

A Comparison of the Environmental Impacts of Edible and Non-edible Oil Crops in Biodiesel Production

Halit Tutar, Ömer Eren, Oğuz Parlakay

Abstract—The demand for food and energy of mankind has been increasing every passing day. Renewable energy sources has been pushed to forefront since fossil fuels will be run out in the near future and their negative effects to the environment. As in every sector, the transport sector benefits from biofuel (biogas, bioethanol and biodiesel) one of the renewable energy sources as well. The edible oil crops are used in production of biodiesel. Utilizing edible oil crops as renewable energy source may rise a debate in the view of that there is a shortage in raw material of edible oil crops in Turkey. Researches related to utilization of non-edible oil crops as biodiesel raw materials have been recently increased, and especially studies related to their vegetative production and adaptation have been accelerated in Europe. In this review edible oil crops are compared to non-edible oil crops for biodiesel production in the sense of biodiesel production, some features of non-edible oil crops and their harmful emissions to environment are introduced. The data used in this study, obtained from articles, thesis, reports relevant to adible and non edible oil crops in biodiesel.

Keywords—Biodiesel, Edible Oil Crops, Environmental Impacts, Renewable Energy

Halit Tutar is with the Bingöl University, Faculty Of Agriculture, Dept. of Field Crops, Bingöl, CO 12000 TURKEY (phone: +90 507 787 82 79; fax:+90 426 216 00 12; e mail: halittutar1@gmail.com)

Ömer Eren is with the Mustafa Kemal University, Faculty Of Agriculture, Dept. of Biyosystem Engineering, Hatay, CO 31000 TURKEY (phone: +90 532 553 28 77; e mail: dromereren@gmail.com)

Oğuz Parlakay is with the Mustafa Kemal University, Faculty Of Agriculture, Dept. of Agricultural Economy, Hatay, CO 31000 TURKEY (phone: +90 505 899 53 84; e mail: oparlakay@mku.edu.tr)