

GOPM 521
Group Assignment
2019



HOW BEER IS MADE

The beer making process is an art. It takes time, patience and quite a bit of experimentation to find that perfect flavour. Once you've found the right mix, you can replicate it again and again to ensure that you're always delivering the same quality product that consumers come to expect from you. The following is a summary of SAB beer brewing process.

Creating The Malt

The first step in the beer making process is to create the malt from barley.

- Grains are steeped for 1 – 2 days
- They're then cooled in humid air so that they can germinate for 3 – 7 days
- Grains are then dried in a kiln for 1 – 7 days
- A rest period for a minimum of 3 weeks then follows before the grains become malt.

This is then relocated to the brewhouse. The malt is added to mash tuns and heated for 2 – 3 hours. From here it goes to the lauter tuns where the malt grains are processed. This converts the malt into a liquid called wort that's sieved by the lauter tun and then sent to the wort kettle to be boiled. During this process wort is separated from grain in a process that takes about 2.5 – 4 hours. What's left is grain that is sent to local farmers and used as cattle feed.

Fermentation

The wort is then sent to the fermenting cellar and placed into fermentation vessels, which hold hundreds of thousands of litres of liquid. The fermentation process takes between 18 and 28 days.

Bottle Preparation

In the interim, bottles are being prepared to receive the liquid. Between 42 000 and 45 000 bottles can be prepared per hour. These are then inspected for cleanliness and quality. If any of the bottles are not fit from a quality perspective, a PVI machine or bottle inspector will pick it up and send them back to the washing process.

Filling Up and Sealing

Once the bottles are ready and beer has fermented to the right degree, the last few steps take place. A production line labels the beer bottles – 1 500 bottles can be labelled per minute. The bottles are also filled before three concurrent checks take place:

- The fill height is correct
- The labels have been put on straight
- A tap tone is conducted – a test that makes sure the bottle caps have been securely attached and fastened.

Load 'Em Up

The beers are packed into crates and loaded onto the SAB trucks for secure delivery to traders who can then sell the beer.

Question 1

1.1 Which types of inventory will SAB maintain. Give reasons for your answers. (8)

1.2 If SAB's ordering cost is R 300 per order, the demand is 250 000 units a year month, the unit cost is R18 and the carrying cost is 5% of the unit price. They round the lot to 10. Calculate the Economic ordering quantity (EOQ) for SAB.

(5)

1.3 Take the seven types of waste and give examples of which may occur at SAB? (7)

1.4 How can SAB apply Lean layout in their business. (8)

Question 2

2.1 How can SAB use aggregated planning to their benefit. (8)

2.2 Take the cost of quality and explain how SAB can use it to make sure that failures are kept to the minimum. (8)

Question 3

In not more than 100 words suggest how SAB can improve the quality of their beers by using some of the concepts for an effective TQM program. (6)

TOTAL 50