Harnessing Biosynthesis for Sustainable Food and Health (HBio)

John Innes Centre

HBio is a strategic research programme that aims to harness the remarkable and under-used biosynthetic capabilities of plants and microbes, to make valuable new molecules with which to address global challenges.

Humanity faces unprecedented challenges in the linked areas of food security and human health. HBio will allow us to harness the capabilities of plants and microbes to make valuable new molecules, known as natural products.

These natural products are hugely important and they are already used in many applications, including healthcare, agriculture and food production.

Our research will target plant metabolic pathways which will enable new crop varieties and tools to be developed that tackle human health issues such as malnutrition, reduce agrochemical inputs and lower environmental impacts.

It is estimated that globally over

2 billion

people suffer from 'hidden hunger' or micronutrient deficiencies.

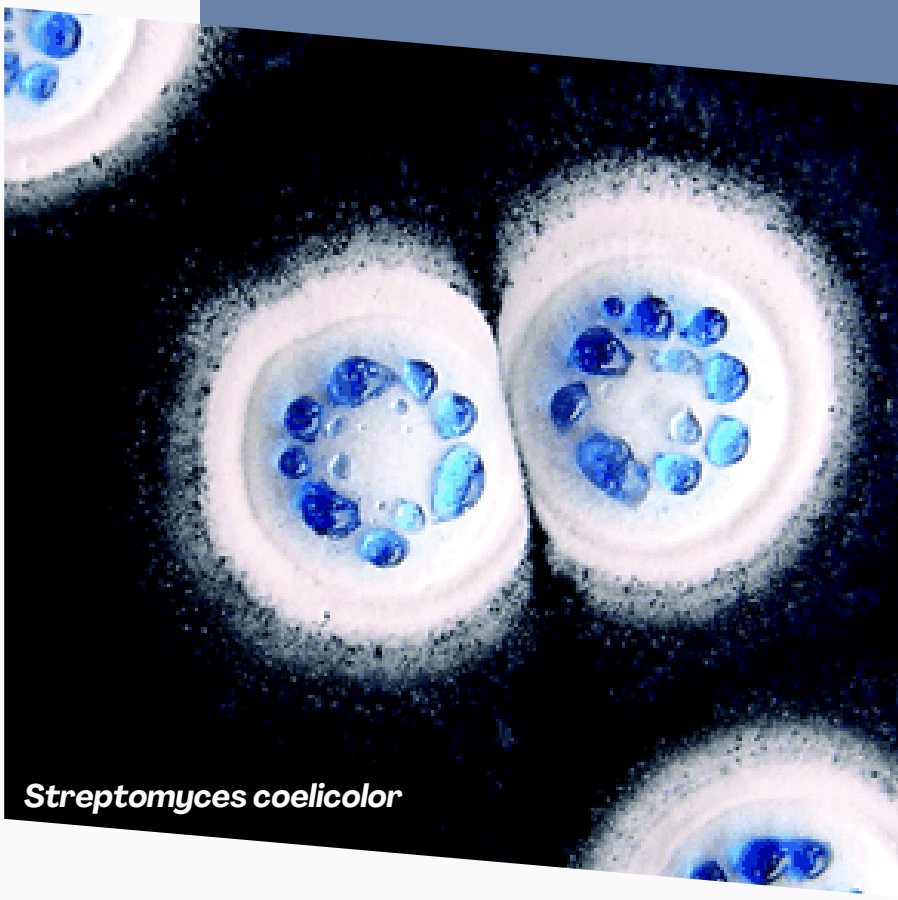
By precisely editing molecular and macromolecular structures we will optimise the properties and functionality of molecules to enable improvements to the nutritional quality of food, develop more sustainable agricultural practices and provide new therapeutics and antibiotics to support a healthy human lifespan across society.

50%

of all antibiotics in clinical use today are derived from the soil bacteria, Streptomyces

Our research aims to support the delivery of:

- New therapeutic molecules from plants and microbes
- Sustainable routes to high-value and medically vital molecules
- Biocontrol strategies for crop diseases such as potato scab
- More nutritious crops, for example, tomatoes with enriched nutrient levels
- Vaccine candidates and reagents for use against human and animal diseases



Streptomyces coelicolor

SCAN FOR MORE INFO

UKRI Biotechnology and Biological Sciences Research Council

The Harnessing Biosynthesis for Sustainable Food and Health Research Programme will harness the under-exploited biosynthetic capabilities of plants and microbes to make valuable new molecules, enable improvement to the nutritional quality of food, develop more sustainable agricultural practices and provide new therapeutics and antibodies.

Follow us on Twitter @HBioISP