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It's Time We Include Greens in More Than Just Diet

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We have all heard it before: Eating greens is good for your health. But surrounding yourself with the colour green can be beneficial too. In recent scientific research, city dwellers were asked to visit a green space (e.g., parks, woodlands, street trees, vegetation cover) and blue spaces (e.g., rivers, lakes, and beaches) frequently. Interestingly, people who often visited these spaces had a positive association between their visits and mental health. So, to say, the frequency of visits to green spaces in the last 4 weeks was positively associated with positive well-being and negatively associated with mental distress and the use of doctor-prescribed depression (though not anxiety) medication. Does that imply that people who have more green spaces, maybe a small garden, have better mental health? Yes, because these places have calming effects

While the colour green certainly has a lot of psychological effects. Recent individual studies on other potential green organisms like algae and seaweeds are groundbreaking and most importantly sustainable. Algae are not true plants but are capable of photosynthesis. Algal blooms can be seen as taking up space on the surface of water bodies and thereby decreasing the oxygen levels that are critical for the residing aquatic life inside the water body. These algae can be used to develop Bioplastics. Bioplastics are a hot topic for discussion as we push forward towards sustainability, yet demand for single-use plastics has been very high since the pandemic. But the main question is, are algal bioplastics superior to other plant-animal-derived plastics?

The answer is simple, really, to raise those plant /animal derivative demands, we require space, demands, fodder, fertilizer etc. Algae can provide an alternative option as it grows about 30 times faster, demands minimal energy, nutrient input and can be grown on waste water. To get a little technical, algae are capable of producing 2 very important substances, which are Polylactic acid (PLA), similar to polyethylene (PE). Basically, they are a biodegradable source which can be easily fabricated and moulded and therefore used in packaging. The next one is a polyester-like substance called Polyhydroxyalkanoates. Found in these microalgae, their work is to easily decompose to form water and carbon dioxide and save us all from our major problem, i.e., littering. The future market for bioplastics has a lot of potential. Some day we might be drinking Coca-Cola from a banana fiber bottle or wrapping our Maggie's in algae bioplastics.

Another major concern we face today is land shortage. Sea weeds could solve them. In a recent published research article on nature sustainability, sea weed farming could reduce global land pressure. Seaweed farming can help reduce stress on land because it can be used instead of or in addition to food, animal feed, and biofuels. Planting sea weed in the ocean can reduce the reliance on regular crops grown on land and lower pollution caused by farming. Seaweeds are a type of micro-algae that grow only in the marine ecosystem. They are multicellular and microscopic.

According to this paper, scientists can build biorefinery facilities offshore for large scale biomass cultivation. Seaweed microalgae have a faster metabolism and growth rate and so have a biomass production potential. How does biomass create energy? Biomass is an organic product of plants and animals, in this case, microalgae. It is burned, giving off heat - chemical energy is transferred into heat energy and sufficient to say it can be an alternative to fossil fuels.

Biomass becomes food through a process called primary production, where primary producers take energy from the environment in the form of sunlight or inorganic chemicals and use it to create energy-rich molecules such as carbohydrates, chemical nutrients, which can reduce pressure on arable land to provide for food, chemicals, and fuels required for society.

Biomass fuel can be used like fossil fuels, so it could help reduce the amount of fossil fuels we takeout from earth and burn. Converting waste materials into energy by using biomass is beneficial because we can reuse, recycle waste and live more sustainably. One potential alternative worth mentioning is underwater farms, where crops can be grown in underwater pods or biospheres.

It benefits the environment by eliminating the need for pesticides as no pests can enter the pods unless they are introduced. This means that plants are grown, without soil. Instead, they are placed in liquid filled with nutrients to give them water and minerals. This process happens in a controlled setting. It is safe to say that greens play a very important role in present and in future.