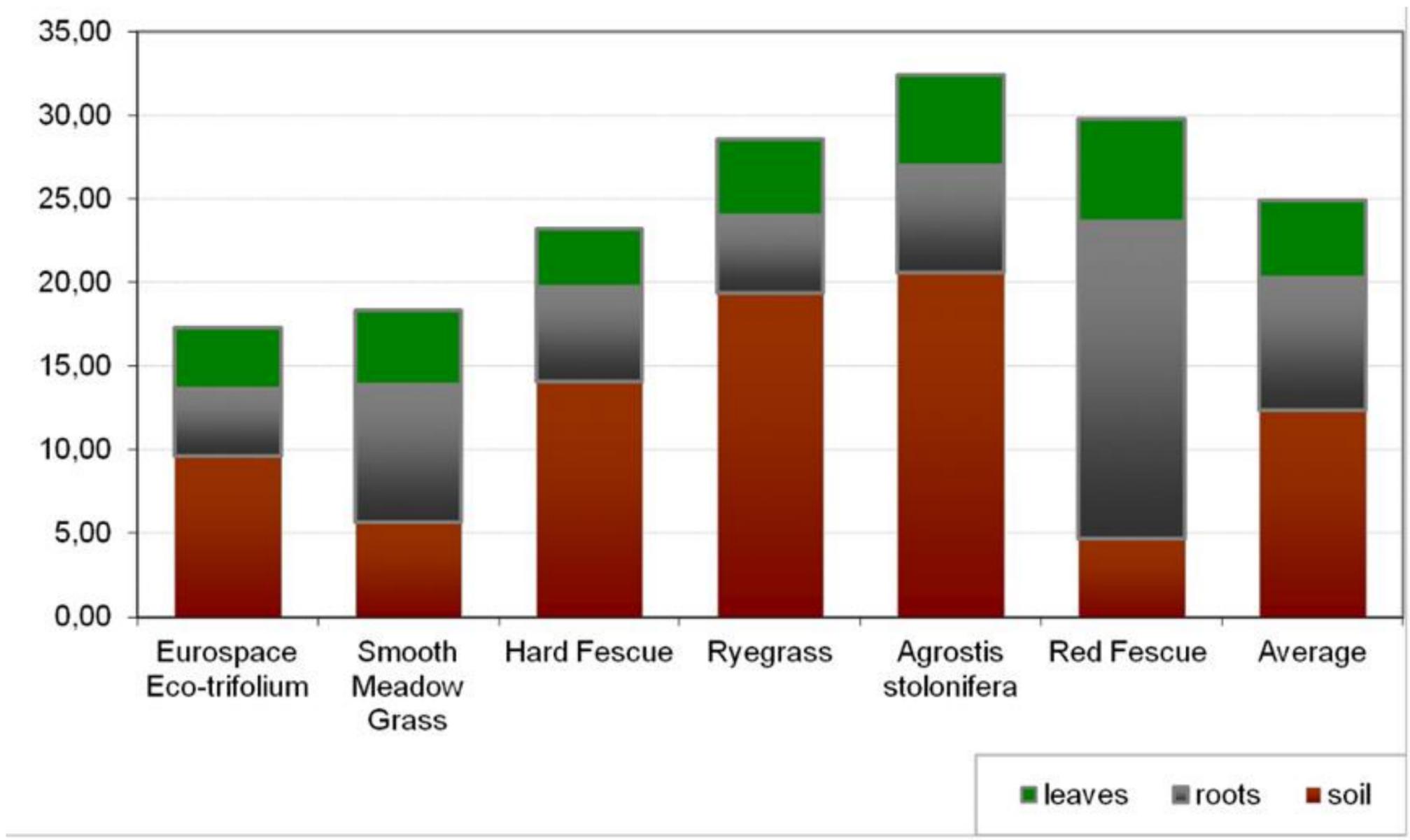
	Soil
Mixture micro clover and grasses	9.65
Smoot stalked meadow grass	5.66
Hard fescue	14.08
Ryegrass	19.36
Agrostis Stolonifera (C Bent)	20.57
Red Fescue	4.70
Average	12.34



