



# KELLY BREEDS

**BARLEY LEAD**

**CenGen (Pty) Ltd**

**BSc (Human Life Sciences with Psychology) followed by Honours and MScAgric (Genetics)**

## MY STORY

### WHY DID YOU CHOOSE THIS CAREER PATH?

I wanted to combine my passion for science and human interactions by studying a science degree with psychology as a subject. I soon found that science had won my heart over. I like how applicable Genetics is to real world situations, be it inheritance of diseases or techniques used to sequence genomes like the novel coronavirus.

### WHAT IS A TYPICAL DAY LIKE FOR YOU?

A typical day involves either wet laboratory work like DNA extractions (using a robotic platform) and performing polymerase chain reactions (PCRs) or is spent analysing the results of the PCRs. The latter involves various computer programs that enable the analysis of different types of genetic markers. These markers then act like road signs, providing information about the genes present in the plants.

### WHAT DO YOU ENJOY MOST?

The answer to this is two-fold.

1.) I enjoy seeing how the research that I do on the genetics of barley actually translates to plants that are more resistant to diseases, and how this impacts growers and ultimately the beer industry.

2.) I find the field of Bioinformatics, where computers are used to investigate/analyse large biological datasets, fascinating. I have really been able to broaden my skills in this specific field.



## What particular skills, talents and qualities are essential to be effective in your position / career?

**Typical personality traits that are needed for this career are attention to detail, and the ability to work meticulously and with great precision.** It is also important to be able to adapt to different laboratories and to be able to follow various standard operating procedures (SOPs). One also needs to be proficient in using computers and robots, as scientific processes are becoming more automated.

## WHAT IS THE FUTURE of the field in terms of new and expanding opportunities?

**The field of genetics is constantly developing as breakthrough ideas are tested.** Bioinformatics is particularly important, and I would advise students interested in biology to take computer science as an additional subject if at all possible.

## What type of person / personality would enjoy this kind of career?

Science is an ever-evolving field, so having a curious and questioning mindset coupled with an eagerness to learn, is always advantageous.

## What advice would you offer learners who are interested in pursuing this career?

I would advise those learners to start with an undergraduate degree that covers a broad range of topics in science, such that they are able to find their niche.

## CHALLENGES

“The biggest challenge for me was not work-related. It was moving away from my family in order to receive the best education possible, in a field that I am passionate about at Stellenbosch University.”



## HIGHLIGHTS

1. In 2016, I attended my first international conference in Florida, the International Congress of Entomology, where I was afforded the opportunity of **presenting my Master's research**. I was later able to publish this research.
2. Attending the 2019 Australian Barley Technical Symposium and **being able to transfer some of the information learned back** to the South African barley breeding schemes.
3. Attending various bioinformatics courses **both locally and abroad**, and subsequently transferring this knowledge back to my colleagues.