

1222·2022
800
ANNI



UNIVERSITÀ
DEGLI STUDI
DI PADOVA



Studio degli effetti del compost sulla comunità microbica del suolo per migliorare la salute delle piante

Sebastiano Nigris, Tiziano Bonato, Werner Zanardi, Barbara Schibuola, Barbara Baldan

Dipartimento di Biologia

Università degli Studi di Padova

SESA spa Este (PD)

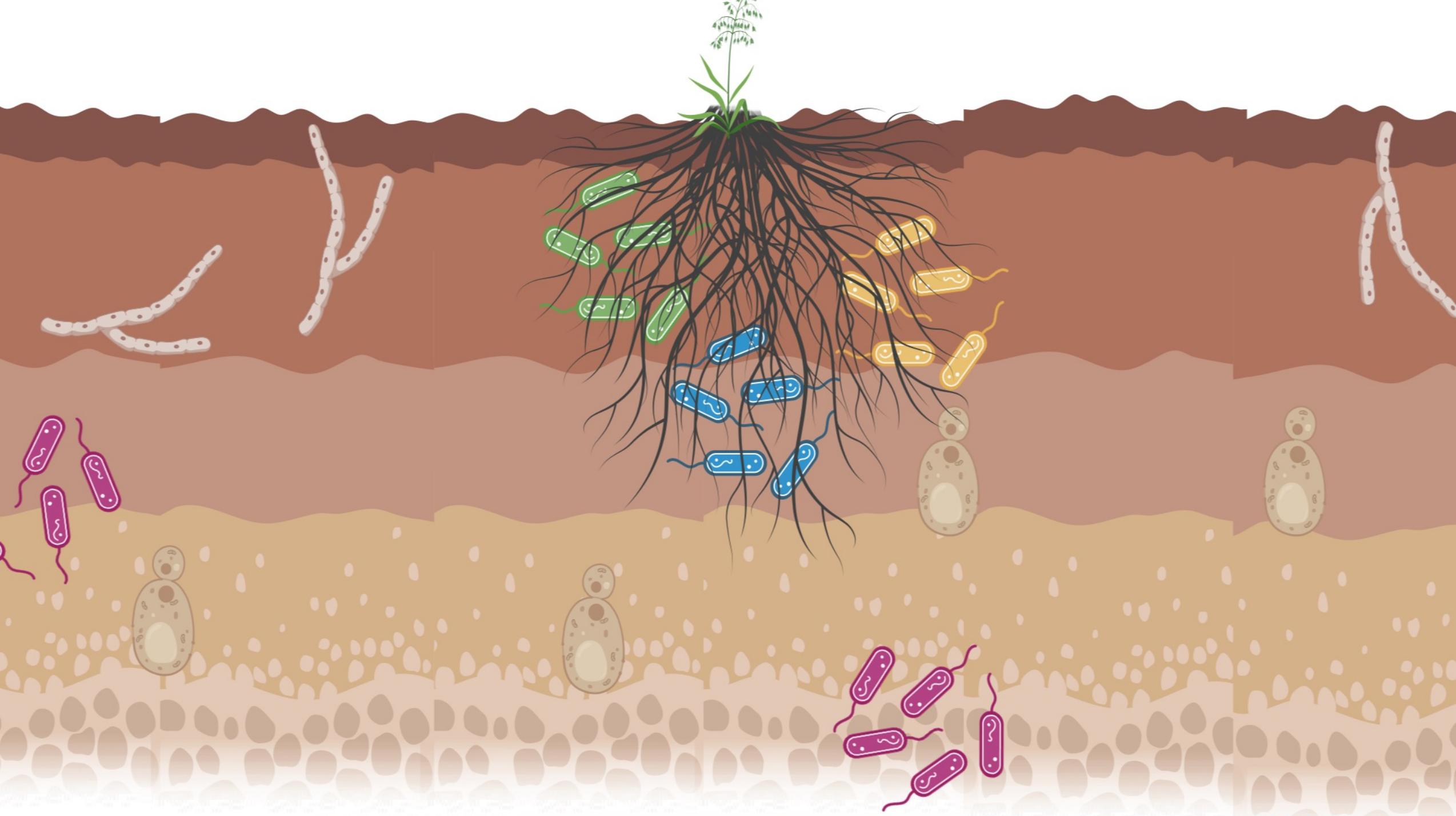


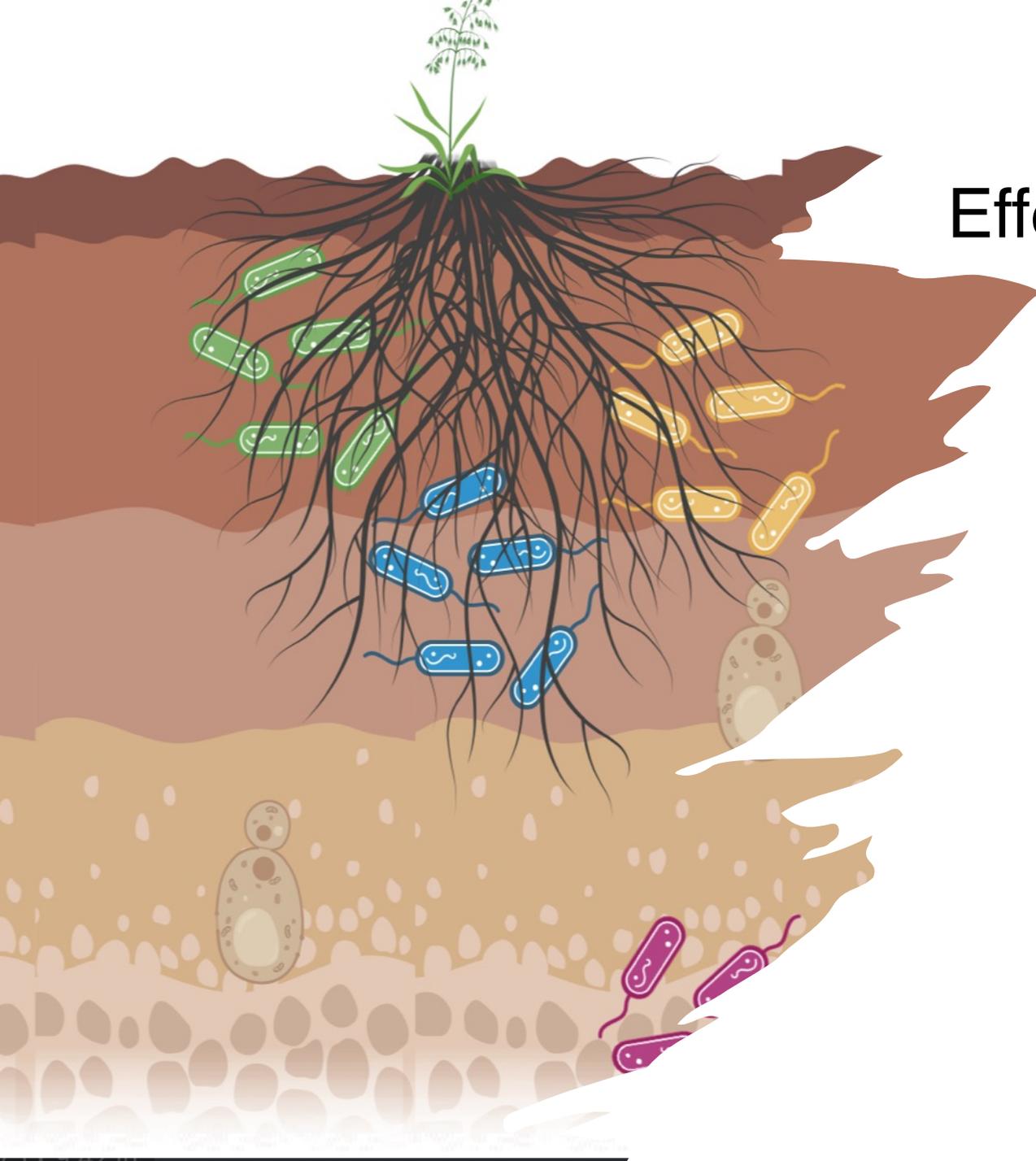






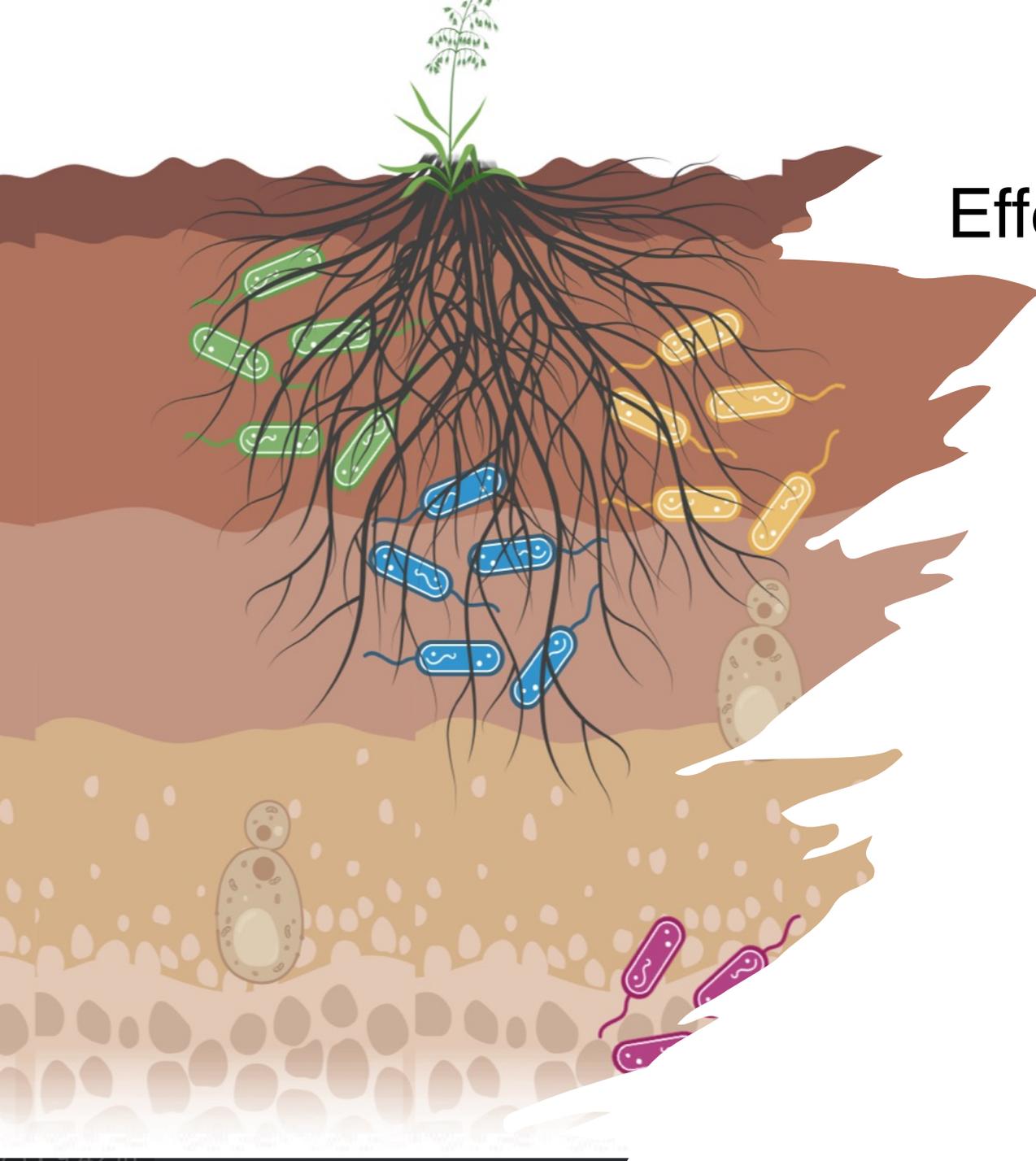






