

Amino acids are the building blocks of protein that are needed for growth, health and reproduction. Plants and many tiny organisms can make these amino acids, but animals have to get amino acids from their food. Scientists found a very tiny organism with a built-in ability to over-produce certain amino acids. This led to a new way of making amino acids for animal feed companies.

But who knows enough about these tiny organisms and how to grow them in enormous quantities?

The Bioprocess Engineer

Meet Thomas Potgieter,
Technology Manager at
Bioproducts SA in Durban
BSc Chemical Engineering,
PhD (Bioprocess Engineering)

... the biggest challenge of the job:

*"Living in an undefined world.
Research is about not knowing."*

... career satisfaction: *"The Eureka feeling.
The privilege of finding a solution."*

...work environment:

"This is not a desk job. Junior bioprocess engineers could spend a lot of time in a plant and in the lab."



What does Thomas do?

Thomas works at Bioproducts SA, which owns the only lysine plant in South Africa. Lysine is an essential amino acid needed by pigs and poultry. It is made through a fermentation process that converts sugar into cells, carbon dioxide, water and lysine, using a specific type of bacteria. Amino acids like lysine are important because they balance the protein in animal feed and thereby increase the nutritional value. Thomas' job is to ensure that the fermentation process using the bacteria to make lysine, is as effective and efficient as possible. He also researches new ways to produce amino acid products for which different types of bacteria are used.

What do I need to be a bioprocess engineer?

Characteristics: Aptitude for maths and science, problem-oriented, perseverance

Important school subjects: Biology, Mathematics, Physical Science

Qualifications: BSc Chemical Engineering combined with a Biotechnology qualification

Where can I get a job as a bioprocess engineer?

Universities, research organisations, private companies such as SA Bioproducts as well as smaller, entrepreneurial companies

Related careers:

Biotechnologist, Biochemist, Process Engineer, Analyst, Biological Systems Engineer, Bioengineer, Industrial Microbiologist, Plant Production Manager



science and technology

Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA

..a common misconception:
“That you have to be exceptionally clever to be a chemical engineer. You do have to be exceptionally committed, but you don’t have to be a rocket scientist!”

