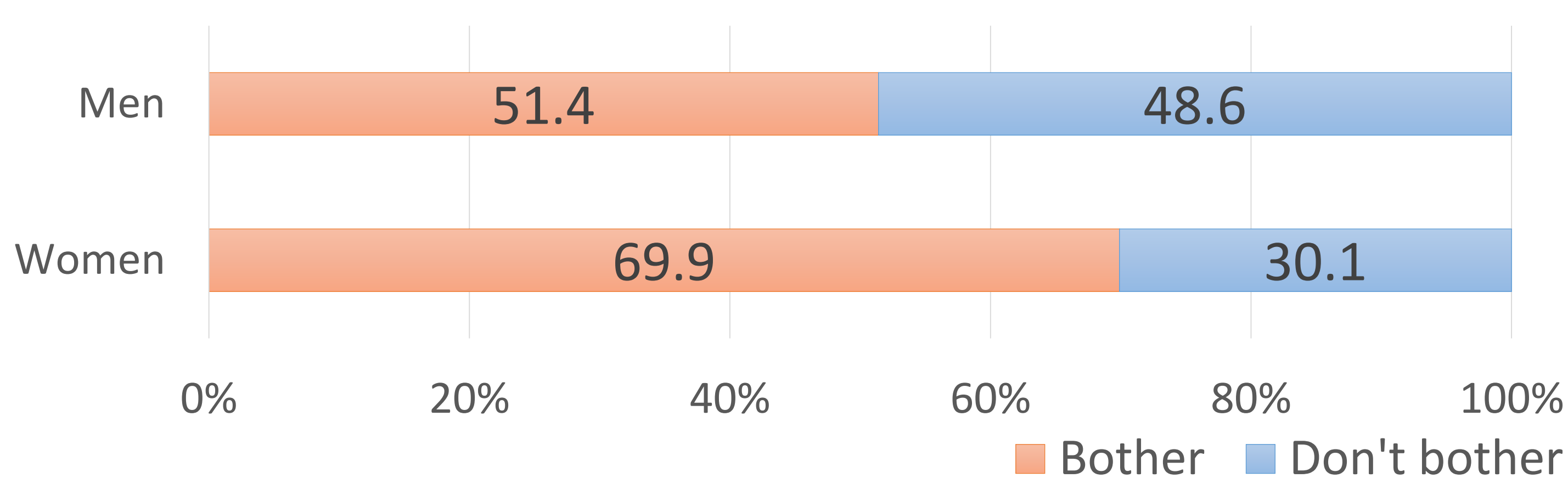




1 Introduction

Q. Do the bad smells from your room bother you?



The answer "Bother" account for 62.2% of the total

We'd like to solve these bad smells problem

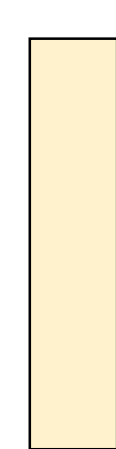
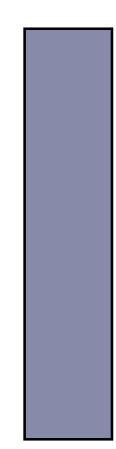
→ Focused on "coffee grounds"(used coffee)

2 Purpose

- Do experiment to examine the deodorizing effect of coffee grounds
- Seek more practical and effective ways of utilizing it.