Effetti benefici di questa interazione

Migliore nutrizione minerale
per la pianta

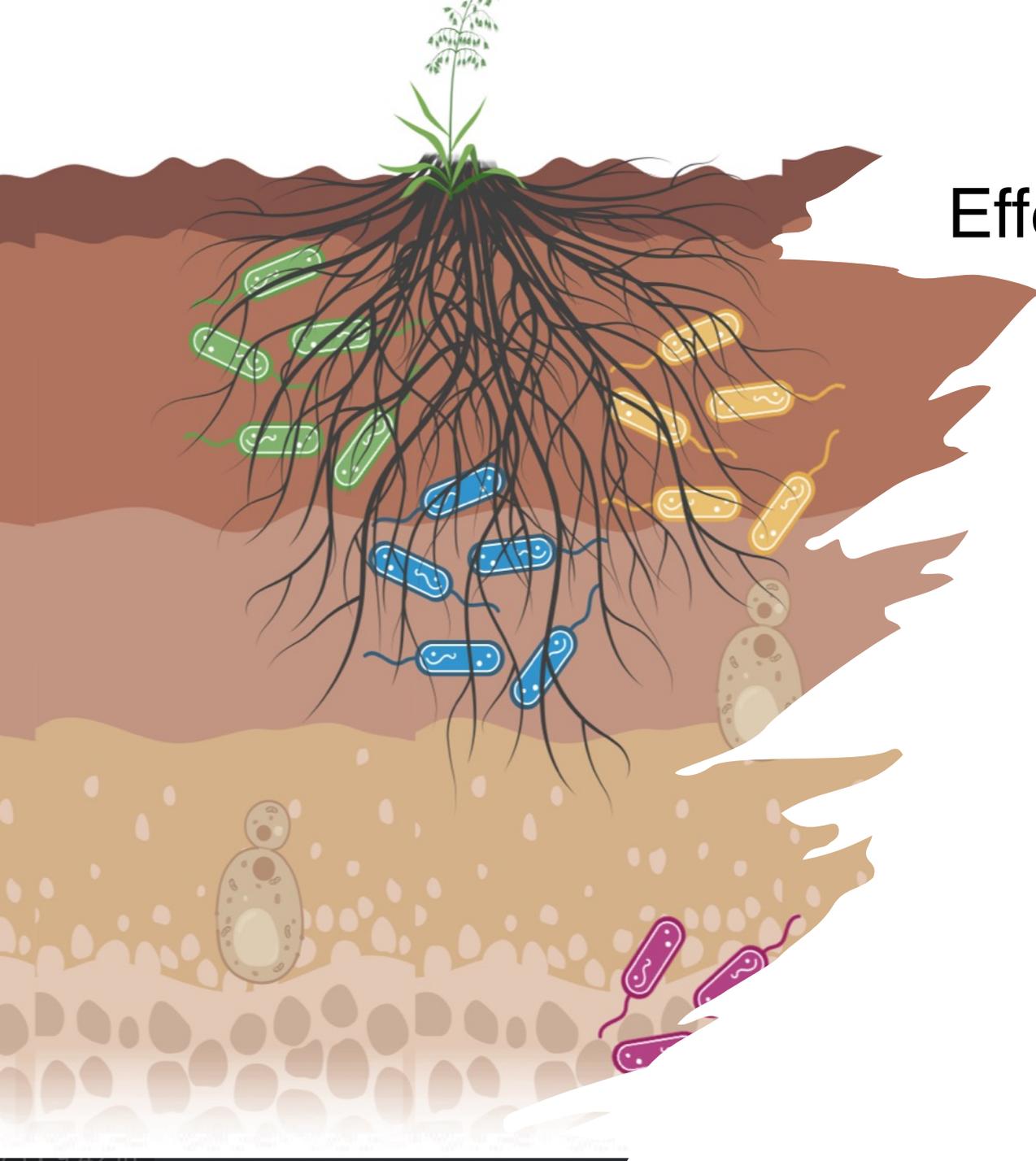


Effetti benefici di questa interazione

Migliore nutrizione minerale
per la pianta

Stimolazione della crescita

Produzione di maggior biomassa

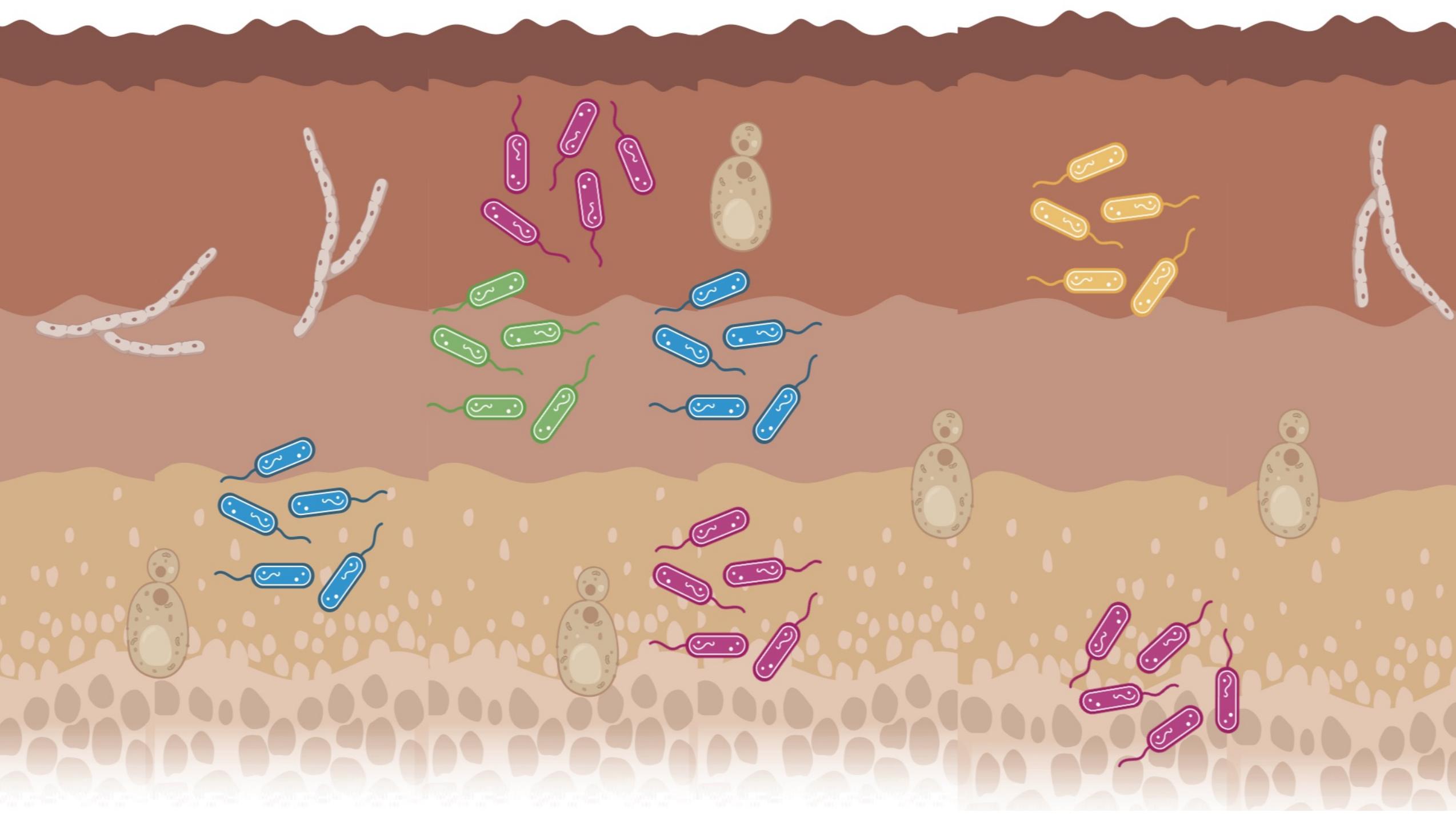


Effetti benefici di questa interazione

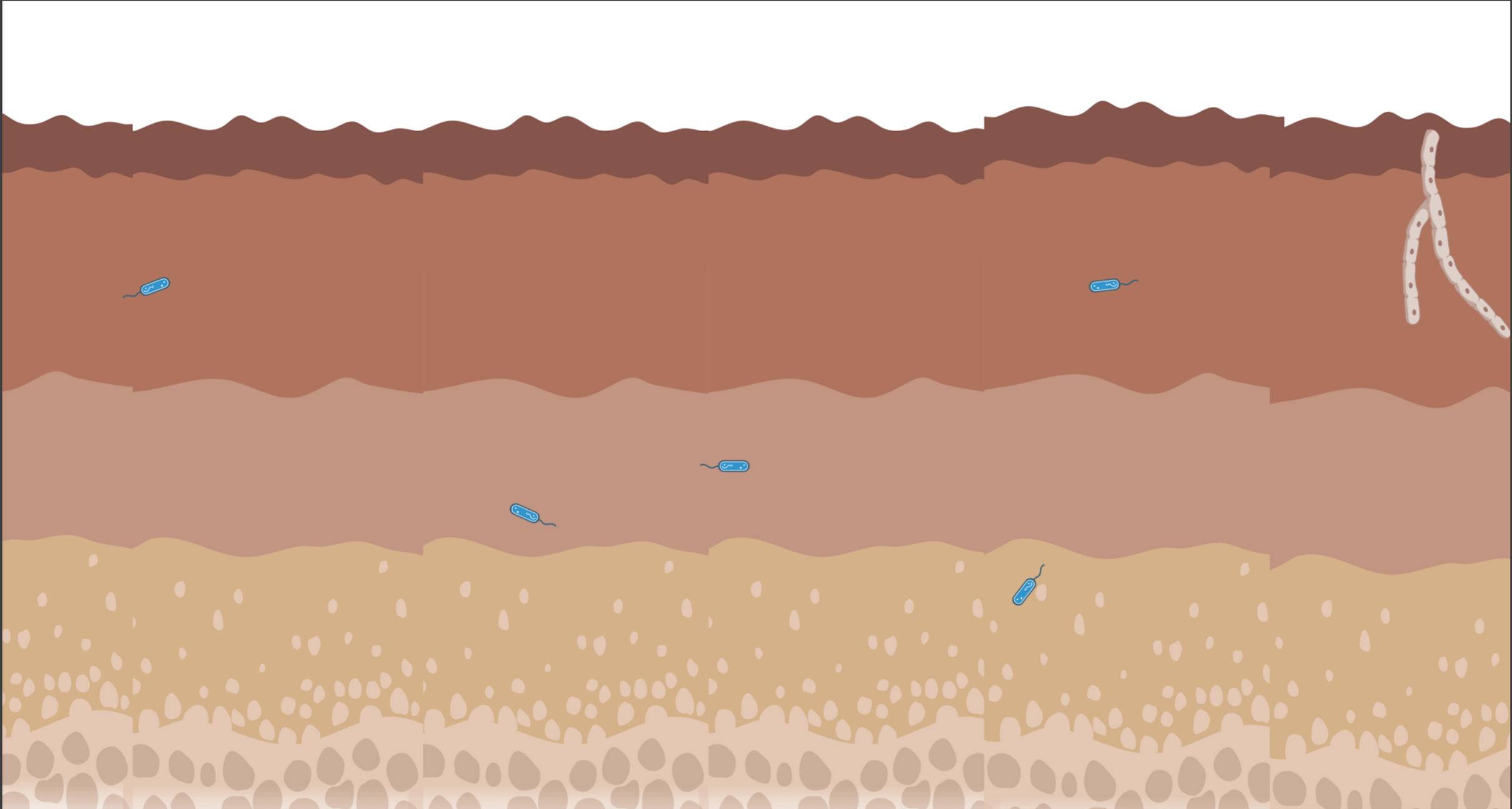
Migliore nutrizione minerale
per la pianta

