

Corn Oil Biodiesel from Corn Oil Extracted at Dry Mill Corn Ethanol Plants Producing Wet Distiller's Grains with Solubles

Staff-Developed Low Carbon Fuel Standard Fuel Pathway Response to Comments

Posting Date: October 24, 2014

The comment numbers used in this document correspond to the comment numbers appearing on the Low Carbon Fuel Standard pathway public comment web page [<http://www.arb.ca.gov/fuels/lcfs/2a2b/2a-2b-com.htm>]

Comment: [Comment 19] ARB should consider factoring in the existence of distillers' corn oil in reducing the indirect impact of other biodiesel feedstocks. The discovery of distillers' corn oil going into biodiesel as well as that going into animal feed markets should be counted as additional to the global fats and oil markets as a credit to the biodiesel industry. This ultimately reduces the indirect impact of biodiesel from various feedstocks.

Response: Staff agrees that quantifying the greenhouse gas emissions effects of market adjustments like the one described in this comment could improve some LCFS life cycle analyses. Accurately capturing such effects, however, is difficult. Introducing a new commodity into, or diverting an existing product from, a market can trigger a series of adjustments across related markets. Capturing these various adjustments as they ripple through an economy requires sophisticated economic analysis, or, possibly, modeling. Staff is looking into the analytical tools that might be available in this area.

Comment: [Comment 19] We note that the pathway addresses corn oil extraction in nine specific states. We would suggest inclusion of corn oil produced in all of North America. Emissions from transportation are relatively small differences in the lifecycle. Inclusion of more states and Canada would further incentivize production of low-carbon fuel. Similarly, biodiesel produced in all of North America should be included for maximum inclusivity of the broadest possible pathway. Additional pathways for specific regions with lower emissions could be added later.

Response: Staff agrees that corn oil biodiesel can be produced outside of the Midwestern and Western U.S. production area defined for this pathway. However, most of the existing producers able to use this pathway are located within this production area. This pathway also provides producers from outside of this area with most of the building blocks they need to quickly and easily develop their own, producer-specific pathways under the Method 2B process. In many cases, those producers would only need to change the electrical generation energy

mix and transportation inputs in the CA-GREET model developed for this pathway in order to calculate their new pathway carbon intensities.

Comment: [Comment 20] Please consider my comments and those from 2011.

Response: Because nothing in addition to this sentence was submitted, this comment consists entirely of a re-submittal of comments provided in response to the rulemaking proposal heard before the Executive Officer (EO) on February 24, 2011. Among the pathways proposed for EO approval at that hearing was a pathway for biodiesel produced from corn oil extracted at dry mill corn ethanol plants where all DGS is fully dried. The primary difference between that pathway and the current corn oil biodiesel pathway is that the latter uses feedstock only from dry mill corn ethanol plants where DGS is not dried. In both cases, the retrofitted corn oil extraction process is considered to be incremental to the corn ethanol plant. Only the incremental changes in GHG emissions resulting from the operation of retrofitted corn oil extraction equipment flow with the corn oil to the biodiesel production facility. The commenter argued that the total life cycle emissions associated with the production of ethanol and corn oil (including farming and land use change emissions) should be allocated between the ethanol and the biodiesel based on their relative energy content (specifically, the energy contained in volumes of ethanol and biodiesel produced from each unit of feedstock corn). Energy use and emissions associated with biodiesel production and transport would accrue only to the biodiesel and its co-product, glycerin.

Staff has determined that its responses to the original set of comments sufficiently addressed the concerns raised, and that no further response is necessary at this time. The Final Statement of Reasons document containing the original comments and responses is available for inspection on the Low Carbon Fuel Standard web site: <http://www.arb.ca.gov/regact/2011/lcfs11/fsor.pdf>. The corn oil biodiesel pathway section begins on page 9.