

A Life Cycle Assessment of Greenhouse Gas Emissions for Almond Production in California

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PROJECT SUMMARY

Objectives:

- Develop a comprehensive computer-based life cycle model for assessing the direct and indirect greenhouse gas (GHG) emissions, as well as the associated criteria air pollutants and energy usage involved in the production of almonds in California.
- Use the model to calculate the GHG emissions, criteria pollutants, and energy per pound of almonds, in-shell.

Background:

California almond growers have to contend not only with significant environmental variables, but also with a complex regulatory environment. Accordingly, in running their operations and formulating their business plans, they have to take into account such factors as GHG emissions, energy use, and other forms of air pollution in both the long and short run.

This new project is designed to furnish them and others in the almond industry with a multifaceted management tool that will enable them to better understand the production processes and practices that contribute to GHG emissions, air pollution and energy use.

The model simulates all energy and resource inputs and waste, pollution, and co-product outputs throughout almond cultivation and harvesting processes. With follow-on research efforts, this tool may also prove useful to almond growers interested in reducing their individual environmental footprints, and may be enhanced with additional life cycle modules included processing and distribution.

The model may also serve as a basis for modifications to develop life cycle energy and air emissions models for pistachio and walnut production.

Project Cooperator: Sonja Brodt, Agricultural Sustainability Institute, University of California, Davis

For More Details, Visit

- Poster location 18, Exhibit Hall, Session 3; or on the web (after January 2011) at AlmondBoard.com/AICposters