Stimolazione della crescita
Produzione di maggior biomassa

Biocontrollo dei patogeni



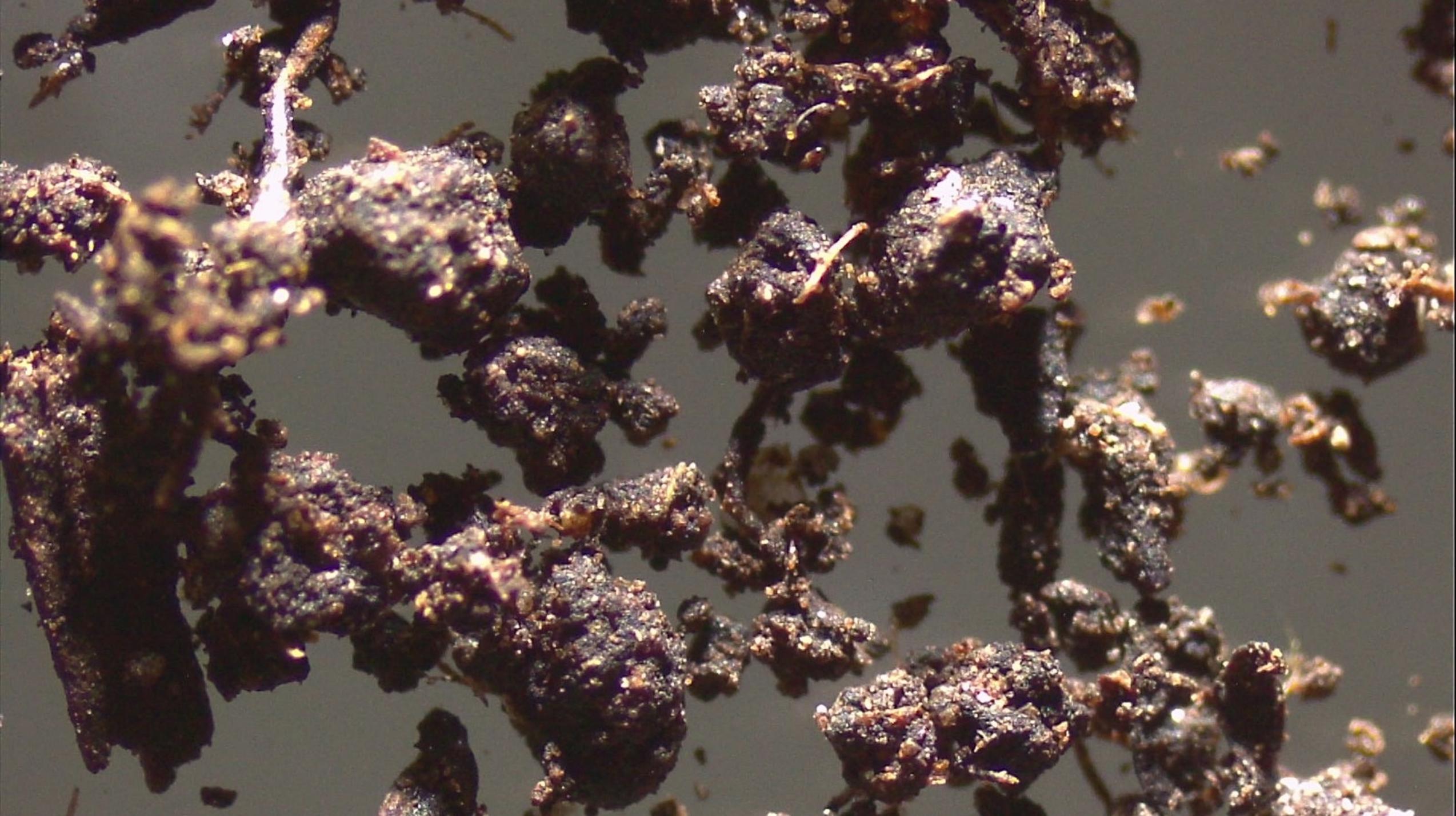






A wide-angle photograph of a dry, brown landscape. The foreground and middle ground are covered in parched, reddish-brown soil with scattered, small, green shrubs and a few palm trees. In the background, a dense line of green trees and bushes stretches across the horizon under a heavy, grey, overcast sky. The overall scene conveys a sense of aridity and environmental stress.

BIOFERTILIZZAZIONE DEL SUOLO





NYBG

NEW YORK BOTANICAL GARDEN

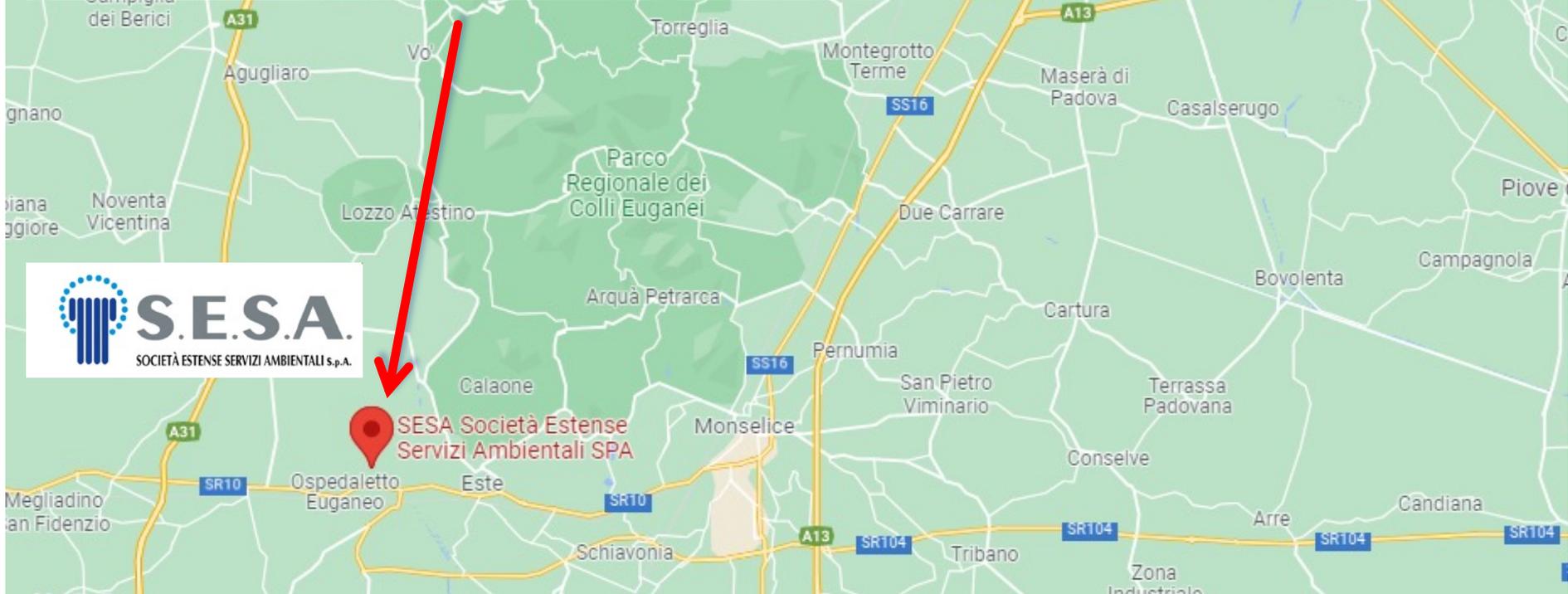
1222 • 2022
8000
ANNI



UNIVERSITÀ
DEGLI STUDI
DI PADOVA



S.E.S.A. S.p.A.
SOCIETÀ ESTENSE SERVIZI AMBIENTALI



Da 1 t di scarto organico



Depuratore biologico:
500 litri di acqua



Digestione anaerobica: 180 m³ di biogas

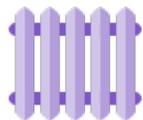
Compostaggio: 200 kg di compost



Up grading del biogas



450 kWh
di energia elettrica



450 kWh
di energia termica



90 kg
di Biometano
(1.800 km)

