



5TH IYNT 2017
INDONESIAN TEAM

WI-FI ROUTERS AND GARDEN CRESS

PROBLEM

*In 2013, five young students claimed a sensational discovery that garden cress (*Lepidium sativum*) won't germinate when placed near two Wi-Fi routers.*

WE USED MUNG BEAN

It is stated according to wikipedia.com that "Garden cress is commercially grown in England, France, the Netherlands and Scandinavia"

We change Garden Cress With Mung Bean which is common in South East Asia, because :

- 1. Mung Bean and Garden Cress are well known as fast growing plant.*
- 2. They Have the same Clade : Eudicots ; Angiosperms.*

RESEARCH QUESTION:

Could Mung Bean germinate with Wi-Fi Routers in their surroundings?

HYPOTHESIS

The plant won't germinate with Wi-Fi Routers in their surroundings.

APPARATUS



METHOD #1

1. *First, Prepare all Materials.*
2. *Then, take the both container and fill it with 3 layer of cottons each.*
3. *Third, Sprinkle the seeds 5 seeds/ container.*
4. *After that, water the seeds.*
5. *Put the Wi-Fi labeled plant 0 cm from the Wi-Fi and put the Non-Wi-Fi Isolated from the Wi-Fi*

BEFORE (OUR STUDY)



WIFI



NON-WF

W
Helo

AFTER (ISOLATED FROM WIFI ROUTERS)



Stem:

Highest = 11 cm

Lowest = 2 cm

Mean = 8,17 cm

Leaves:

Longest = 2 cm (length)

Shortest = 1.1 cm

Mean = 1.8 cm

RESULTS (LEAVE)



RESULTS (STEM)



AFTER (WIFI ROUTERS)



