

COMPANY: Coca-Cola



PRACTICE

Applying fertilizers only as needed affords significant cost savings for suppliers (and dramatically reduces emissions).

PROBLEM

Conventional fertilizers, which release nitrous oxide, a greenhouse gas that has about 300 times the warming power of CO₂, are responsible for a significant portion of Coca-Cola bottlers supply chain emissions.

- Manufacturing of conventional fertilizers is highly energy intensive. Also, because manufacturing fertilizer is natural-gas intensive, farmers (and our businesses) are additionally vulnerable to fuel costs.
- High difference between fertilizer usage on farms observed – relative to same yields
- Farmers are untrained in best practices in placement of fertilizer and are not conducting soil/leaf analysis.

PROPOSED PRACTICE

Best practice fertilizer use relies on important factors including placement of the fertilizer and amount used. Globally, across Coca-Cola bottlers, fertilizer optimization (reducing excess fertilizer application) represents \$900 million/year potential cost avoidance for Suppliers. (This is based on McKinsey & Co analysis for European Juice business then extrapolated globally.)

1. CASE: OPTIMIZING FERTILIZER USE

By following best practices and reducing the fertilizer usage through better placement, Coke's supply chain emissions for Brazilian oranges could be reduced by ~8,000 t CO₂e



1 Can include volumes grown for Fanta concentrate

SOURCE: Team analysis

McKinsey & Company | 2



BUSINESS CASE for BRAZIL ORANGES sourced by KO*

McKinsey conducted business case analysis and concluded that by following best practice and reducing fertilizer with better placement, KO can reduce emissions by ~8,000t CO₂e in its Brazilian orange procurement. By following best practice fertilizer usage in all groves in Brazil from where it sources oranges, Coca-Cola's supply chain emissions for Brazilian oranges could be reduced ~8,000 t CO₂e. Current fertilizer application could be reduced by 45% to yield same effect and reduce carbon emissions.

CO ₂ e reduction from switching to best practice	8,039t
Annualized savings	2.4 million USD (offset price)
Cost per ton	301 USD (offset price)

**Costs of farmer training not included in business case; however savings could fund training through train the trainer model.*

COMMENTS ON THE BUSINESS CASE

- Based on total orange concentrate sourced only from Brazil
- Based on the sample, all groves have only implemented average price.

