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INTRODUCTION

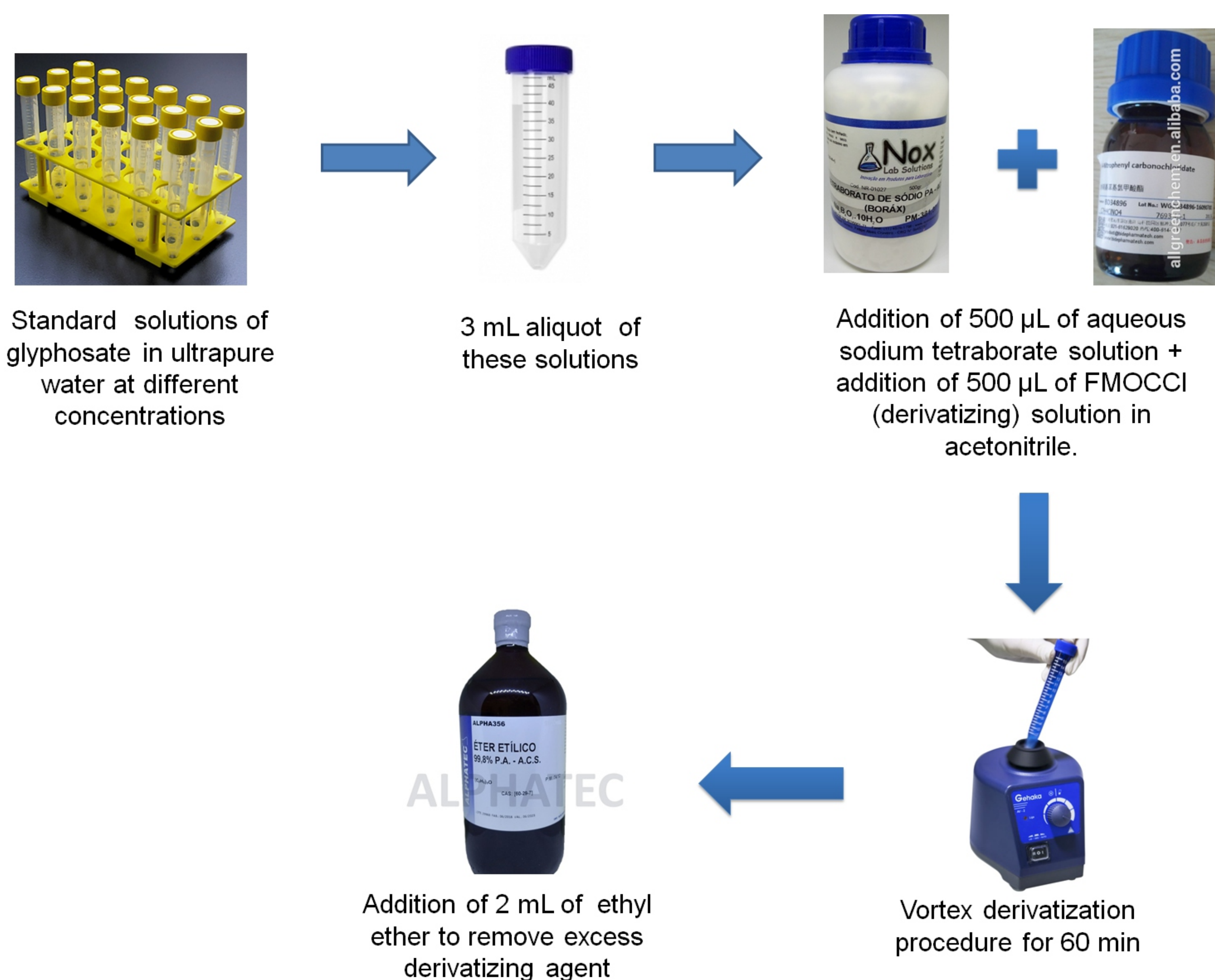
Cancer cases are related to exposure to carcinogens present in the environments where they live and work and a factor of exposure to a human disease. The property is not an exponential factor of the polluted, is a member is a major such as example of pollutants. The use of agrochemicals in cropping machines goes far beyond contamination of water and soil. Other problems related to pesticides include the health processes involved in the production, storage, transportation, application and disposal of wastes contaminated by pesticides. Among the human diseases associated with exposure to agrochemicals, the most worrying are chronic intoxications, characterized by infertility, immunotoxicity, genotoxicity and cancer. In Brazil, glyphosate is at the top of the list of active compounds of commercial pesticides, however, there is a great variety of methodologies under analysis. Perhaps for this methodological reason, the presence of a new herbicide in food is not yet contemplated by the National Agency of Sanitary Surveillance (ANVISA)

