



RADIOACTIVITY IN FOOD

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FOOD CAN GAIN THIS RADIOACTIVITY IN A FEW WAYS:



Uptake:

roots of plants
take in
radionuclides
from the soil.



Deposition:

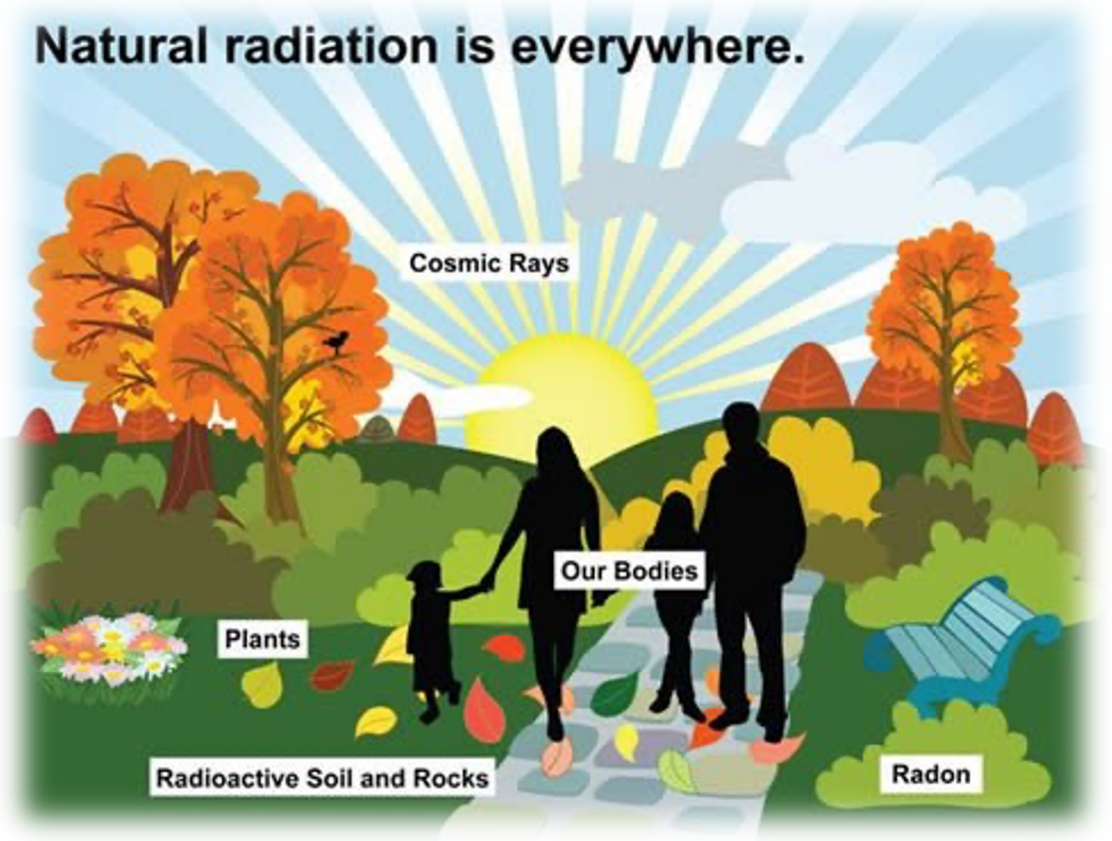
radioactive
particles in the
air settle onto
crops.



Bioaccumulation:

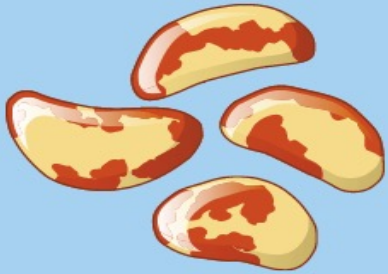
radionuclides
accumulate in
animals that
ingest plants,
feed, or water
containing
radioactive
material.

Natural radiation is everywhere.



Naturally Radioactive Foods

These foods naturally contain low levels of radioactive isotopes.



Brazil nuts



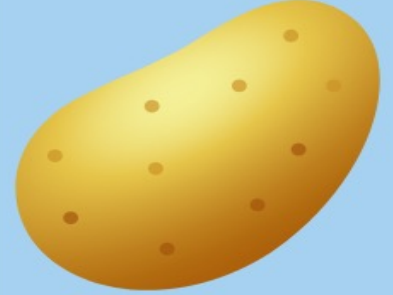
Lima beans



Bananas



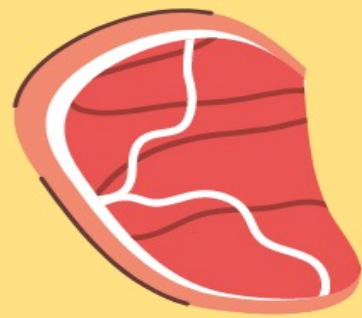
Carrots



Potatoes



Lite salt



Red meat



Beer



Water



Peanut butter

B A N A N A

- Bananas have naturally high-levels of potassium and a small fraction of all potassium is radioactive.
- Banana equivalent dose (BED) is an informal measurement of ionizing radiation exposure, intended as the dose contained in one average-sized banana.
- One BED is often correlated to 10⁻⁷ sievert (0.1 μ Sv);
- An acute lethal dose of radiation is approximately 35,000,000 BED (3.5 Sv, 350 rem)

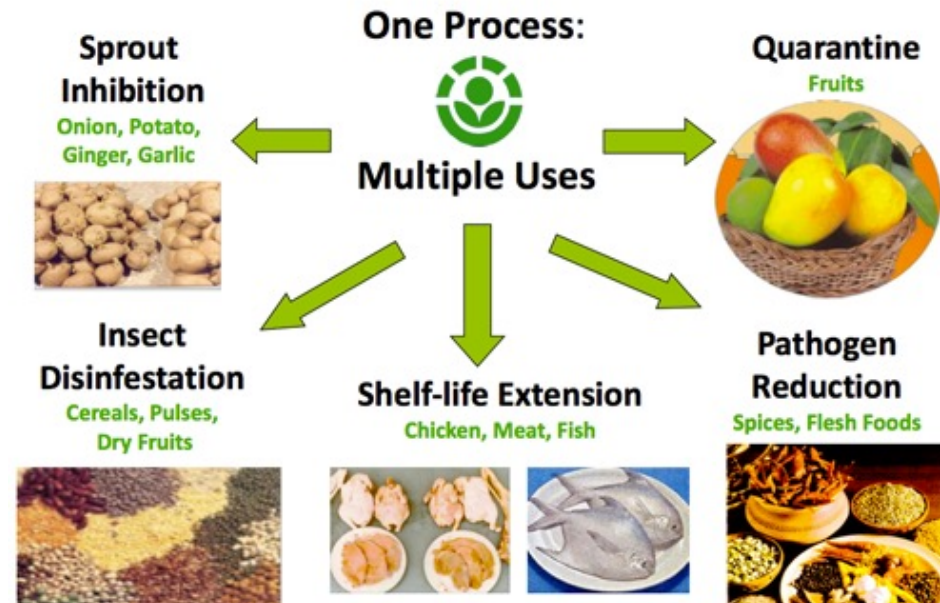


BRAZIL NUTS

- Brazil nuts contain potassium, but they also contain a small amount of radium that is taken up from the soil in which they are grown.
- According to data provided by the World Health Organization (WHO), an average amount of 0.1 gram Brazil nuts per person per day is consumed in Germany



FOOD IRRADIATION



- Natural radiation in food should not be confused with food irradiation.
- Radiations are used to prevent foodborne illness and food spoilage.