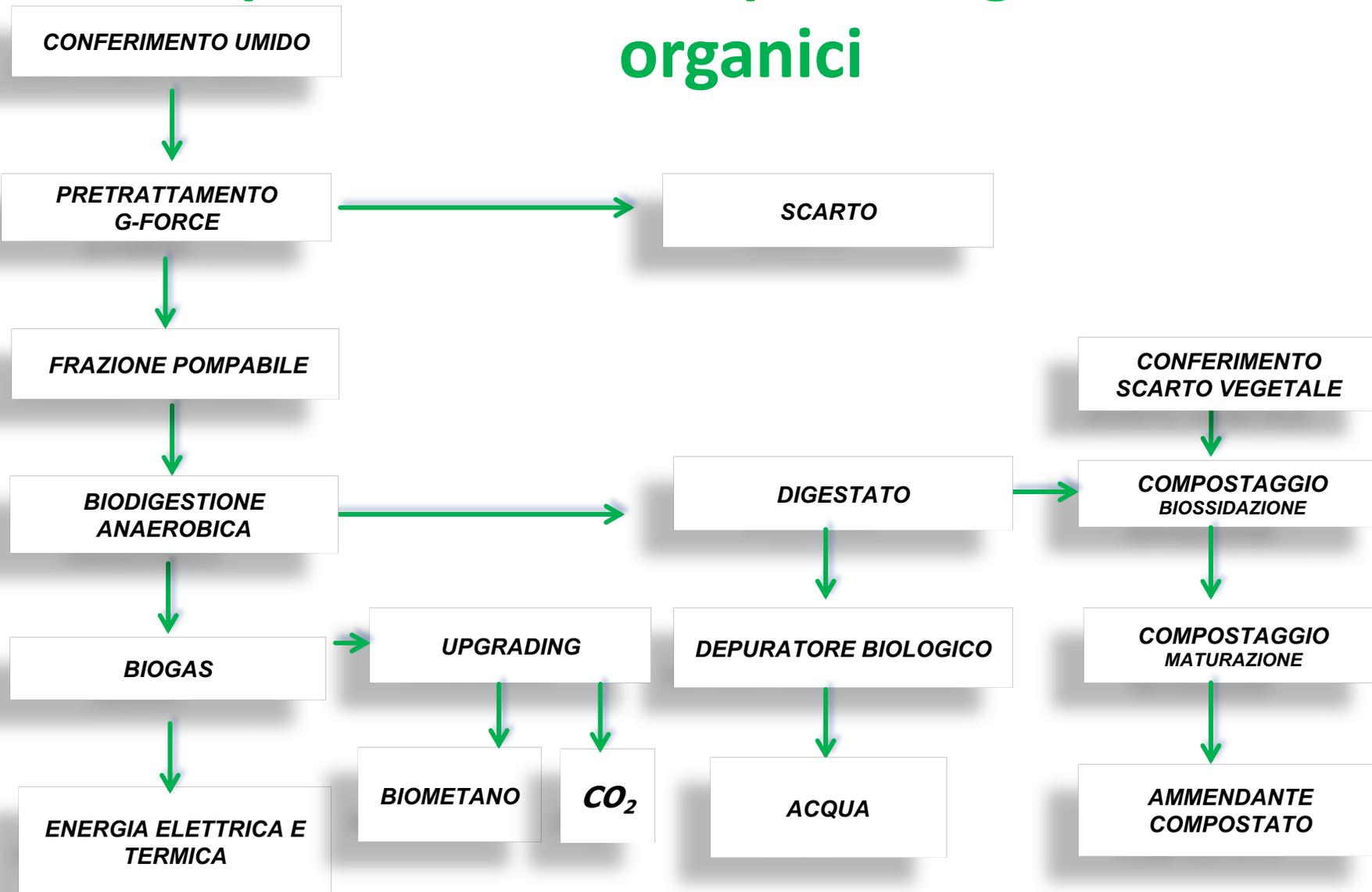


65 kg
di Anidride Carbonica
(5.500 litri di bevande)



agricoltura e paesaggio

Il processo di recupero degli scarti organici





A microscopic view of soil particles, showing various sizes and shapes of dark, granular material. The particles are densely packed and appear to be composed of organic matter and mineral components. The background is a light, neutral color, highlighting the dark, textured nature of the soil particles.

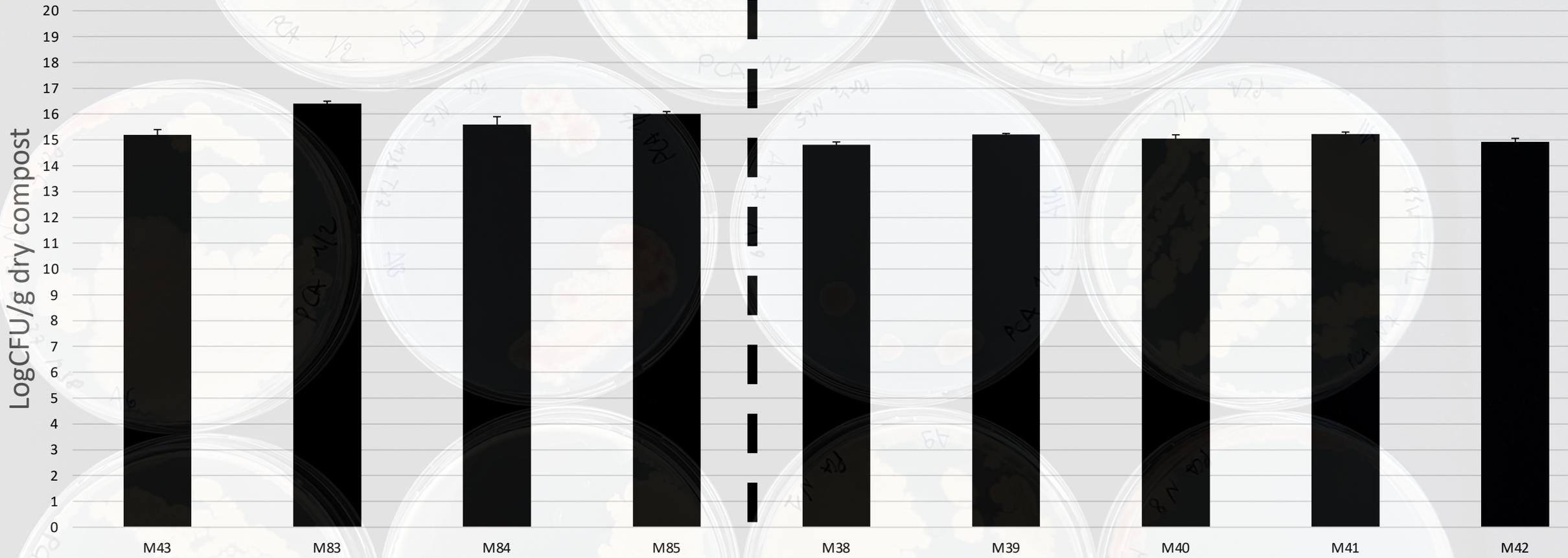
**COME LA COMUNITA' BATTERICA DEL
COMPOST INTERAGISCE CON LA
COMUNITA' DEL SUOLO/DELLA PIANTA?**

CARATTERIZZAZIONE MICROBIOLOGICA DEL COMPOST



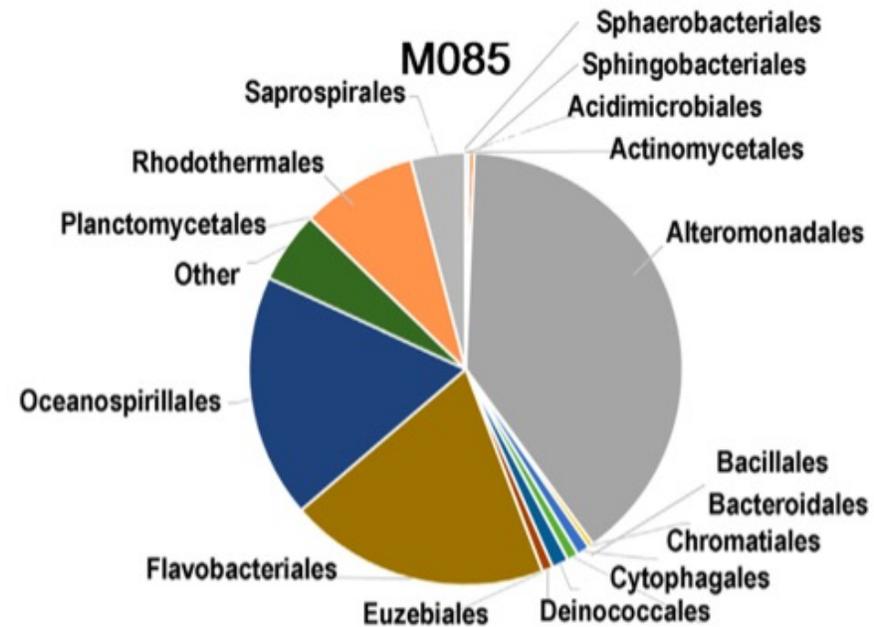
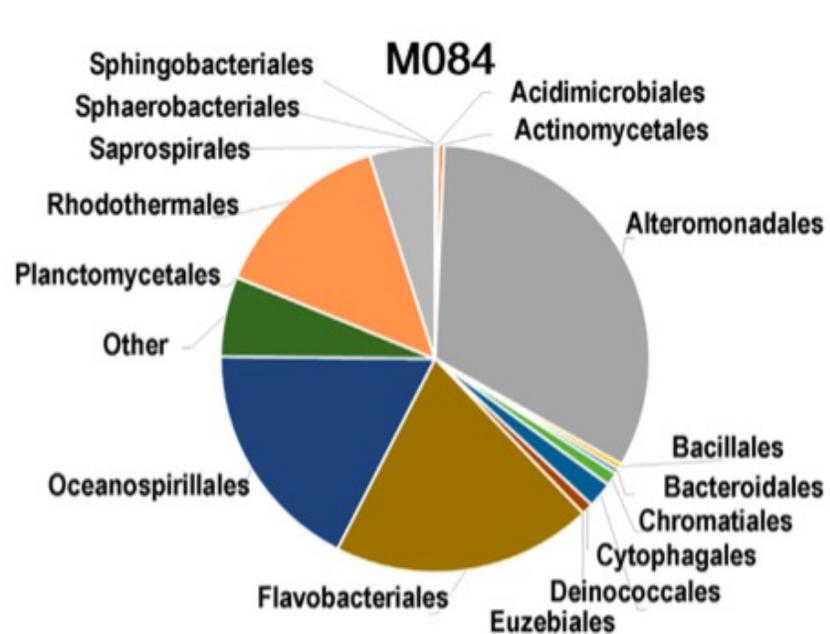
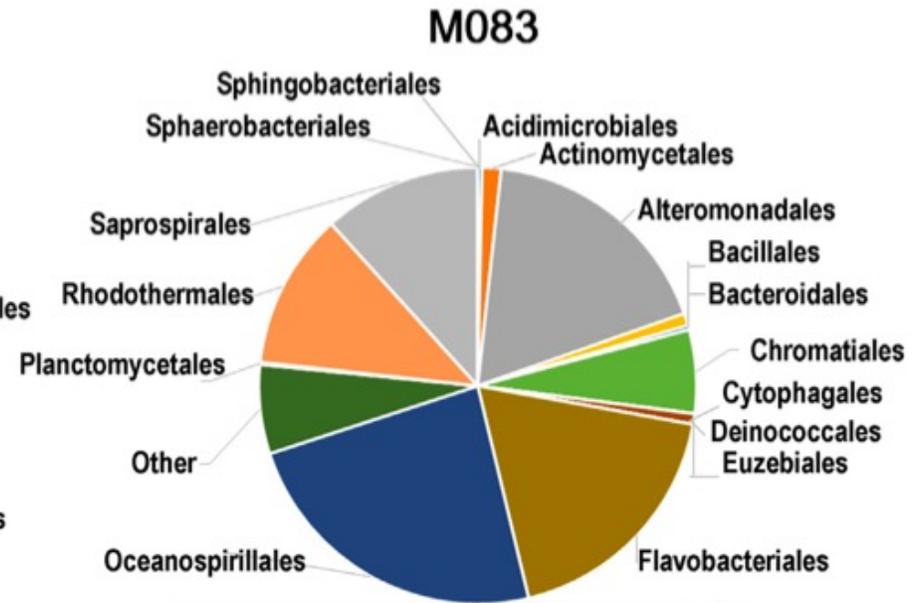
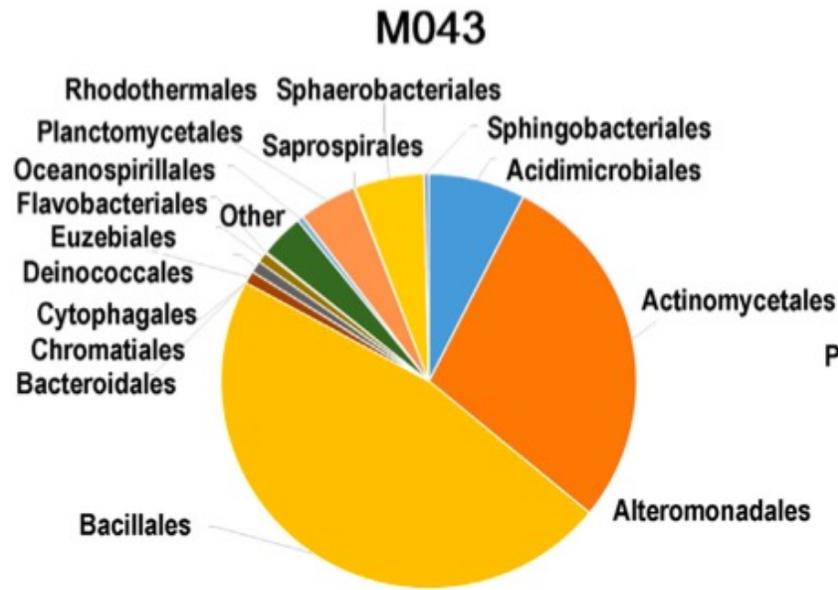
2018

