A new report, based on intensive modeling, raises serious concerns about the impact of first-generation biofuels such as corn ethanol. The picture for second-generation fuels, such as the cellulosic ethanol now being researched at the Energy Biosciences Institute, is much better. Note, however, that the source is somewhat suspect — the OPEC Fund for International Development (OFID). The report certainly shouldn't be taken as gospel, but it at least should provide the basis for a bigger push at improved modeling of these impacts.

Here's the report's verdict on the first generation fuels:

> The results of the study indicate that first-generation biofuels development as has been promoted by national policies is conflicting with goals of achieving food security, results in only modest increases of agricultural value added in developing countries, achieves net greenhouse gas savings only after 2030, creates additional risks of deforestation and threats to biodiversity. The target of achieving a ten percent biofuels share in transport fuel at the global level can be met but this causes about a fifteen percent increase in the number of people at risk of hunger (i.e., and increase 140-150 million people at risk of hunger as compared to 2008 numbers). In particular the poor urban population, subsistence farmers and the landless in developing countries will bear the brunt.

Second generation fuels look much better (which adds a bit to the credibility of the report):

> In the long run current first-generation biofuels production on cultivated land is not tenable as the world's limited arable land resources are essential to meet future food demand. Hence it is important to make a fast transition to producing second-generation biofuels from ligno-cellulosic feedstocks such as perennial grasses and tree species. Biomass residues from agricultural crops and forestry form a feedstock source as well. However, careful planning and comprehensive policies are required as these biomass feedstocks are often the main source of local household energy for rural populations in many developing countries. The key challenge for commercial second-generation biofuels is to develop

conversion technologies at industrial scale and at competitive prices. These technologies, still at the laboratory experimentation and demonstration stage, require large scale feedstock supplies and pose substantial logistical and sustainable management challenges.