INTRODUCING CARBON GRASSES



Tonnes of CO₂ Sequestered per Year



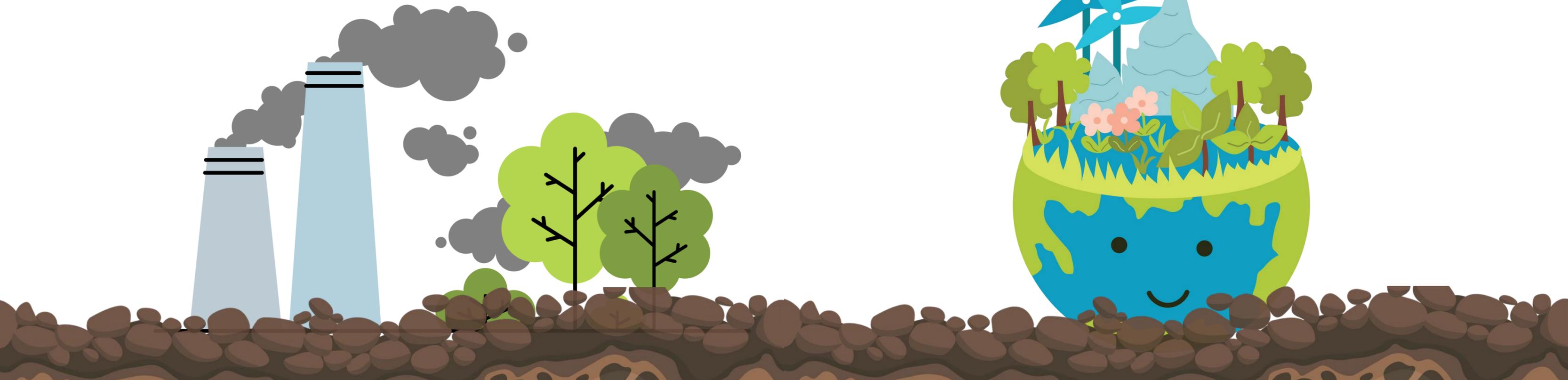
INTRODUCING CARBON GRASSES

REDUCED MAINTENANCE COST

Requiring an average of 40% less cutting (enabling sustainable 40% long-term cost savings) and reduction in fossil fuel for mowers

SUSTAINABLE FUTURE

300,000 Ha of grass would sequester 2m-3m MT CO₂e per annum



INTRODUCING CARBON GRASSES

ECO GREENS

Incorporating carbon grasses into recreational spaces such as parks and golf courses aids climate mitigation while offering both aesthetic and ecological advantages.

SUSTAINABLE FUTURE

Supports sustainable development goals, promoting a greener and more resilient future for communities.



YOU CAN'T MANAGE WHAT YOU DON'T MEASURE!



Soil Health Assessment



Measure soil nutrients and health, including SOC, SOM, and physical properties.

01.

Sustainable Agronomic Consulting:

Provide insights for tailored management strategies to enhance carbon storage and ecological balance and improve turf performance.

02.

Soil Management Plans:

Offer detailed reports, recommendations, and best practices for soil conservation, nutrient management, and sustainable recreation use.

03.