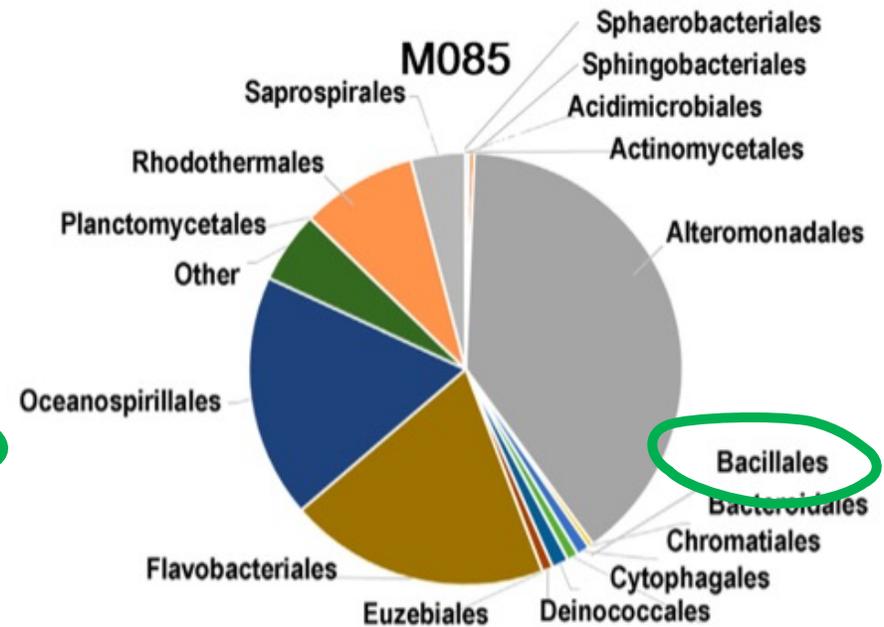
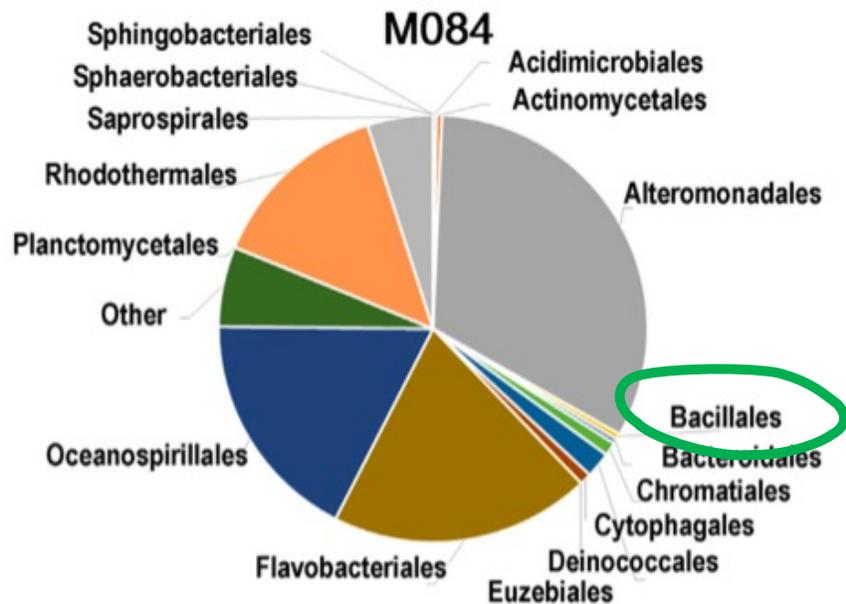
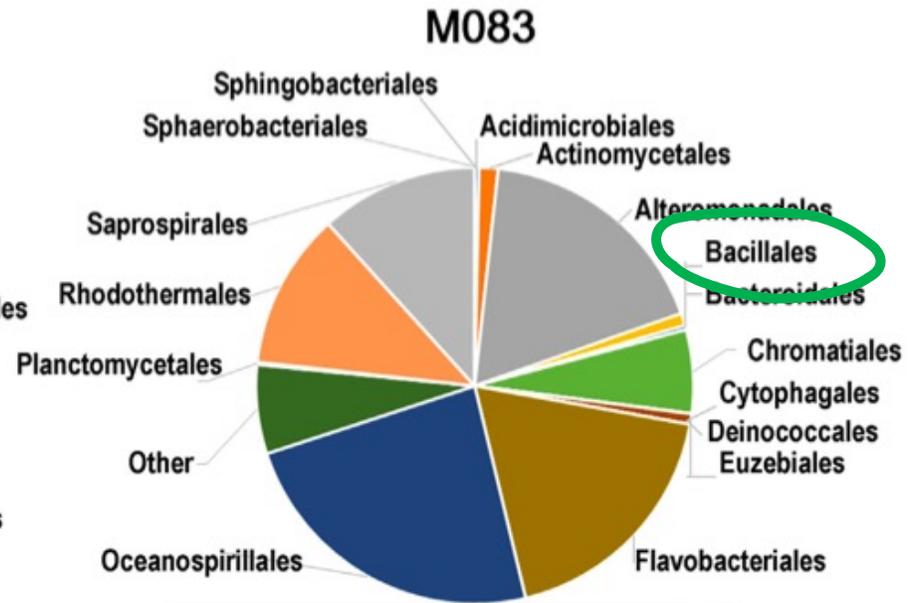
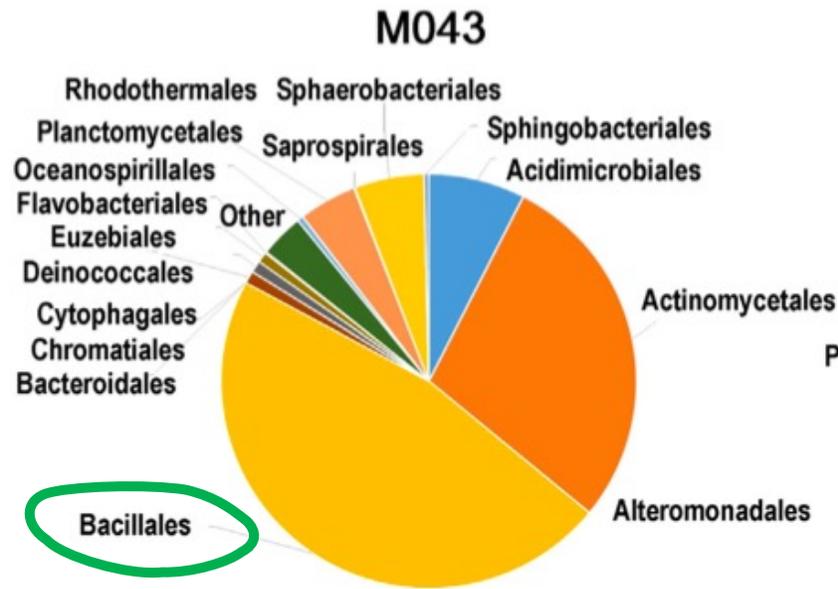
2022

