Review of: "Probabilistic Assessment of the Heavy Metal Pollution in Debrecen's Topsoil"

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The paper presents information about Probabilistic Assessment of the Heavy Metal Pollution in Debrecen's Topsoil. In my opinion, the manuscript is quite well written, but in my opinion, it needs major revision.

My comments are as follows:

Introduction:

In the introduction, there are some grammatical errors:

-the citations of literature are different, please correct it

-please explain **\<Vp\>**, after citation (Zhou et al., 2020)

-the last sentence in the introduction is not well written, please correct it.

Materials and Methods

Soil Sampling

-How many samples were taken?

-Which soil fraction was used for the chemical analyses?

-What types of soils were sampled?

Analytical Procedure

-How much sample was used for XRF analysis?

-Was the sample for XRF analysis placed in a cuvette in powder form or made into a pellet?

-Did you compare the obtained XRF results with other techniques such as, for example, AAS, because from my experience, the handheld XRF devices are not so precise as desktop ones.

-Page 4, the numbers of equations are missing, please correct it.

-What program did you use to create the equations, because in equations 1, the conc(n)/xB(n) seems to be as an exponent, not as a multiplicand. The same problem is in other equations. Please explain it.

-Page 5, [low risk], please correct the brackets on the circle.

Results and Discussion

-Please explain to me what you meant by the term "pollutants"? After all, even trace elements can be pollutants, can't they?

-In the title, and also in results and discussion, you write about heavy metal pollution, and after that, you compare pollutants with trace elements. Please explain it.

-Page 6, Table 1, you write Pollution limit values, but in the text, you write maximum permissible values, please unify it.

-Fig.1-Fig.4-unreadable descriptions and scales.

-Page 9, principal component analysis, there is missing the abbreviation (PLA), because in table 3, it is used only as an abbreviation, but it is not explained anywhere.

-In all manuscripts, please unit decimal units in tables and also in the text.

-Page 11, how did you calculate the factors 1-6, please supplement it.

-Table 5: ERI, HMPLI should be given in another place in the table.

-Page 13, please explain why you compared your results of topsoils with surface materials, and also you used for comparison the literatures which deal with sediments. (Xiao, 2021, Deng 2020.) For comparison, there are a numbers of works that deal with the **soil** pollution.

References

- Unite the references; there are some mistakes.

Despite several mistakes and uncertainties, after explaining and correcting all of them, I recommend the article for publication.