Hello Reviewer 1! Thanks for your thoughtful reading of my paper. I’m glad to hear you enjoyed reading it. I appreciate your suggestions have incorporated them in the attached revision. My actions and comments in response to your suggestions are in bold

Review of “How many acres of potatoes does a society need? Using food and historical claims in an energy context”

I have reviewed this paper and greatly enjoyed reading it. I think that it provides some good examples of back-of-envelope type calculations on some relevant historical problems and provides a sound pedagogical framework. I recommend that it should be published with some fairly minor revisions.

Minor Revisions Noted:

Lines 15 and 20: Inconsistency in use “a degree Celsius” but “1 oF” **revised**

Inconsistency: space between a number and kcal – I recommend “3000 kcal” rather than 3000kcal”. **revised**

Line 23: use semicolon “; it will cost you…” **revised**

Line 29: “There are a frustratingly large number of different units in play for energy”. **revised**

Line 71: For clarity “Data is given in bushels per acre (1 bushel = 56 pounds)” **revised**

Line 76 – I’m not sure if this paragraph is meant to be in the text or in the figure caption. I think the text should be in the body of the paper. **I like descriptive figure captions and prefer that this to be a caption. If the editor prefers it to be in the body of the paper that’s fine.**

Line 158: “Few, if any, Native American cultures made use of...” – commas around the “if any” is my preference. **revised**

Figure 4: I find this confusing. If color is being used in figure 2, then I would suggest using it in figure 4 to delineate the regions under discussion. I would suggest just using the inset map and colorizing it. For international readers, it would probably be helpful to include a km scale as well as the miles. **The figure caption is revised for clarity – thanks for pointing this out. I added a 10km scale bar and highlighted the chinampas area included in the estimate. I think two map sections are useful to 1. show the geographic location of the area (which I needed to find remnant chinampas areas on Google Earth), and 2. To illustrate both areas used in the calculation.**

Line 186 I would write out “P, the corn productivity in bushels per acre” for clarity. **revised**

Calculation on line 187 - I assume that the equation label 4 will be on the same line as the relevant calculation when not in proof form. **Sounds great to me. I’m not sure how to do that in Word**

Calculations starting on line 237. There needs to be consistency in the number of significant figures used. I would suggest 2 sf. Significant figures are an important thing in calculations such as these, where we are doing rough estimates, and students should be able to spot unnecessary precision – a very common issue in many estimates! A short comment to this effect somewhere in the text is recommended. **Thanks for this comment. I added the following line:** Note the varying number of significant figures in the setup to this problem. I really don’t believe the estimate beyond about 2sf, although there isn’t harm in including the better-quality area and crop productivity data in the estimate.

Line 257. A complete failure of the *laissez-faire* economic policy of the Whig administration governing in London at the time. [BBC - History - British History in depth: The Irish Famine](https://www.bbc.co.uk/history/british/victorians/famine_01.shtml) (extra reference for you) **Interesting reference, added. Thanks! I noticed they said grain exports don’t match the claims I make in the paper. However, they don’t give numerical figures or even estimated to the amount of Oats exported. I suppose that could be an interesting follow-up activity.**

Other Recommendations:

Fix figure 4 **done**

Add a sentence or two after line 113 making the point that these estimates assume that there is sufficient labor to work the fields, and that you can efficiently distribute food to the population. This is not just a logistics system, but also economics and sociological factors – can people afford the food, or are they socially excluded from obtaining the food. **I appreciate this point and added the following:** These estimates assume that there is sufficient labor to work in the fields, and that you can efficiently distribute food to the population. Beyond simple logistics – can people afford the food, or are they economically or socially excluded?

**There is a meaningful connection between your comment and the BBC article you mentioned. Again, thanks!**

Conclusions. I would rewrite this to be more positive about encouraging students to perform numerical estimates when studying problems. Ditch the word “arrogant” and the phrase “these students”. **Good point, thanks. Revised.**