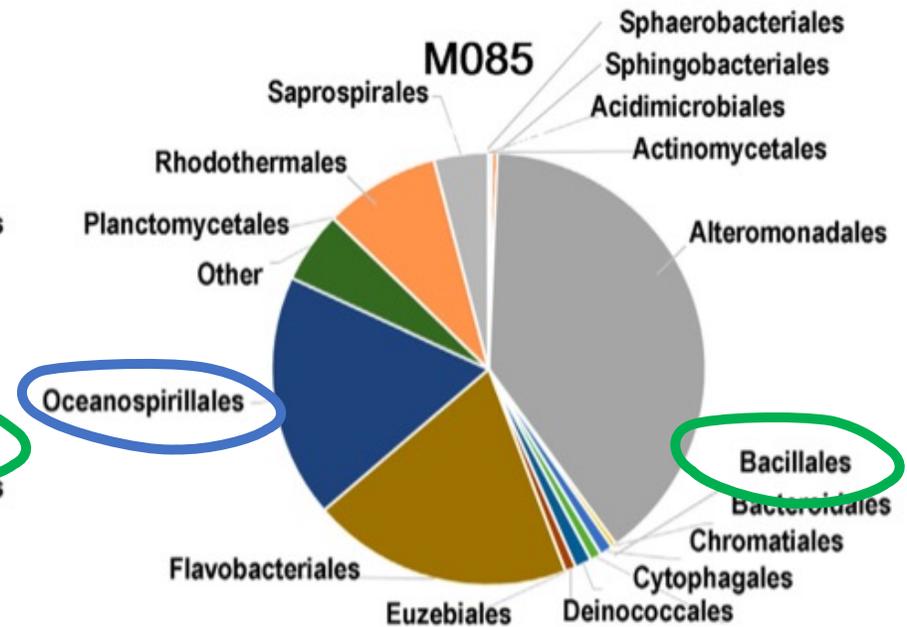
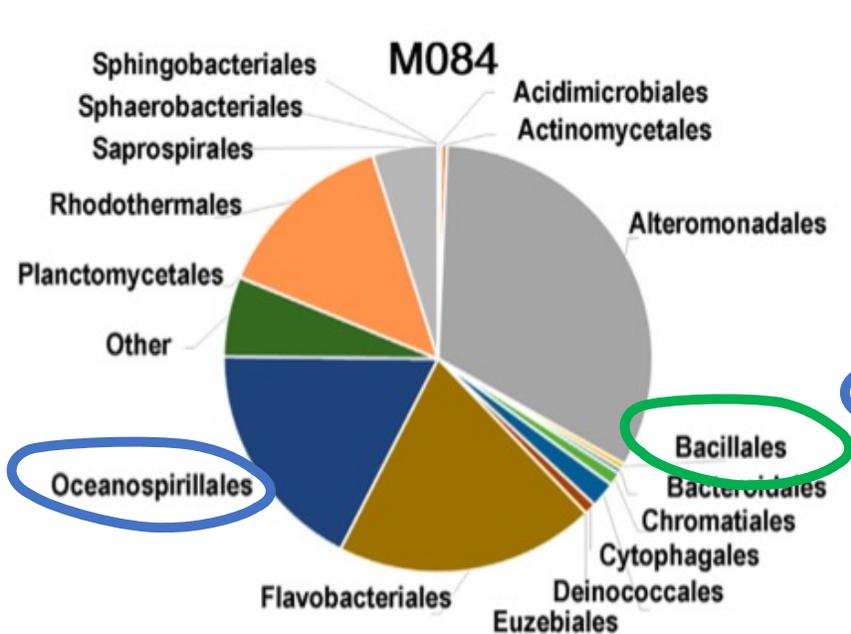
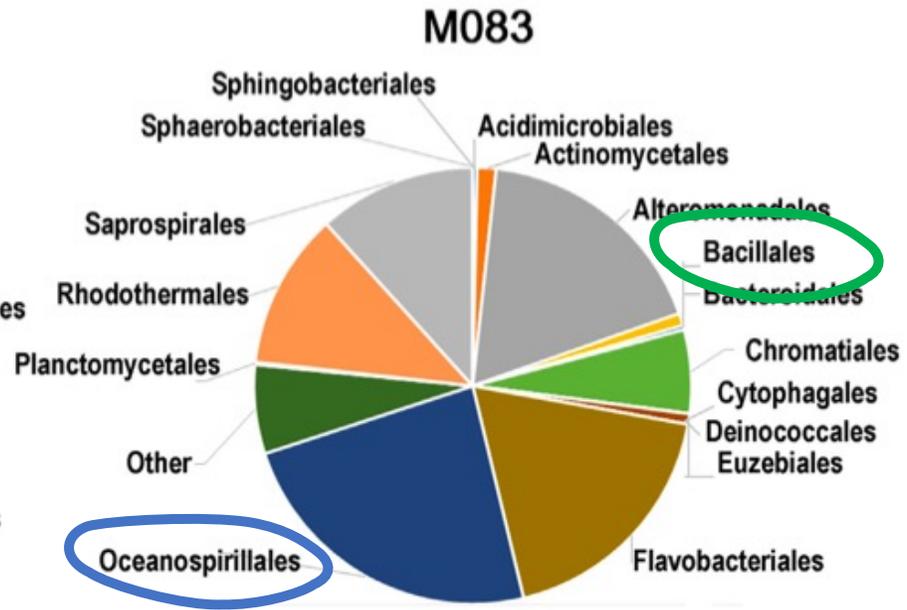
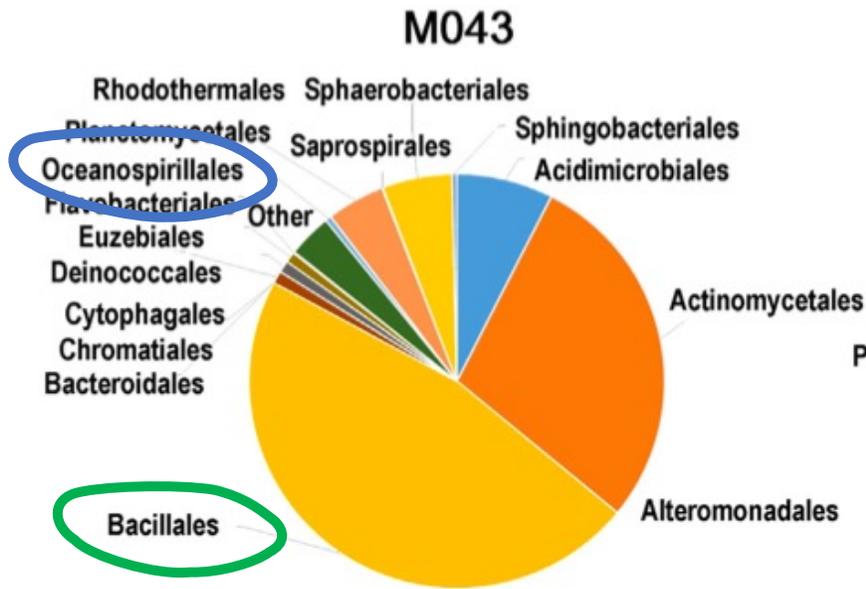


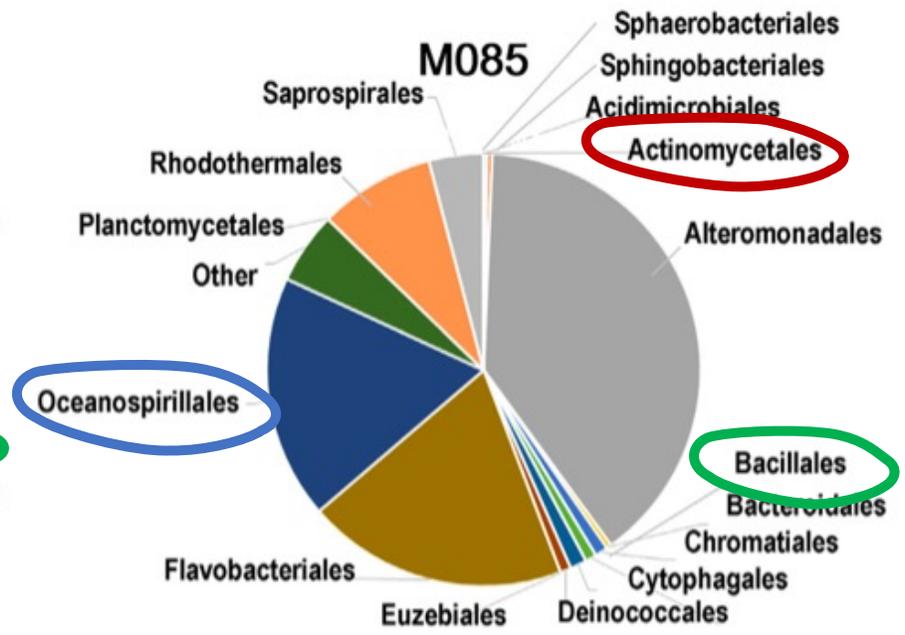
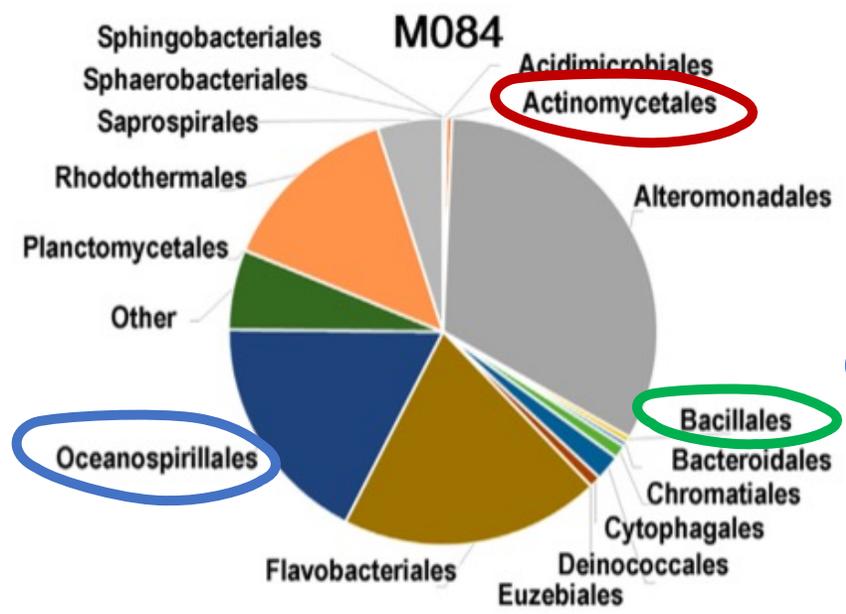
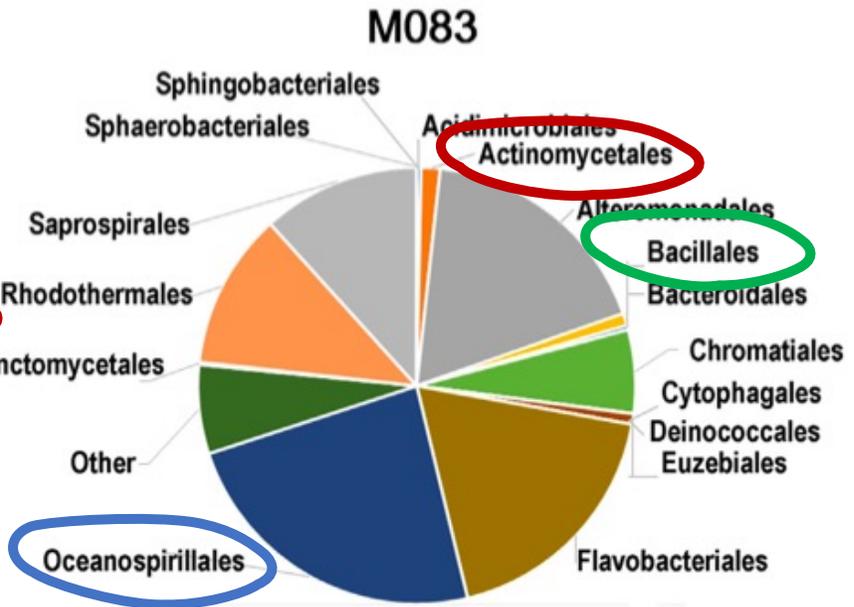
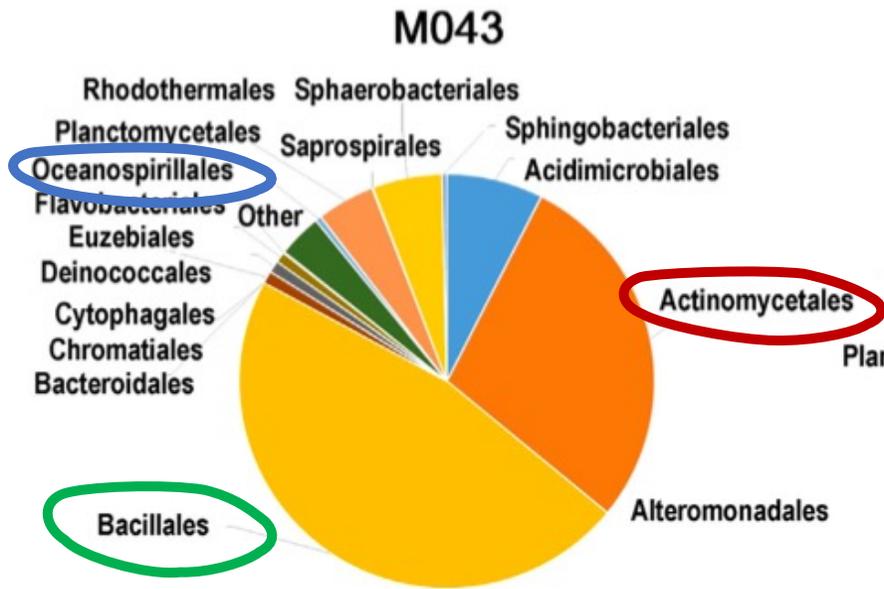


