

# Moisture Retention and Antibacterial Efficacy of Alcohol

## INTRODUCTION

This is because alcohol denatures the proteins of hands

Disinfect with alcohol

Rough skin of the hands



Bacteria can be killed by alcohol

## PURPOSE OF MY STUDY

Find the effective disinfectant

1. To verify the antibacterial effects of alcohol
2. To find the moisture retention effects of other substances or find the way for alcohols to prevent rough skin of the hands

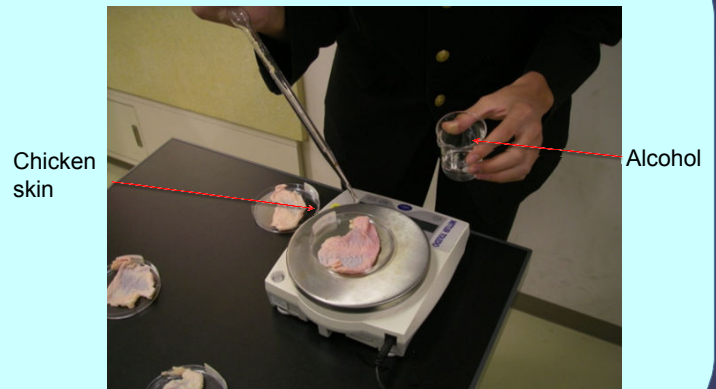
## Experiment①

Materials ·· skin bits of chicken, alcohols, (Ethanol, Glycerin, Methanol, Ethylene glycol)  
Instruments ·· Dish, Pipette, Beaker, Electronic Steelyard

Procedures

- ① Weighed 10g of chicken skin, and alcohols were added to each chicken skin .
- ② I measured mass every 24 hours, and checked the amount of evaporation of water

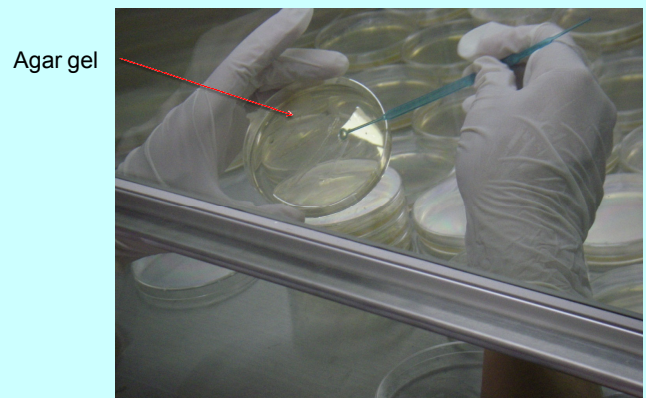
## Experiment① Photo



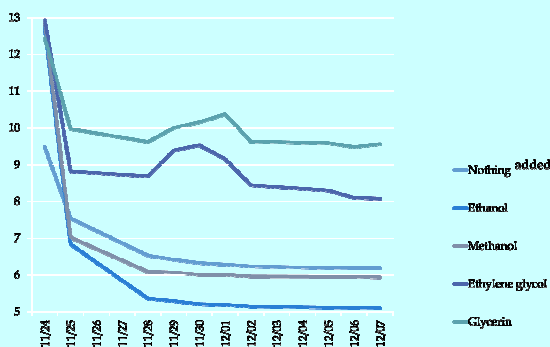
## Experiment②

- Using the agar gel instead of the skin bits of the chicken. And, changing the concentration of the alcohols to (25%, 50%, 75%, 100%).
- Also making the original liquid which is good for moisture retention and as an antibacterial effect.

## Experiment② Photo



## Result①



## Study①

- Ethylene glycol's and glycerin's low volatility caused less change in chicken skin mass, highly volatile methanol and ethanol caused greater change in mass.
- But, I couldn't understand why only the masses of "nothing added" and "glycerin" increased.

## Future Research

I continue to do experiment to get more data.