

Study finds concerns with biofuels

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Biofuels are widely considered one of the most promising sources of renewable energy by policy makers and environmentalists alike. However, unless principles and standards for production are developed and implemented, certain biofuels will cause severe environmental impacts and reduce biodiversity – the very opposite of what is desired.

Corn-based ethanol is currently the most widely used biofuel in the United States, but it is also the most environmentally damaging among crop-based energy sources. A new article published in *Conservation Biology*, a publication of the Society for Conservation Biology, qualitatively contrasts major potential sources of biofuels, including corn, grasses, fast-growing trees and oil crops. The study highlights their relative impacts on the environment in terms of water and fertilizer use and other criteria to calculate the environmental footprint of each crop.

“The central goals of any biofuel policy must minimize risks to biodiversity and to our climate,” says lead author Martha Groom of the University of Washington. She recommends the further use of algae and fast-growing trees as biofuel sources because they yield more fuel per acre than any feedstocks currently being pursued.

As well as comparing potential biofuel feedstocks, the study also recommends a number of major principles for governing the development of environmentally friendly biofuels. Feedstocks should be grown according to sustainable and environmentally safe agricultural practices with minimal ecological footprints (the area of land required to grow and support sufficient amounts of the crop). In particular, emphasis

should be placed on biofuels that can sequester carbon or have a negative or zero carbon balance.

“While some biofuels may be an improvement over traditional fuels, we believe we should focus much more on the biofuels of the future that can be developed in small spaces, rather than extensively on crop lands,” explains Groom. “We also must shun biofuels that are grown by clearing biologically-rich habitats, such as tropical rainforests, as has occurred with oil palm and some other biofuels.” The study was co-authored by Elizabeth Gray, the director of science for The Nature Conservancy’s Washington state program, and Patricia Townsend, a Ph.D. candidate in the Department of Biology at UW.

Source: Wiley

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