PFAS, PESTICIDES, and the GUT MICROBIOME

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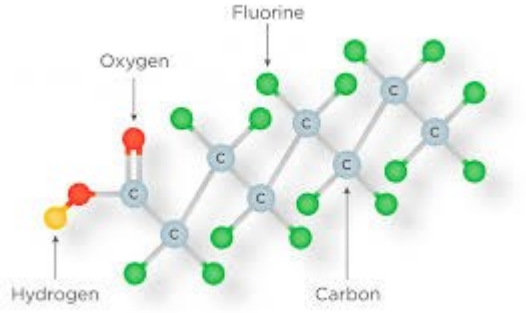
"FOREVER CHEMICALS:" What are PFAS?



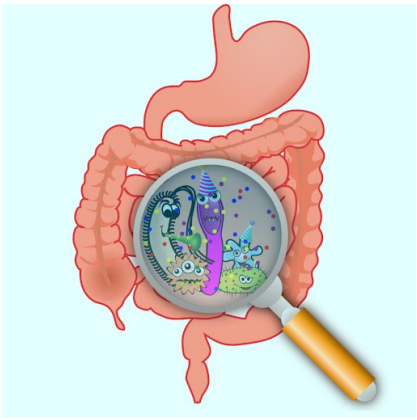
Per- and polyfluoroalkyl substances, known as PFAS, are human-made chemicals used in personal products, food wrappings, fabric treatments and industrial processes.

- called "forever chemicals" --they never fully break down in the environment.
- highly mobile in water and bioaccumulate in our bodies.
- toxic to humans in concentrations as small as parts per trillion ("ppt").
- associated with cancer,...growth, learning, and behavioral problems in infants and children, ...fertility and pregnancy problems.
- alarmingly, PFAS toxicity targets the immune system…
- recent CDC statement... recognized "evidence from human and animal studies that PFAS exposure may reduce antibody responses to vaccines . . . and may reduce infectious disease resistance (Duggan, J et al, 2021).
- are linked to endocrine disruption in human reproductive processes (Jensen 2007).

SECRET INGREDIENTS: A Danger to Life

- 2 PFAS compounds were present at significant levels in the insecticide malathion, Anvil 10+10, used in recent years in Vermont and 20 other states.
- EPA believes the contamination comes from the fluorinated tanks in which the pesticides are stored (Duggan, J et al,2021).
- European scientists find that PFAS compounds are added to pesticide formulations as unidentified ingredients, as "confidential business information.
- used as spreaders to cover insects and plant surfaces, wetting agents, anti-foaming agents.
- lack of disclosure of such ingredients creates difficulties for regulators and danger for humans, wildlife and the environment.
- PFAS could be replaced by other substances in many situations to achieve the same purpose (Gluge, J et al, 2020).

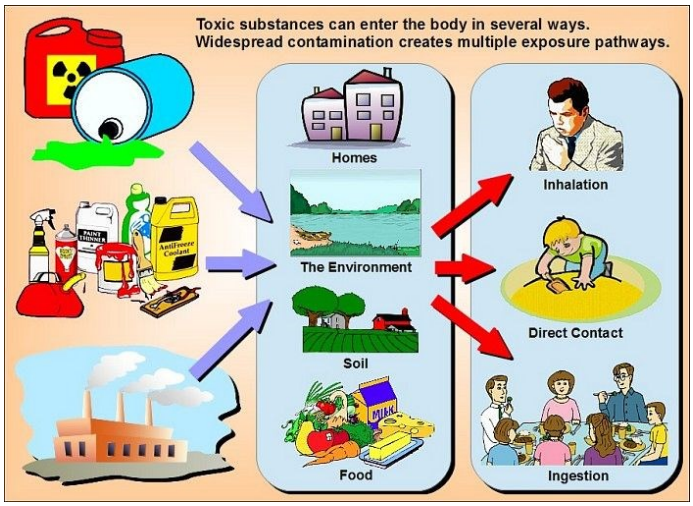
GUT MICROBIOTA: The Basis of Our Immune System



What are gut microbiota? It's the whole amazing community of microbiota living within you that helps you live every day: they digest food, work with hormones and the musculo-skeletal system (Li, R et al 2021) to help regulate development and metabolism, work with enzymes to fight off hostile bacteria and rid the body of toxins. Similar to plants in their biological processes, gut microbiota are very important players In your immune system. So this community needs your care!

Toxic residues in food or water disrupt the gut microbiota, causing hormone imbalances, obesity, neurobehavioral disorders, diabetes, gastrointestinal, immunological disorders and colon cancer (Meng Z et al 2020).

TOXINS and GUT DYSBIOSIS



We are exposed to environmental toxins by inhalation, through the skin, and by ingestion from food and water. Toxins can cause hormone (endocrine) dis- ruption and/or gut dysbiosis (imbalance between beneficial and hostile microbiota), leading to a number of metabolic diseases or disorders in the body (Po Lai, K 2018; Rosenfeld CS,2017; Giambo, F et al, 2021).

Dangers of glyphosate-based herbicides:

- toxic to our gut microbiota whose biology is similar to plants.
- prevent gut microbiota from producing elements needed for protein synthesis.
- shut down the enzymes necessary for the gut microbiota to eliminate toxins and hostile bacteria or viruses from the body, undermining our immune system.
- are endocrine disruptors, undermining reproduction and immune system.
- contain secret ingredients that can be more toxic than glyphosate itself.

PROBLEMS to SOLVE

- ***NO MORE SECRET INGREDIENTS:***
  Contact Sylvia at sknightinvt73@gmail.com
- ***STEP UP REGULATIONS ON PFAS:***
  Contact Marguerite at madel51353@gmail.com
- ***LIMIT GLYPHOSATE USE IN VT:***
  Contact Sylvia (see above)

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