Green Pigeon

Consulting
Services



RESEARCH UNDERTAKEN BY SENUS

100 HA FARM

2020-2024 Net Sequestration

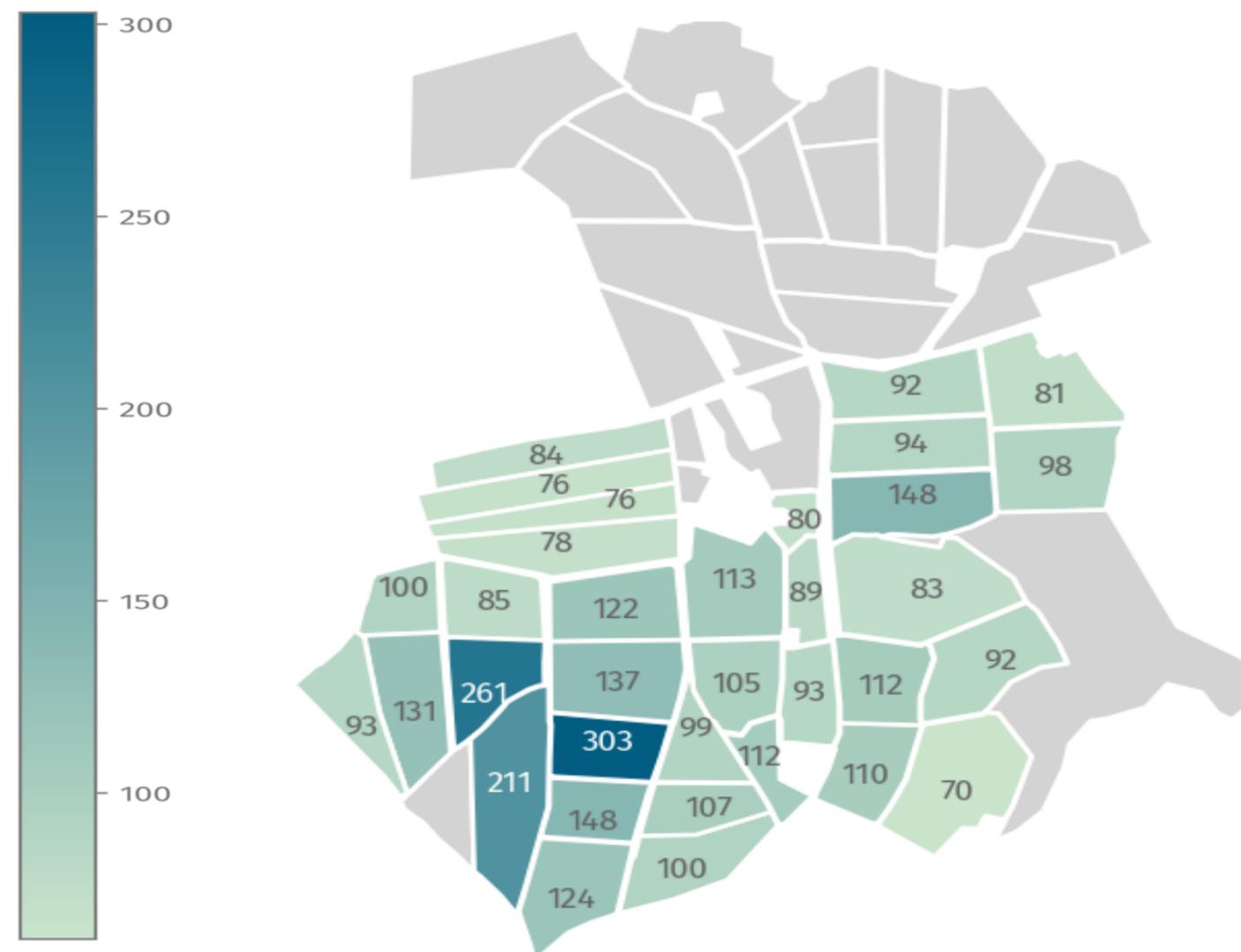
+180.6

*Net Tonnage of soil
Carbon Sequestered*

**+662.6 tonnes
over 4 years**

CO₂-Equivalent

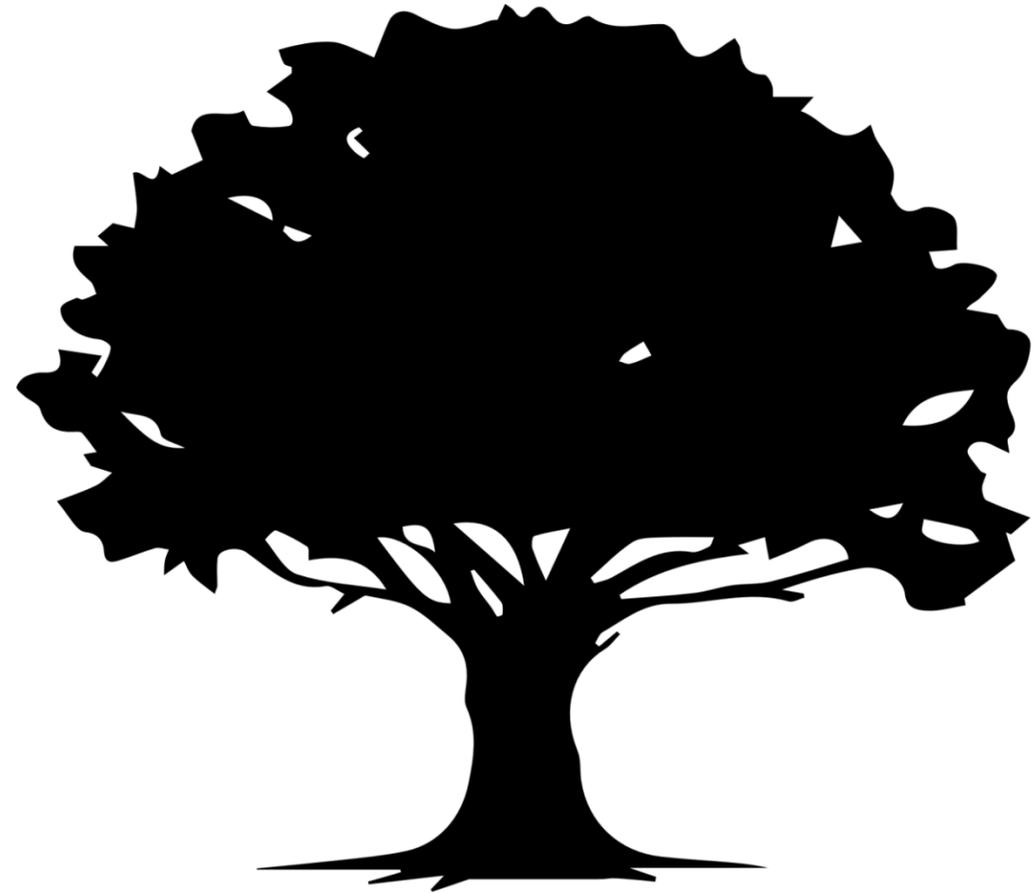
The total tonnage of additional CO₂e that's been stored in the soil