3 Experiment

Experiment① Used and unused coffee

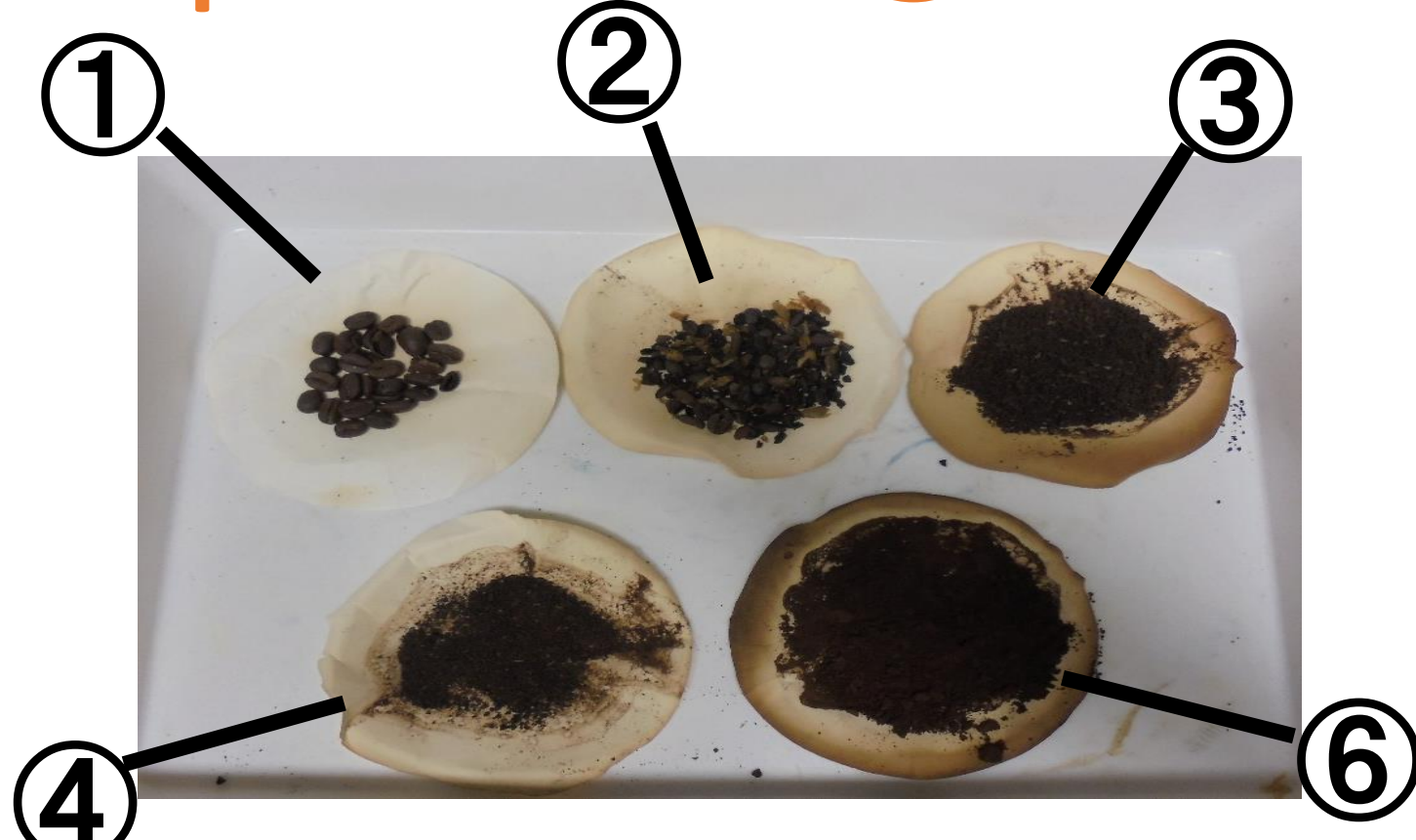


Only used coffee had an effect

Unused coffee

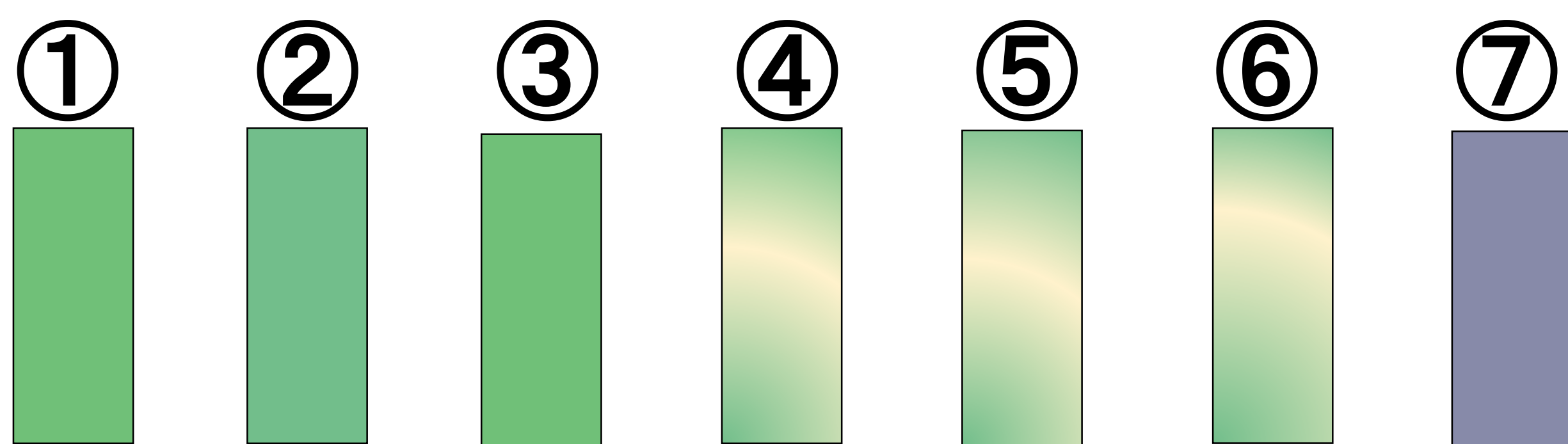
Used coffee

Experiment② Change surface area



⑤... The same coffee we used former experiment

⑦... without coffee



small ← large

Experiment③ Change the amount of water



Wet coffee



Dry coffee



Without coffee



Only water



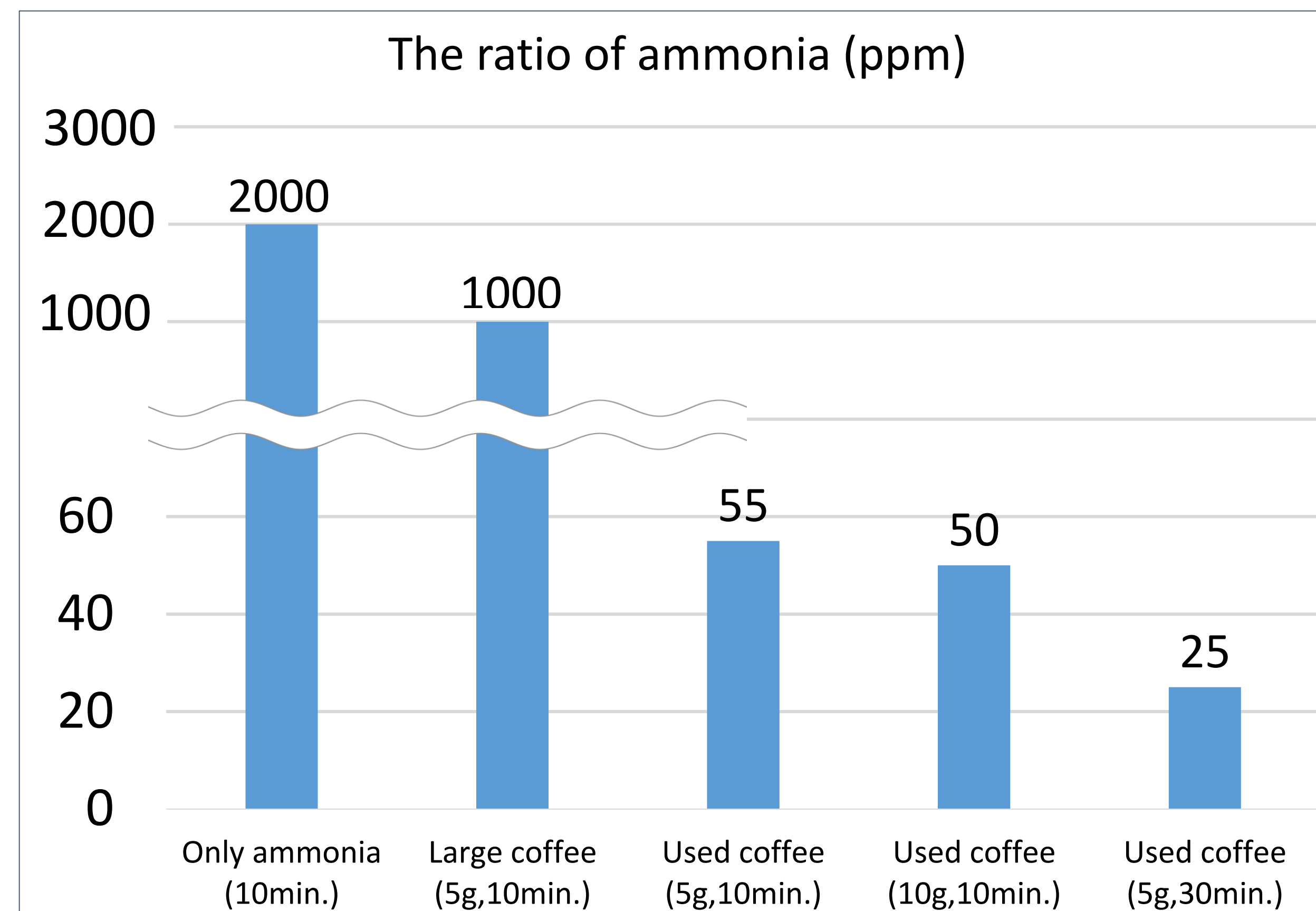
Experiments using gas test tubes



1%=10,000ppm

Type:

- 50~900ppm
- 1,000~10,000ppm



Application Japanese paper with coffee



How to make

1. Put water, coffee and tissue paper in a plastic bottle
2. Shake!!
3. Spread and dry

Result: Ammonia... 100ppm

Japanese paper with coffee has a deodorizing effect

4 Results • Consideration

- Used coffee absorbs the ammonia .
- The longer the time, the larger the effect is.
- The effect changes depending on the surface area and the water content.
- Japanese paper with coffee needs improving.

5 Future Plans

- Improve the reliability of our experiments
- The method of gaging smells
- Improve Japanese paper with coffee
- How to use coffee except Japanese paper
- The mechanism of deodorization

Special Thanks

College of Analytical Chemistry, Japan

(Advice about how to experiment)

Reference

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<https://www.ucc.co.jp/company/research/residue/01.html>
- SOFTBRAIN FIELD Survey about deodorization
https://www.sbfield.co.jp/news/2015/06/25_110000.html
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