

# 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 °F”

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

Line 23: use semicolon “; it will cost you...”

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

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

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.

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

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.

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

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.

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.

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](#) (extra reference for you)

## Other Recommendations:

Fix figure 4

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.

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”.