

Around the world, making sugar is a very competitive industry. In South Africa, half of the sugar produced is exported, but it is difficult to make a profit due to the low sugar prices worldwide. New ways have to be found to keep our sugar production competitive. One way is to grow types of sugarcane that are best suited to the South African growing conditions.

Who can help our sugarcane growers by making their plants resistant to pests and diseases?

The Agricultural Biotechnologist!

Meet Sandy Snyman,
a Senior Research Officer in the Biotechnology Department of the South African Sugarcane Research Institute (SASRI) near Durban
**BSc (Botany and Microbiology),
BSc Hons (Plant Pathology),
MSc (Biology),
PhD (Plant Biotechnology)**

...the biggest challenge of the job:

“The personal frustration that comes from knowing that although we have succeeded in creating an improved plant through genetic engineering, it might never be sold commercially because of consumer resistance to GMOs!”

... a common misconception:

“That we are lab rats! The job is both in the lab and field and we interact with many different researchers.”



What does Sandy do?

Sandy’s job is to improve sugarcane in South Africa. She uses different methods, including Genetic Modification (GM), which changes the genetic “recipe” of the sugarcane. This is when a new gene that codes for a particular characteristic (e.g. insect resistance) is put into the sugarcane plant.

Sandy and her team also use tissue culture techniques in the laboratory. This is when different plant cells are multiplied or grown in a specially prepared hormone medium which provides them with everything they need to grow. These clusters of cells can develop into whole plants. They are also investigating how the amount of sugar in sugarcane can be increased.

What do I need to be an agricultural biotechnologist?

Characteristics: Natural curiosity, methodical and precise by nature

Important school subjects: Biology, Mathematics, Physical Science

Qualifications:

MSc – Natural Sciences/Biological and Life Sciences/Biotechnology/
Microbiology/Molecular and Cell Biology or similar
M Tech (Biotechnology)

Where can I get a job as an agricultural biotechnologist?

Agricultural research institutes, many of which are linked to the Agricultural Research Council (ARC), universities and commercial companies such as Mondi and Sappi

Related careers:

Plant Pathologist, Molecular Biotechnologist, Plant Molecular Biologist, Plant Breeder, Agricultural Scientist