

What is Soils for Science?

Soils for Science is an Australian-first citizen science project to collect, process and study 100,000 backyard soil samples from across Queensland.

Researchers at The University of Queensland's Institute for Molecular Bioscience (IMB) will grow and analyse the micro-organisms in each sample. The chemicals produced by these soil microbes will be catalogued and used to develop new antibiotics and other life-saving medicines.

Why do we need new antibiotics and other medicines?

Bacterial and fungal infections are becoming increasingly resistant to antibiotics, which is why there is an urgent need to develop more effective drugs. Globally each year over 3 million people die from bacterial and fungal infections.

In Australia, the death rate from antibiotic-resistant bacteria is higher now than 10 years ago.

A [Review on Antimicrobial Resistance](#) in 2016 calculated that without new antibiotics, by 2050 there could be up to 10 million deaths per year from antimicrobial-resistant infections – a higher yearly mortality rate than cancer and COVID-19.

Why are we looking for medicines in soil?

More than half of all antibiotics available worldwide have been developed from microbes found in soil and nature including:

- **Penicillin** – treats pneumonia, meningitis, septicaemia, anthrax and tetanus
- **Statins** – lowers cholesterol levels and is a preventative and treatment for cardiovascular disease
- **Aspirin** – treats pain, fever, inflammation and prevents heart attacks

How can I help?

Anyone in Queensland can take part in Soils for Science by requesting a free soil collection kit from soilsforscience.org.au

Participants can see close-up photographs of the microbes growing in their backyards via the website or app.

Soils for Science will assemble a living library of more than two million microbes which will be made freely available to the medical and research communities as scientific assets to aid the development of new life-saving drugs.

Why Queensland?

Queensland covers 1.7 million square kilometres and is one of the most biodiverse environments in the world, spanning beaches, rainforests, wetlands and deserts. This vast, untapped landscape is ripe for the discovery of soil microbes that could be developed into new antibiotics, anti-fungals and other medicines.

Thanks for digging deep to discover new life-saving medicines!



Instructions



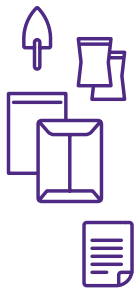
1

If you don't already have one, visit the Soils for Science website and order a soil sample kit. soilsforscience.org.au



2

Download the free Soils for Science app (Apple or Android) and register as a member.



3

Open the soil sample kit and check the contents:

- Soil sampling trowel (x1)
- Soil sample bags with unique codes (x10-30)
- Shipping bag (x1)
- Prepaid return postage pouch (x1)
- This set of instructions (x1)



4

Use the trowel to fill a soil sample bag, and zip seal.



5

Take a photo of the filled soil sample bag at the collection location.



6

Use the Soils for Science app to register the soil sample. This requires that you:

- confirm you are authorised to sample soil from the collection location enter the sample bag code
- upload the photo
- use the option buttons to describe, and interactive map to geo-tag, the collection location.



7

Repeat steps 4-6 for each sample bag in your kit, at different collection locations.



8

Add all filled soil sample bags to the supplied shipping bag, and zip seal.



9

Add the filled and sealed shipping bag to the prepaid postpouch, seal, and post to Soils for Science.



10

You will be notified through the Soils for Science app when images of the microbes living in your soil can be viewed.

PLEASE NOTE Soils for Science will only accept and process soil samples collected in a manner compliant with instructions shown above, which includes the use of approved sample and shipping bags, and successful registering of each soil sample through the S4S APP.



CONTACT US
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