

# Sample essay on effects of dietary supplements of wheat bran and cellulose on fae...

[Technology](#), [Development](#)



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This experiment is majorly concerned with investigating on whether or not reducing the fibre and roughtage has a role in preventing the occurrence of certain diseases. In this experiment, subjects were subject to a normal diet for sometime then an additional 16g of wheat bran used to supplement the normal diet each day for a period of 28 days and results noted. It was found that the weight of stool increased whereas the intestinal transit time did not change. On the other hand, bile did not also change but was diluted.

## **Summary**

In an experimental study of the bowel function in normal people, 16g of wheat bran per day was used to supplement the normal diet for a period of 28 days. The weight of stool increased whereas the intestinal transit time did not change. On the other hand, bile did not also change but was diluted.

## **Introduction**

Recent studies in epidemiology suggest that reducing the dietary fibre and roughtage plays a major role in preventing certain diseases that affect most people in western countries. The diverticular disease of the colon is one of

the diseases that can be prevented and adequately managed by use of diets with high roughage content. However, it is more challenging to prove the epidemiological evidence experimentally because of the lengthy duration involved for the potential effects to be adequately determined. This study provides a short term experimental measure, which deals specifically with the short term effects on the bowel habit and also determining the various components constituting the faeces alongside the wheat bran and cellulose in comparison to an ordinary diet.

## **Method**

This study was based on healthy males aging between 25 and 43 years living normally. The following experiments were conducted; experiment 1 consisted of 8 subjects who were subjected to the following program: They were subjected to a period of 7 days under normal diet and a 21 day period under normal diet accompanied by 8g of wheat bran served twice on every day.

Experiment 2 involved 4 subjects subjected to the following to the same program as described in experiment 1 but with an additional 3 weeks control period and 21 day period with a diet accompanied with Whatman's chromatography cellulose (CFI) served 8g twice each day.

During the last week of each of the experiments described above, the following information was taken; the body weight, the weight of food and fluid taken on each day, the fibre consumed was derived from the tabulated figures, every stool was separately taken and stored in a plastic bag and all information regarding the time for defaecation was also put on the records.

Stool was stored under cold colder conditions of about -200C awaiting analysis. Barium was used in the measurement of intestinal transit time. The total weight of the stool was also taken and recorded at the end of the 7 day period. It is also worth noting that excretion of faecal bile excretion and serum cholesterol was also measured thrice during the entire study.

## **Result**

### **Experiment 1**

The weight of the stool showed some significant increase after supplementing the diet with bran. The average change in the weight of the stool was equal to the amount of bran consumed. Bran did not have any influence on the transit time as well as to the excretion of faecal bile acids. There was a significant diluents effect caused by the increased weight of the stool. There was also no change in the serum cholesterol.

### **Experiment 2**

The effect of bran on the weight of stool, faecal bile acid, and serum cholesterol was similar to the results obtained for experiment 1. However, there was an increase in the faecal bile acids between the bran period and the control period 2. It is also notable that the concentration of the faecal bile acids in the control period became similar to the one obtained in experiment 1 after being diluted by bran