OBJECTIVE

The objectives of the present study are to develop and validate the method for the detection of glyphosate and aminomethylphosphonic acid (AMPA), glyphosate metabolite, by means of high performance liquid chromatography (HPLC) and to identify the level of glyphosate exposure in workers' urine rural communities of Casimiro de Abreu - RJ.

MATERIAL AND METHODS

Implementation of glyphosate in water



RESULTS AND DISCUSSION

Chromatograms were obtained by HPLC-Fluorescence, indicating the retention time and characteristic peak of glyphosate in ultrapure water at 13.59 min.

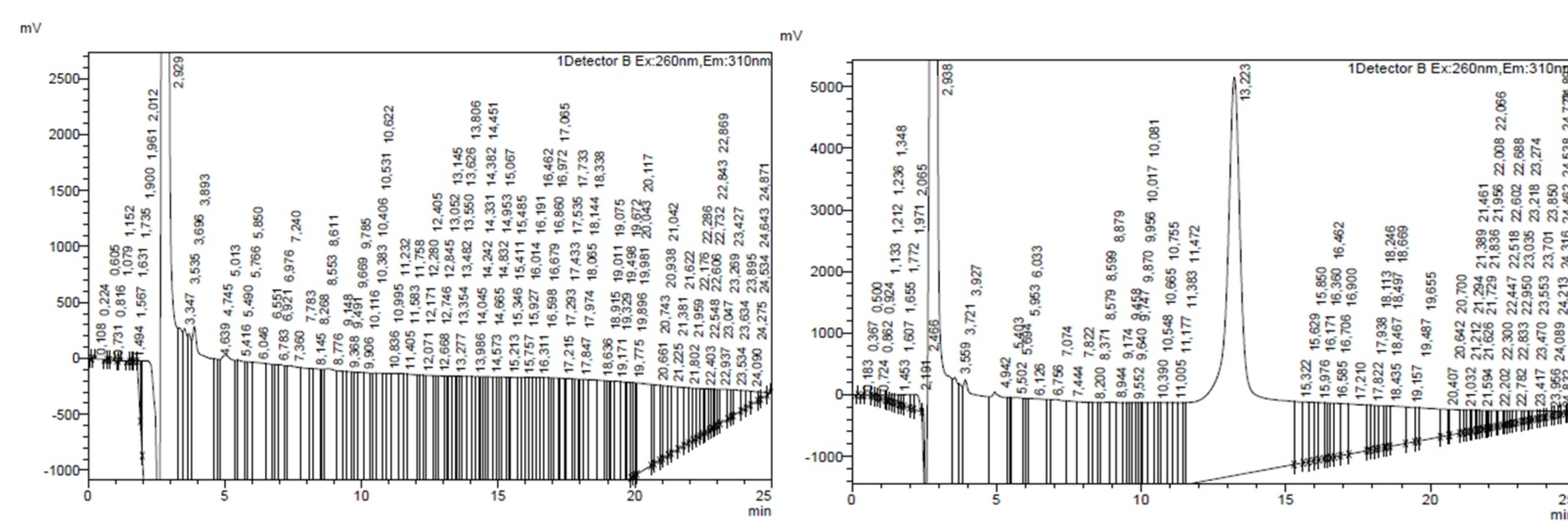
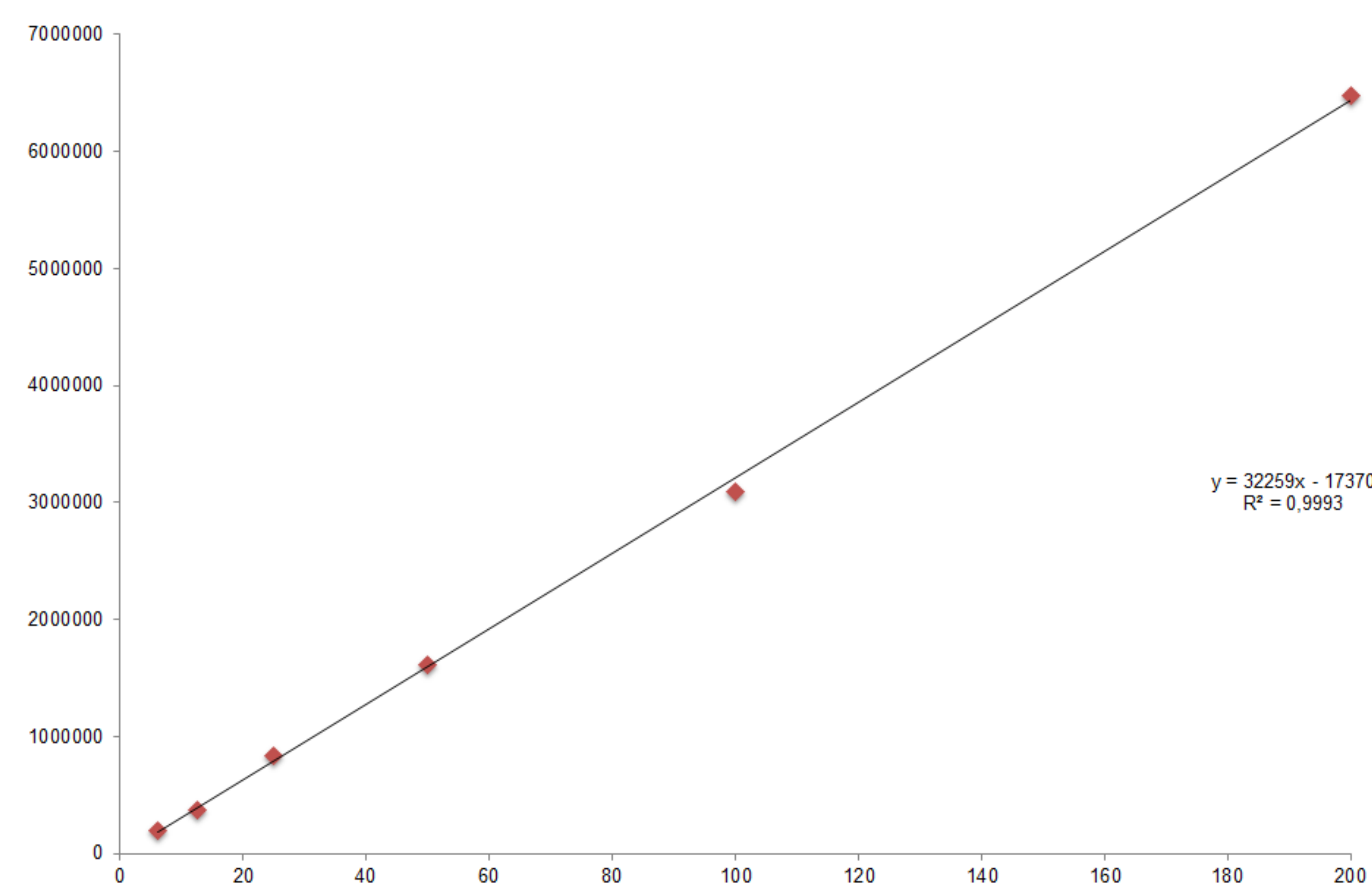


Figure 1: Chromatograms obtained where, A) Chromatogram generated with ultrapure water (white); B) Chromatogram generated with aqueous solution of 500 µg/L glyphosate

The calibration curve was constructed in ultrapure water using six points, with the following concentrations: 6.25 µg/L; 12.5 µg/L; 25 µg/L; 50; 100 µg/L; 200 µg/L.



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From the results obtained it is possible to make necessary modifications that allow the analysis of glyphosate and AMPA in biological matrices.

CONCLUSIONS

- It is hoped to carry out the implementation of the technique for the analysis of glyphosate biomarkers and its main metabolite (AMPA) by HPLC in biological matrices such as blood and urine.
- In addition, it is expected to perform the analysis of the level of exposure of rural workers in the municipality of Casimiro de Abreu-RJ to glyphosate through the research of glyphosate biomarkers and its main metabolite (AMPA).