EXPLANATIONS

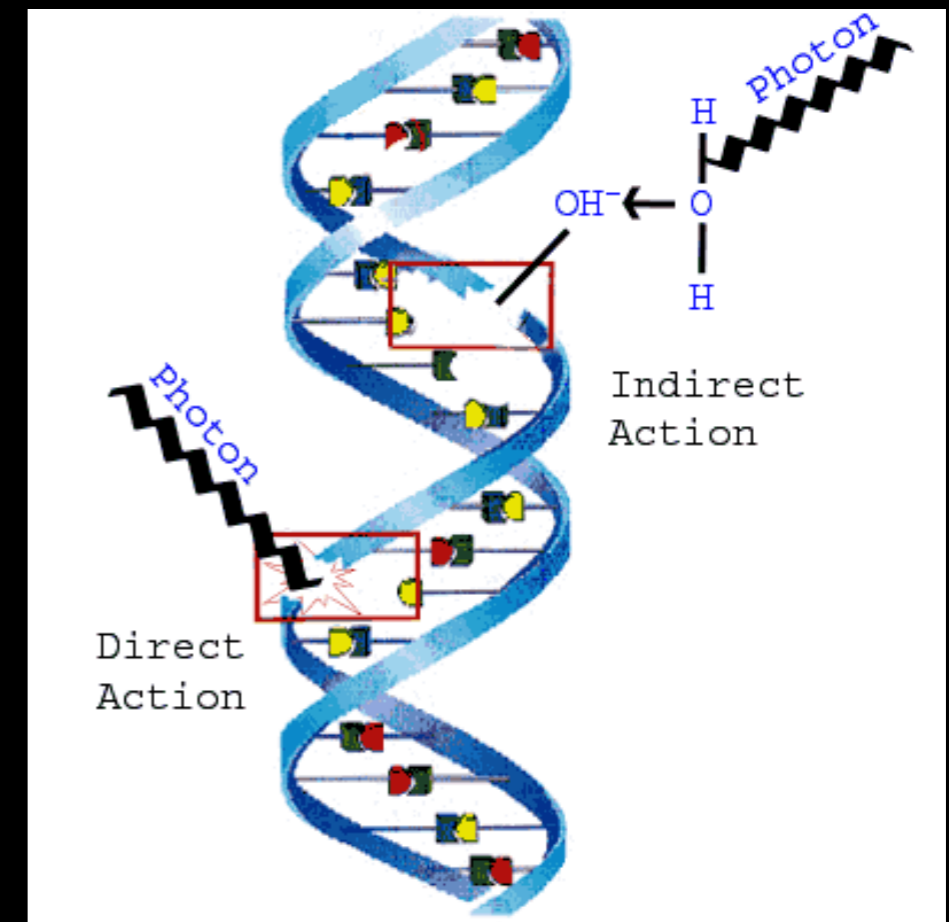
RADIATION

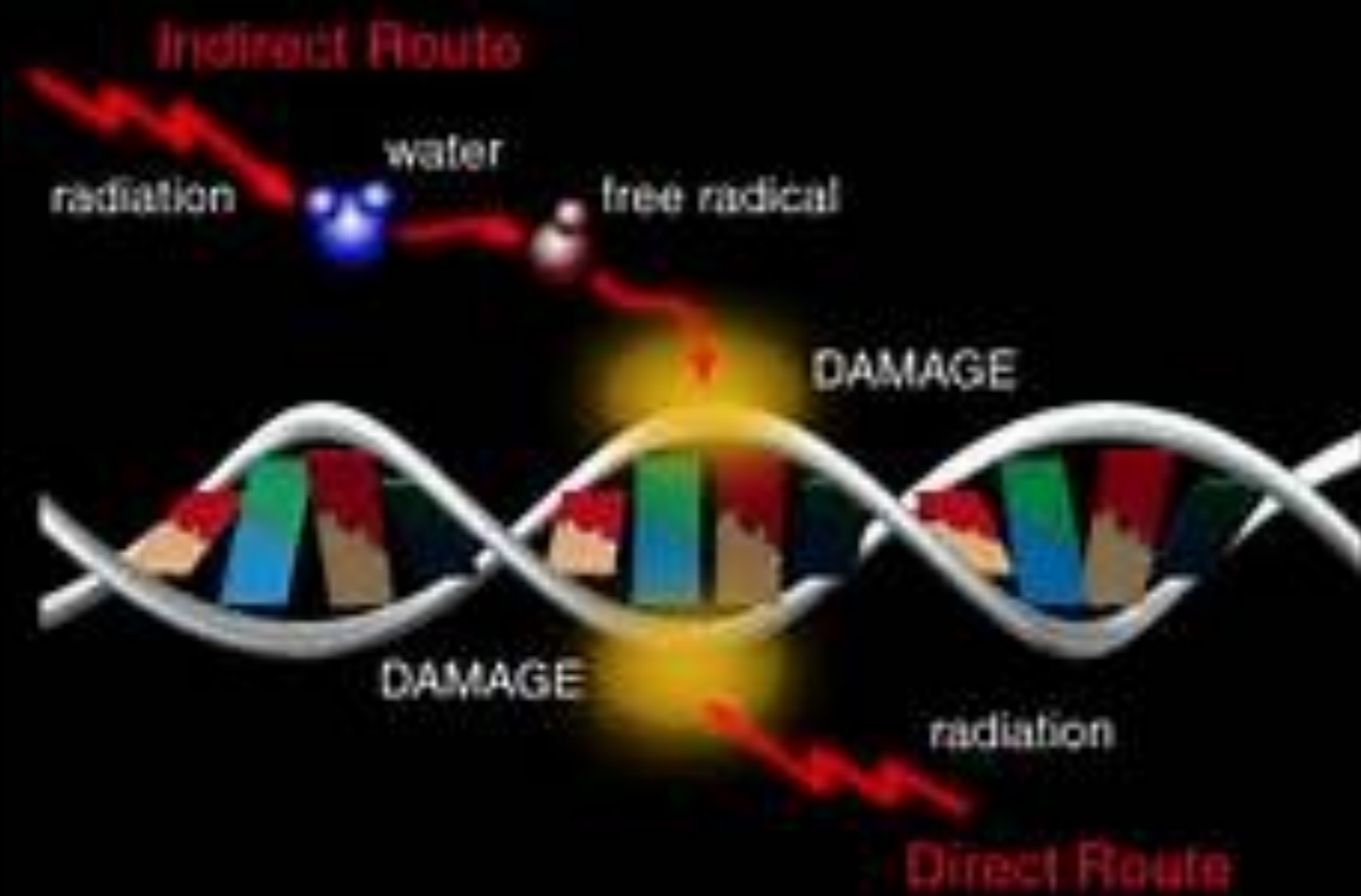
- *Two types of Radiation: Non-Ionising and Ionising*
- *Non-Ionising is harmless (low energy).*
- *Ionising could be serious that it break its chemical bonds*
- *Radiation is energy travelling through space.*

