Shudhanshu Shrotriya

500086221

B-4

Activity: Week 2

Environment & SDG Himalaya Fellowship

Non Bio-degradable Material :

* Metals
* Plastic
* Glass
* Pesticides
* Fibers
* E-waste
* Battery
* Aluminium Can, Foil and other Products

Engineering drawing

Description automatically generated with medium confidence

Bio-degradable Material :

* Bamboo
* Cork
* Human waste
* Manure
* Paper and Food Waste
* Silk, Oil, Waxes
* Wood
* Mycelium, Hemp and other Plant based Growths
* Jute

A picture containing diagram

Description automatically generated

**Non Bio-degradable Material- Choose a suitable non-bio degradable material to observe its decaying. Thus, discuss its issue for our environment and ecology.**

* I chose Glass Bottle as the non bio-degradable material to observe it’s decaying. It’s extremely troublesome to think that a Glass material (in this case Bottle) you leave out in the open takes approximately around 4000 years to decompose.

So its issue for our environment and ecology is as follows:

A glass bottle takes 4,000 years to decompose in the environment, which is terrifying.

Every time we abandon a recipient of this type in the countryside, we endanger the environment and its ecosystem.

Animals can cut themselves on glass or ingest it without being able to digest it, as with many of the elements mentioned above.

It is also a significant fire risk factor.

**Degradable Material- Understand the degradable material through its Degree of Decay or Level of Decay, observe the following items listed for understanding natural decay listed below.**

* + Apple
    - * Apples may last from a few weeks to few months depends on how they are stored i.e. under what conditions have they been stored.
        + On the counter: 5–7 days
        + In the pantry: 3 weeks
        + In the refrigerator: 4–6 weeks
        + Cut into slices: 3–5 days in the fridge, 8 months in the freezer
  + Potato
    - * Uncooked potatoes can be stored for a few weeks to a few months. If they are cooked, then they can be refrigerated for 3–4 days or frozen for up to a year.
  + Cauliflower
    - * Uncooked Cauliflower lasts for about 7-21 days under refrigeration and the conditions it is stored in. Cooked Cauliflowers lasts about 7-10 days under refrigeration and around 2-3 days without refrigeration.
  + Lemon
    - * Lemon left on the counter lasts probably around a week. If refrigerated may last up-to few weeks.
  + Human Tooth/ Flesh
    - * 3 hours post-mortem: stiffening of the muscles — aka rigor mortis — sets in.
      * 24-72 hours post-mortem: internal organs begin to decompose due to cell death; the body begins to emit pungent odours; rigor mortis subsides.
      * 3-5 days post-mortem: as organs continue to decompose, bodily fluids leak from orifices; the skin turns a greenish colour.
      * 8-10 days post-mortem: the body turns from green to red as blood decomposes and gases accumulate.
      * 2+ weeks post-mortem: teeth and nails fall out.
      * 1+ month post-mortem: the corpse begins to liquefy into a dark sludge.

To understand **decay induced by a catalyst** (apply white salt and rock salt separately):

Salt on Apple: [1]

Salt worked as a great preservative. Salt looked to be the best preserved. Salt draws the moisture out of food. This means that the micro-organisms that cause decay cannot thrive.



This is a picture of apple segments after they were left for a week. The cup 1 represents Apple in Salt.

Salt on Potato: [2]

The colour of the potato slice is dark brown, not good-looking potatoes. Salt is the key as water from one potato will flow from less salty area to a saltier area.

A picture containing doughnut, indoor

Description automatically generated

Salt on Cauliflower: [3]

The content of K+ and Ca2+ in cauliflower heads was higher in the control group when compared to the NaCl treatments, but Mg2+ did not differ significantly.

Under the most salinity conditions, the S content of cauliflower increased.

After 10 days of storage at 4°C, salinity had a minor impact on the quality characteristics of cauliflower.

Total soluble solids increased as a result of less storage in the most salinized treatment when compared to the other treatments.

A bowl of popcorn

Description automatically generated with low confidence

Salt on Lemon:

The Lemon after a day or two becomes completely dry. The water in lemon gets osmicated by salt from less salt region of lemon to the more saltier region of the lemon.

A picture containing food, snow, egg, ice

Description automatically generated

Salt on Human Teeth: [4]

When salt or salt water is applied on the teeth, it actually heals the teeth as it becomes an isotonic solution, and it contains electrolytes equivalent to that of the minerals that we have in our body. So that makes it ideal condition for the teeth to heal. It even kills various Bacteria and micro-organisms and further protects the teeth. Now this is when Salt is used in diluted form and in limit. If excess of Salt is used than it actually harms your teeth. Salt acts as a surface abrasive and can definitely make teeth look whiter, but it can really damage your tooth enamel, and unfortunately once your enamel is damaged, it's damaged for life.



References:

[1] - <https://simplelivingcreativelearning.com/rotten-apple-science-experiment/>

[2] - <https://www.metrofamilymagazine.com/simple-science-experiment-osmosis-with-potato-slices/>

[3] - <https://www.ishs.org/ishs-article/1005_65>

[4] - <https://www.youtube.com/watch?v=uT6hDNIDCMA>