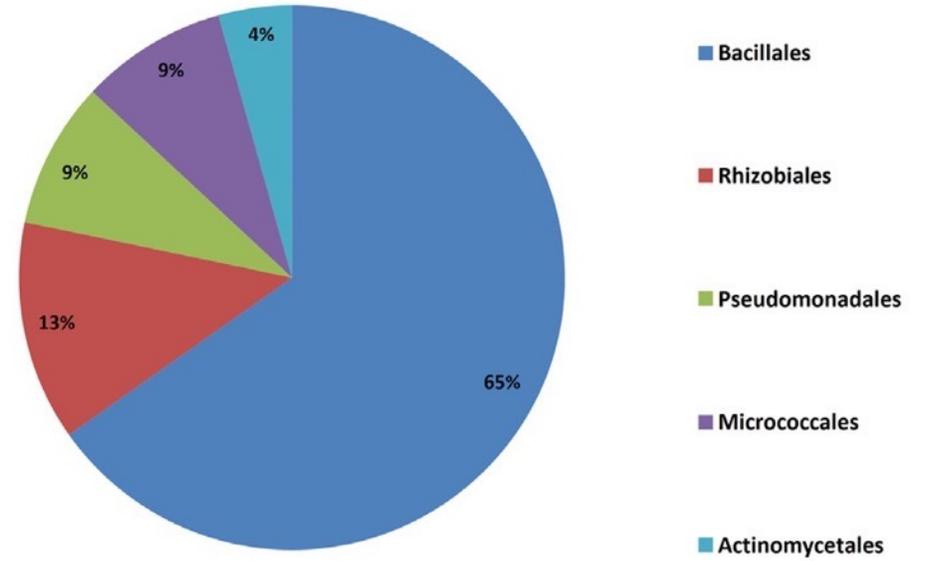
C T A C G C T A C G A C T A G A T T A T C T A C A C G A G C A T A A T C A T A G A C T G
A T A A G A G G C G C G A T G A C G G A T T A C T A G C A T C A T C G A T A G C T A G C T
T A G C A G C A C A C T A T C A G C G C G A A C G C G C A G A C T A T A C G A C G T A A C
A C G A G A G A G A G A C G A A T C C A T C C G A G C T A G C T A C G A C T G A G C T G G A
T A T A T A C G A T A T G G C T T A C T A C G A T C G A C T A G T A T C A G C T A G A C G
A G A A A A G G C G C G A T G A C G G A T T A C T A G C A T C A T C G A T A G C T A G A G
A A C C C A G G A C A C T A T C A G C G C T T A C A G C A C T A T C A T C G G A G G G C C
A A T A G C A T C A T A T C G A G G G C G C G A T C A G C A G C T A T G G C T A C T A G T A
T A T C C G A C G A T C A T C G G C T G A T C A G C A G T C T A C T A G T C A G A C A G C
G A A A T C A T C G G A C A T C T A C A G C T A T T A T A T A T A C C C C C C A T A G A G C G
G A A A A G G C G C G A T G A C G G A T T A G T A G C A T G A T C G A T A G C T A G C T
A A G A A G G A C A C T A T C A G C G C G A A C G C G C A G A C T A T A C G A C C T A A C
C C A A C A C C C C C A T C A C C T A C C T A C C A T C A T C C A T A G C T A C C

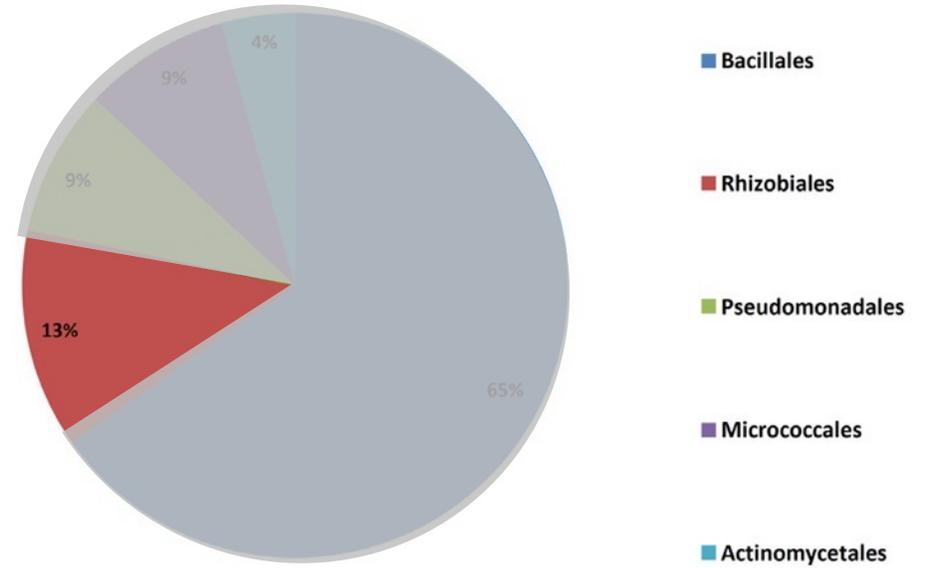










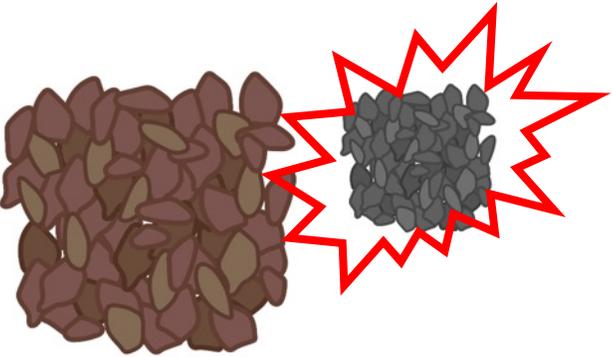
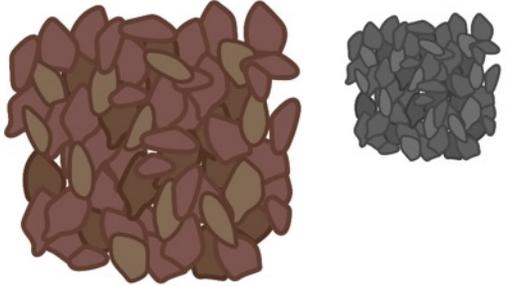


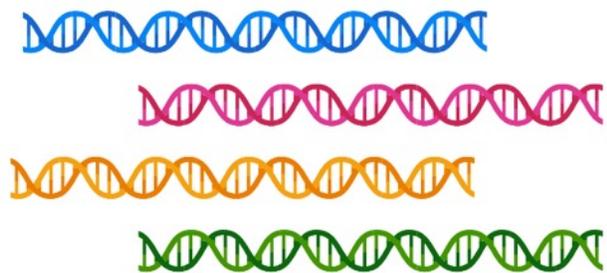
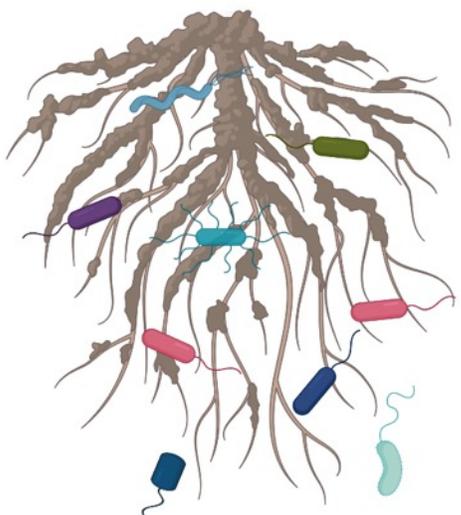
INTERAZIONE TRA COMPOST E PIANTA PORTA ALL'ARRICHIAMENTO DI SPECIE POTENZIALMENTE "UTILI" ALLA PIANTA



Characterization of bacterial communities isolated from municipal waste compost and screening of their plant-interactive phenotypes



