

Title

Robert Brown II Science Teacher 2019 extern at Bayer in Muscatine

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Part I: Overview of Workplace

In 2018, Bayer acquired Muscatine’s Monsanto plant, which is located on what is commonly known as the Muscatine Island, The Muscatine plant began in December 1961 with the startup of an anhydrous ammonia storage terminal. Ammonia production began the following year. The facility grew rapidly in the 1960s as production lines for various herbicide products were added. Today the plant comprises hundreds of acres and manufactures a variety of weed control products including Roundup.

Part II: Workplace Focus

The Central Lab at Bayer is split into many different divisions who all work together. In the Routine Lab, sample are brought from all over the plant to be analyzed.

Raw materials, in-process, final process, washouts, all samples have specific tests that need to be performed.

GC, LC, Specific Gravity, Viscosity, Particle Size, Moisture Content, these are a few of the tests that are performed.

Part III: Introduce the Problem

Tests that are performed in the Central Lab can take as little as a few minutes to perform, or as long as hours to complete. The plant is a 24 hour plant with products being made all of the time. When an in-process sample comes into the lab, the turnaround time of that sample is important if a change needs to be made to the industrial process.

When a test can take upto 1 hour to perform, if a change needs to be made, that is a lot of product that has been made that might not be good.

Your job will be to take the process that is in place, and see if you can streamline the test to obtain the results quicker.

Part IV: Background

To complete this project you will need to be able to understand the test that is being performed. There is a documented, tested procedure for you to follow.

Skills that you will need to use for this project:

1. Knowing the proper PPE
2. Documentation in your lab book will be necessary
3. You will need to make a presentation about what changes you propose to the process.
4. You are going to need to be able to communicate with your group partners.

Part V: Workplace Solution

The way that the problem was solving was by changing one variable at a time. Once the variable was changed the test was performed in triplicate for each sample and multiple samples were tested. There were multiple variables that were tested. After all of the data was collected and analyzed, a new method was developed. This new method was then tested side by side with the old method repeatedly to make sure that the new method was valid. The new method was also tested by various lab members to validate the new method.

Part VI: Educational Pathways

The educational pathways that are needed for the roles in the Central Lab vary depending on the position that you have. The Lab Analyst position have some people who have obtain a 2 year degree, some have a 4 year degree and some do not have a degree, but do come with lab experience from another workplace. Most new Analysts are hired as a Contractor first, while they are being trained, with Bayer hiring them after they have been fully trained. The Chemist positions have 4 year degree, and a few have their Master's degree.