EFFECT OF PLANT RADIATION

1. VISUALLY OBSERVABLE DIFFERENCE IN THE CHROMOSOME STRUCTURE

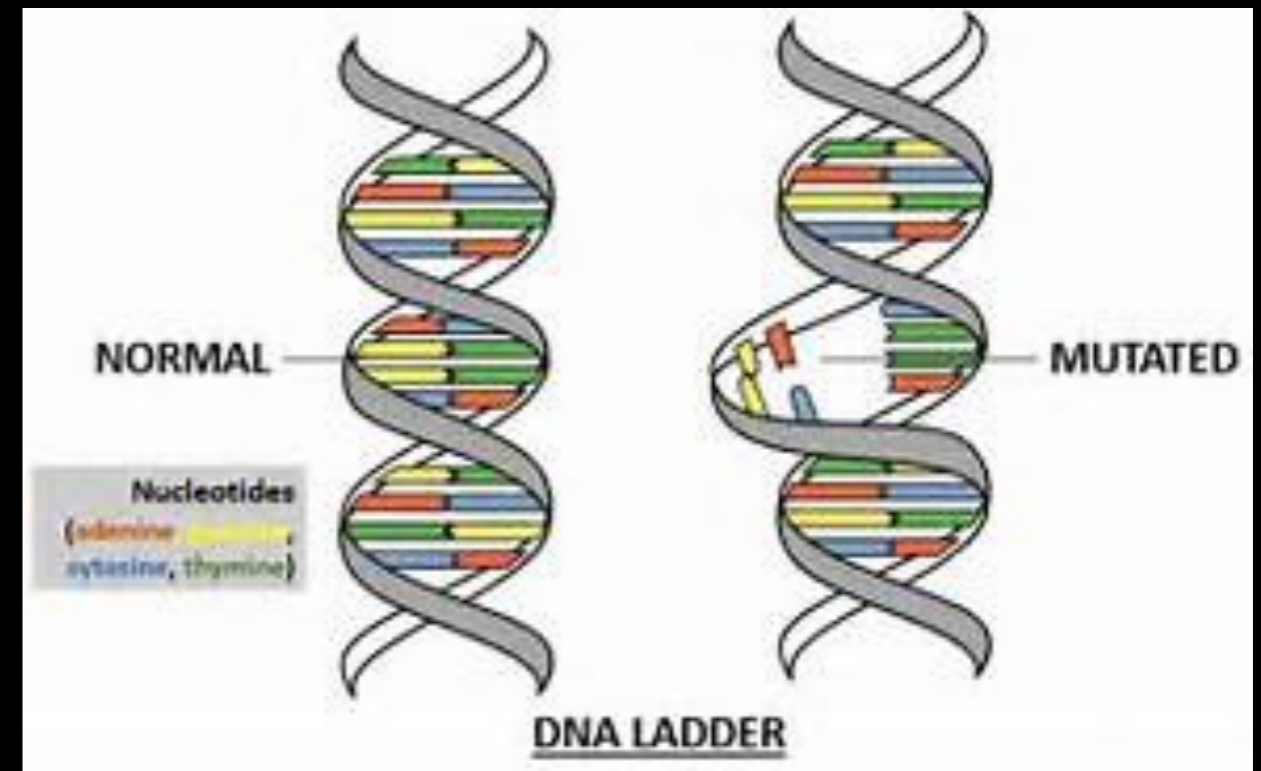
- *Direct Action* —> the energy was transferred *directly* from the radiation into the DNA.
- *Indirect Action* —> the energy is transferred from the *incident of water (H₂O)*





2. DNA CHANGES DEVELOPS DANGEROUS MUTATION.

- *Mutational germinations are one of the effects of radiations.*
- *The structures of a DNA (nucleotide) change could be the effects of a mutational process*



EXAMPLES OF MUTATION ON PLANTS



3. REDUCTION GROWTH (THE DECREASE OF ORGANISM GROWTH)

- *The Routers which contain radiation waves makes the plant germinate longer than the control.*
 - *Isolated from Wi-Fi Routers = Grow Well*
 - *With Wi-Fi Routers = Doesn't Grow Anything*

4. BURN IN PLANT TISSUE

- *Burn in Plant Tissue because of the transferred radiation directly*



CONCLUSION

- *I Support their conclusion, that Plants won't germinate with two Wi-Fi Routers near them.*
- *The Container of Plants with Wi-Fi Routers Turns warm.*
- *The Wi-Fi plants = Mushy seeds, Browning Color*
- *Isolated from Wi-Fi Plants = Growing Long Stem, Leaves Grow well*

THANK YOU

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