Could Algae free us from Foreign Oil?

We are perched on a precipice that could teeter toward abundance, or topple us into oblivion. Everybody knows that we need to make some changes in our consumption of oil. There are fuel shortages on the horizon and people are looking for a new way. For the last four decades, scientists have been working steadfastly to bring us a fuel source that is as ancient as it seems futuristic. Could a microscopic organism that is the origins of all life on Earth be the answer we seek? Could we really answer all of our fuel needs by looking into a pool of pond scum? It might seem absurd to think that the future could exist in the oldest life form: algae.

**What are algae?**

The term alga encompasses a range of single and multi-cellular water-bound plants. This organism is responsible for the atmosphere we have today, and as much as 60% of the air that we breathe comes from them. Algae actually thrive in CO2 rich environments and effectively convert carbon into oxygen. Even though it does produce some carbon dioxide when burned, it creates O2 while it is growing, making it an extremely clean source of biofuel.

**How does it make fuel?**

Algae are an abundant and prolific organism that grows all over the planet and multiplies at an astounding rate. One half of algae's weight composition is made up of lipid oil. Because it possesses such heavy oil content and ubiquitous nature, algae is looked at as a viable alternative fuel source that could wean us off of our dependence on foreign oil. But is it really as viable as it seems?

**Algae vs. other alternatives**

While Algae may seem like a dream solution, it does have its drawbacks. The main methods for extracting oil from algae are using mechanical and chemical methods. Both processes require a large expenditure of resources, space, and time. This makes it too costly to use as a serious fuel source presently. The chemical process has the added drawback of using corrosive chemicals that could have harmful effects.

In spite of this, money is being poured into algae research startups in the hopes that a strain of the organism that produces a higher yield of oil will be isolated. The biggest thing that alga has going for it is the fact that it won't leave us competing for our food resources like ethanol and other alternatives. It will also take up less space to get the same amount of fuel. Of course, there is much more ground to cover.

Whether algae will become a front runner in the race against depleted oil supplies remains to be seen, but if we look to the future and keep innovating and thinking outside of the box, we will surely see a shift soon.