Review of: "A Study for Estimation of Greenhouse Gas Emissions of Cotton in Central Greece"

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Potential competing interests: No potential competing interests to declare.

Review report on the article: A Study for Estimation of Greenhouse Gas Emissions of Cotton in Central Greece

Review Summary

The study has explored and estimated the greenhouse gas emissions of the cotton production value chain in Greece. The study is needful and apt especially in the agriculture settings because estimating the greenhouse gas emission from this sector could be challenging and sometimes complicated, especially in developing nations. The manuscript is thereby reviewed based on its outlined sections.

Introduction

The introductory section is succinct and employs clear terms/sentences in its expressions. The flow of thought in this section is fantastic and considers a top-down approach to illustrate basic ideas. However, I would suggest the following

1. The Author dedicates a paragraph or two to explain, detailing the factors that could further lead to emissions in cotton production.
2. *The Greek cotton industry is labour, water and energy-intensive,* but the study did not highlight that it would investigate the water aspect of the nexus i.e., irrigation, in the last paragraph of the introduction

Materials and Methods

The materials and methods have explained how the data were collected and the approach of its analysis. However, the methods have not clearly stated the population size of cotton farmers and sampling method. The Author may want to consider the following review

1. Illustrate to readers how representative the selected twelve cotton farmers are and the rationale for this selection. Illustrating the mode by which cotton farmers were contacted could give some credence to the method;
2. More so, representing the three sites (study area in central Greece) on a geographic map would be ideal and help the reader relate well with the study;
3. An extended illustration of how the *Cool farm tool* operates (beyond its ability as a calculating tool for estimating greenhouse gas emissions), its limitations and its high point are needful;
4. Also, the Cool farm tool is not the only analytical instrument/approach employed to analyse the questionnaire, some

statistical approaches were also considered. On this note, it would be great to give some further details on the method of analysis;

5. In addition, the Author claimed that the questionnaire has considered five thematics areas, kindly ensure that those five groups are in sync with this - *(1) soil-derived nitrous oxide (N2O) from nitrogen (N) fertilizer usage; (2) agrochemical uses in cotton production; (3) electricity uses and combustion of fossil fuels used in cotton farm operations; (4) residues management; (5) transportation*.

Results and Discussion

The result section is clear and have reported the outcome of the study succinctly. Consideration could be considered in the following

1. Tables and figures should be formatted to the publication standard and made explicit;
2. Check for a typo in Figure 2 production, not protuction