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**ANALYSIS OF CARBON FOOTPRINT ASSOCIATED WITH LIFE CYCLE OF  
ECUADORIAN AGRICULTURAL PRODUCTION**

**Study case: Premium banana supply chain cultivated in El Oro, Ecuador**

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**ABSTRACT**

The processes carried out by humanity for its development, together with rapid population growth have led to changes in atmospheric composition. Carbon footprint concept was developed as a new standard for measuring and reporting GHG emissions along the product supply chain in order to achieve eco efficiency. The aim of this investigation is to analyze technically and quantitatively the carbon footprint of the supply chain of premium banana cultivated in El Oro, Ecuador and determine the hot-spots through the production system as cradle to gate approach (raw material and on farm production; postharvest, packing, overseas and national transportation) with data collected of the years 2009, 2010 and 2011. For this purpose the program CCaLC V3.0 was used, based on PAS 2050 standard. The estimated value of this study case in 2009 was 0.52 kg of CO<sub>2</sub> e/kg of banana; in 2010 the emission was 0.55 kg of CO<sub>2</sub> e/kg of banana and 0.56 kg CO<sub>2</sub> e/kg of banana in 2011. It was determined that overseas transportation is the most critical hot-spot, representing 39% of the total emissions followed by farming (28%) whose main fact within it was soil emissions due to fertilizers use over the years analyzed. The results related to hot-spots importance order were consistent with Dole Fruit Company carbon footprint study performed in Costa Rica in 2010