RESEARCH UNDERTAKEN BY SENUS

100 HA FARM

2020-2024 Net Sequestration



**29 Mature
Oak Trees**



**Equivalent Annual
Emissions 268 Cars**



GREEN PIGEON CONSULTING

CONCLUSION

Investing in soil health is a vital investment for our future. By collaborating, we can reveal the untapped potential of amenity spaces and foster a more sustainable world. Let's dig in and work towards a greener, healthier planet!



LET'S GET DOWN AND DIRTY FOR A GREENER, HEALTHIER PLANET!

Green Pigeon Consulting Ltd

What we do:

- Open space decarbonisation
- Planning for open space developments
 - Soil audits (ALC's)
- Soil water Management
 - Drainage design
- Sports pitch design
- Agronomy



The Team



Justin Smith HND (Dist) BASIS MICCM

Justin Smith is a qualified agronomist with nearly 40 years of experience in plant, soil, and water management. He founded Cemetery Development Services Ltd in 2004, later rebranding to The CDS Group in 2019. Under Justin's leadership, CDS Group became the first UK company to design a public sector crematorium using green energy electric cremators. Justin continued to make significant contributions to the industry as Business Development Director at the Darwin Group, establishing the company as a respected name in cemetery and crematorium design worldwide. Previously, Justin founded TurfTrax Ground Management and TurfTrax Racing, where he developed advanced technology for soil physical measurement and sports turf management, significantly impacting positively on horse racing measurement standards globally.



Robert Donald CEnv MIAgrE

Robert Donald graduated from Newcastle University in 1993 with a degree in Agricultural and Environmental Engineering. Starting his career in agricultural land drainage, he rose to become managing director of the UK's largest fleet of specialist land drainage equipment at White Horse Contractors Ltd. Robert has been consultant to The Royal Parks, London, FIFA 2010 World Cup, Abu Dhabi, Polo pitches for HRH Sultan of Brunei, Original Chelsea Football Club Training Ground and Academy, Ascot Race Course 2004/2005 Ascot Redevelopment Programme, Olympic Park, London 2012 Olympics, Polo Ground at Windsor Great Park 2001, Home of the Cartier Cup, 2018 Polo Pitch Advisor to Kingdom of Saudi Arabia



Jagdish Patel BSc MSc

Jagdish graduated as a biotechnologist in 2012 and has since become a leader in developing sustainable biological products for agriculture and bioremediation. From 2016 to 2024, he served as the Technical Manager at Eco Microbial Technologies, a company specializing in the research, development, and commercialization of advanced biotech products for agriculture, environmental management, aquaculture, veterinary, and consumer sectors. With expertise in soil microbiology, Jagdish brings a wealth of knowledge to Green Pigeons' soil management team, where he will spearhead strategic initiatives aimed at enhancing soil organic carbon in open spaces for both local governments and the private sector.

Our Partners



SENUUS specialises in the measurement, reporting, and verification (MRV) of natural capital. Utilising their advanced geospatial technology platform and a dedicated team of field surveyors, SENUS supports supply chains, public sector organisations, and land custodians in effectively measuring and managing soil health and carbon across more than 1.5 million hectares.

Their comprehensive approach enables stakeholders to gain valuable insights into natural capital, promoting sustainable land management and resource stewardship at scale



Dr Eoghan Finneran
CEO



Joe Desbonnet
Innovation Director



Brendan Allen
Business Development



THANK YOU FOR YOUR ATTENTION!

GETTING DOWN AND DIRTY! – 2024

At Green Pigeon, we aim to empower local governments to utilise amenity spaces to lower carbon footprints and improve soil quality. We seek to innovate and collaborate to create greener, resilient urban environments for both people and the planet.

KEEP IN TOUCH WITH US



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