**Idli**

Idli is one of the famous food of India specially in South India. Idli is a cereal, legume based food.Idli is a small, white, acid leaved steam cake made by fermentation of thick batter of carefully washed and soaked rice and black gram dal. It is soft and spongy with desirable sour flavour and it is eaten with chutney, pickle and sambhar.

**Preparation of Batter**

1. Idli is a natural fermentation process. It is prepared by steaming of fermented batter prepared from soaked rice and black gram dal.
2. The proportion of rice to black gram dal is 1:4 to 4:1 the best results are obtained in2:1 proportion.
3. Black gram dal and rice are soaked separately in water for 3 to 10 hours before grinding into paste. After grinding both paste are with with each other with salt as per taste and enough water.
4. The batter is then allowed to ferment for 18 to 30 hours by means of natural microflora.

**Microflora associated with fermentation**

1. The microorganism developing during the initial soaking of ingredients are sufficient to carry out fermentation.
2. Both bacteria and yeast play important role in fermentation. Bacteria are responsible for acid and gas production where as yeast is responsible for organoleptic quality .
3. Gram dal is effective substrate for maximum number of fermentation organism and it has high number of nutrients that support growth of lactic acid bacteria.
4. Bacteria associated are *Leuconostoc mesenteroides, Lactobacillus coryniformis, Lactobacillus delbrueckii, Lactobacillus fermentum, Lactobacillus lactis.*
5. Yeast associated with fermentation are *Saccharomyces cerevisiae, Torulopsis candida, Trichosporon pullulans, Debaryomyces tamarii.*
6. The role of lactic acid bacteria is to reduce pH of batter to level 4.4 to 4.5 and this pH is optimum for yeast activity.

**Variation in preparation**

1. Sometime yeast or buttermilk or both are added in innoculum.
2. In some parts of India at the step of mixing the paste of rice and gram dal water of about 80° C is added.

**Biochemical changes**

1. There are two major changes and that are Leaving and acidification. In the process of leaving during fermentation the volume of batter increases from 1 to 3 times of original. Acidification in this process the lactic acid is produced.
2. During the fermentation the volume of idli batter takes place. The idli batter increase to 1.6 to 3.1 than original volume.
3. The pH value decreases from 6 to 4.3 – 5.3. There is a slight increase in level of soluble salts and non-protein nitrogen.
4. The level of soluble nitrogen and free amino – acid gets increased. The essential amino-acid increase like choline, methionine, cystine, vitamin C

Reference

<http://www.generalmicroscience.com/microbiology/idli-fermentation-process-details/>