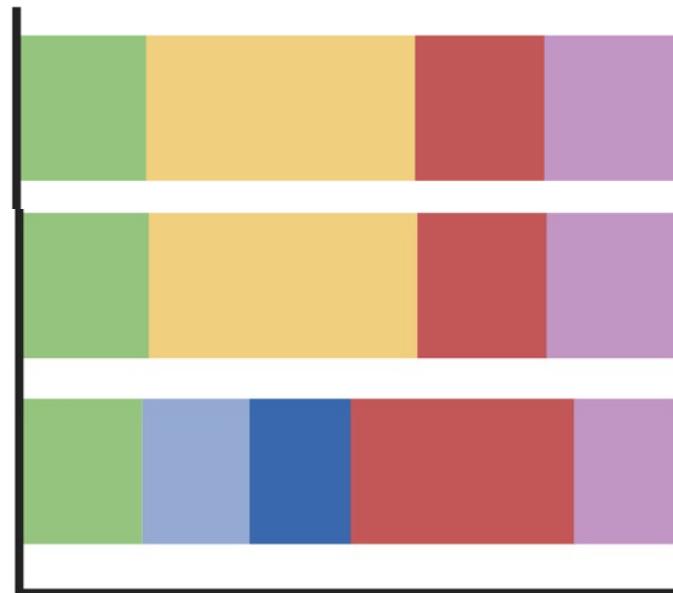




Sterile compost

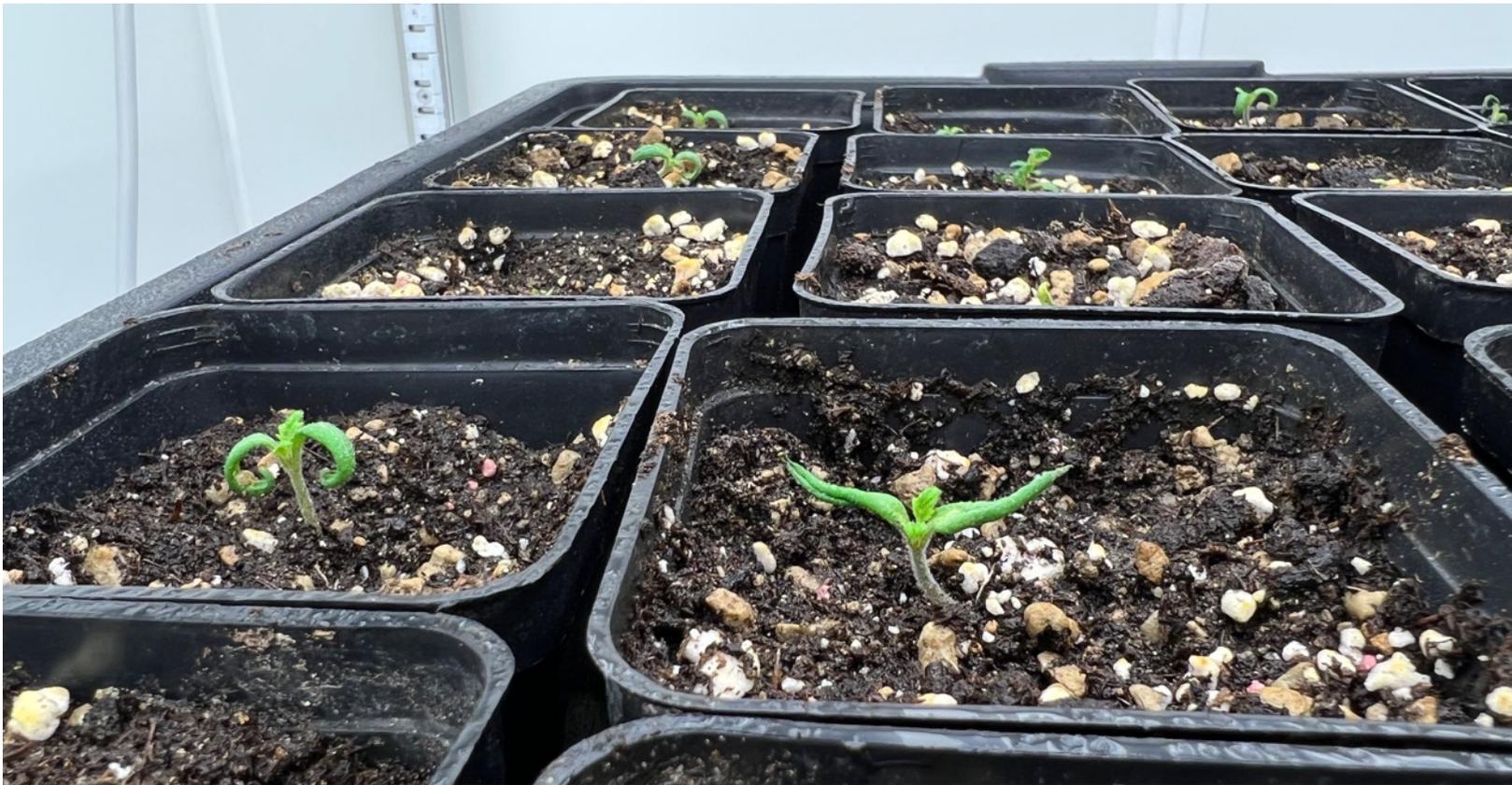
NO compost

Sì compost



Relative abundance

TATCCGAGGATGATCGGCTGATCAGCAGTCTACTAGTCTAGACAGC
GATATCATGGAGATCTACAGCTATTATATATATCCGCCCATAGAGCG
GAGGAGGGGCGATGACGGATTAGTAGCATGATCGATAGCTAGCT
TAGGAGGACACTATGAGGCGAAGCGGCAGACTATAAGGACTTAC
CGAAGAGCGGCGATCAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGC



Parametri fotosintetici

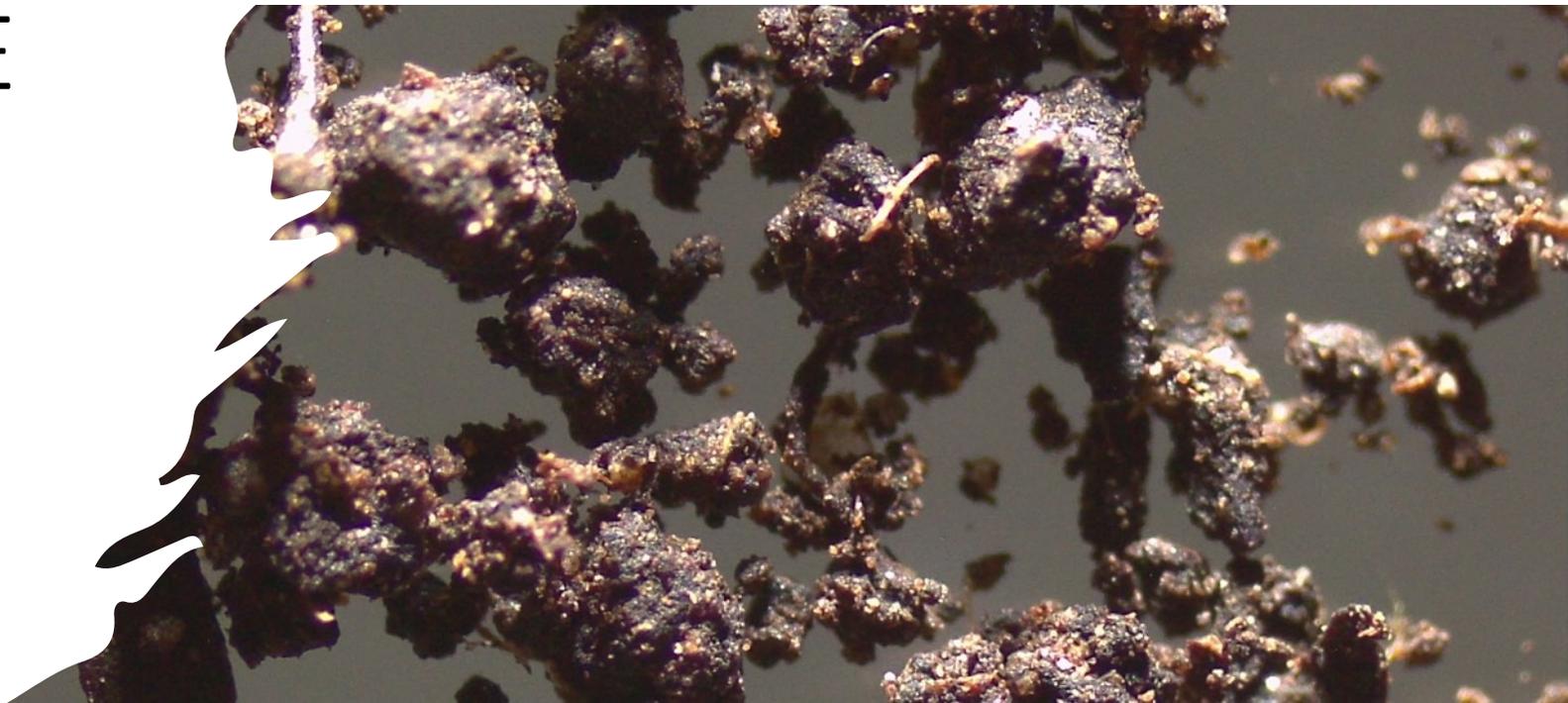
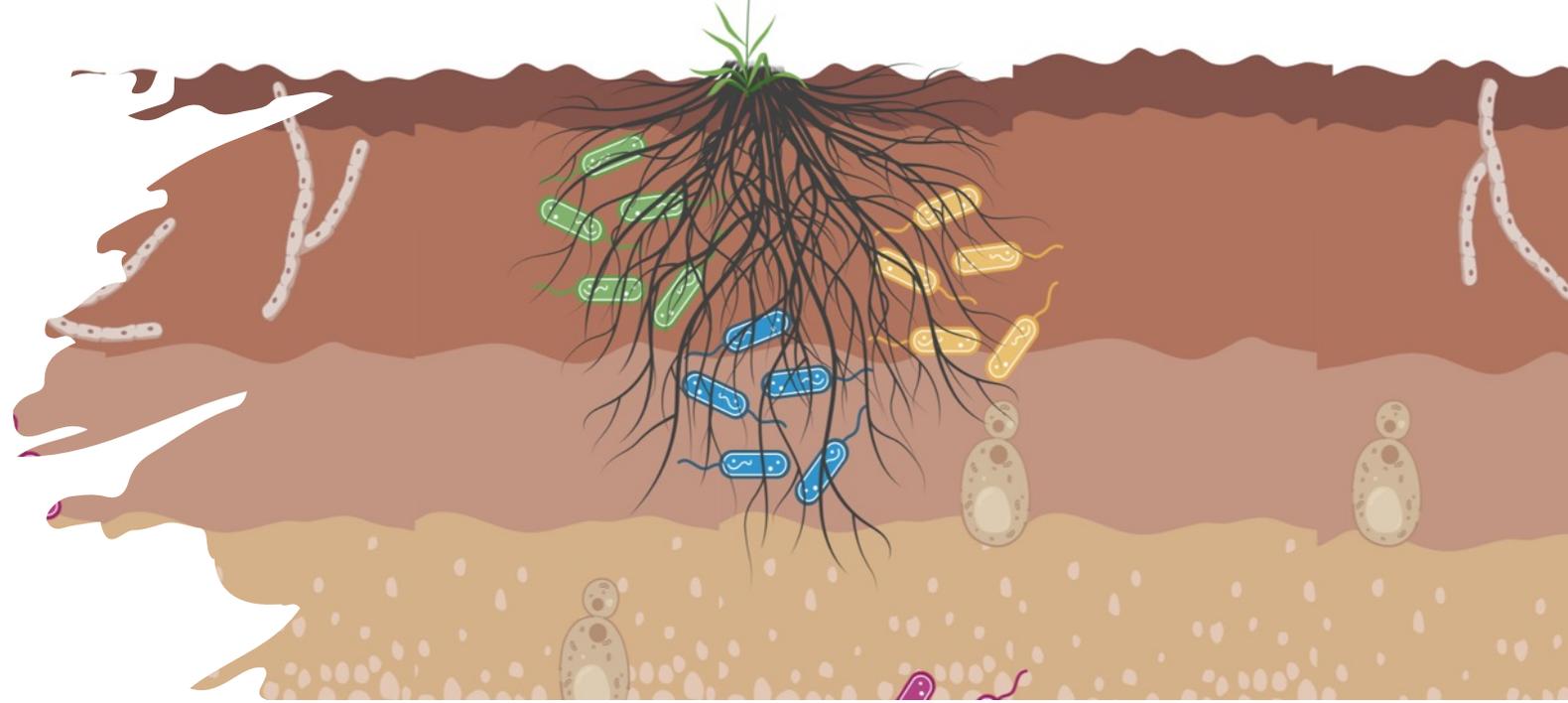
Produzione di biomassa

Resistenza della pianta ai patogeni

A microscopic view of soil particles, showing dark, irregular clumps of varying sizes. The particles have a rough, porous texture. A semi-transparent white rectangular box is centered over the image, containing text in a bold, black, sans-serif font. The background is a dark, slightly grainy grey.

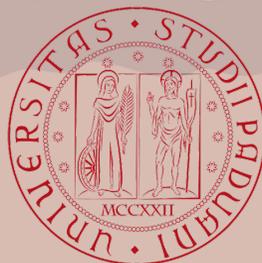
**LA COMUNITA' MICROBICA DEL
COMPOST INTERAGISCE CON QUELLA
DEL SUOLO E DELLA PIANTA**

COMPOST COME
BIOFERTILIZZANTE
PER IL SUOLO



RINGRAZIAMENTI

Università di Padova



Alessandra Tondello

Andrea Fasolo

Andrea Squartini

Giuseppe Concheri



Sesa Spa



Tiziano Bonato

Werner Zanardi

Nadine di Biasio

Barbara Baldan

Stefania Marcato

Laura Treu



<https://doi.org/10.1016/j.scitotenv.2021.150592>



GRAZIE PER L'ATTENZIONE!!



SEBASTIANO NIGRIS
Ricercatore RDTa



sebastiano.nigris@unipd.it



Follow us @HortusLabUnipd

@sebastiano_n



[botanical_garden_unipd_lab](https://www.instagram.com/botanical_garden_unipd_lab)

