

Agro-industrial waste from pineapple (*Ananas comosus* L. Merr) in the Papaloapan basin: a link in the value chain

Nelda Xanath Martínez-Galero, Valeria Ruiz Valencia, Esther Carbajal Alejandro, Azul Buenaventura Pérez Estrada, Rocío Guadalupe Franco-Beltrán, Adolfo Amador Mendoza

Centro de Investigaciones Científicas, Instituto de Química Aplicada. Universidad del Papaloapan, CP 68301, Tuxtepec, Oaxaca, México.

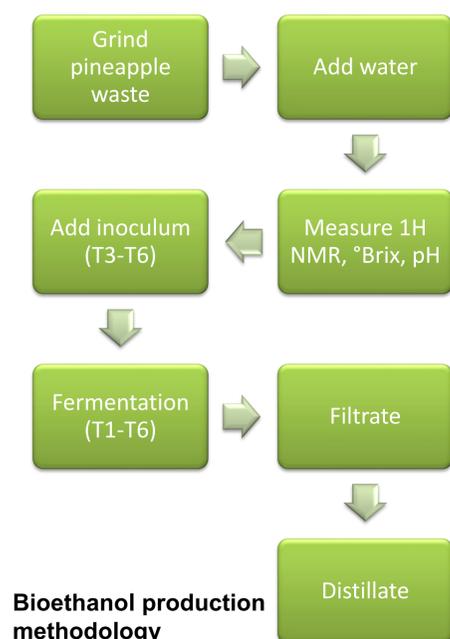
INTRODUCTION & AIM

The problem with agro-industrial waste



Bioethanol production from converting the sugars present in the pineapple agro-industrial waste. This work monitors the fermentation by ¹H NMR, °Brix, and pH to aim maximize bioethanol production

METHODOLOGY



T1-T2 Treatments without inoculum, T3 *S. cerevisiae*
T4-T6 Bacteria isolated from the fermentation of *Agave cupreata*.

RESULTS & DISCUSSION

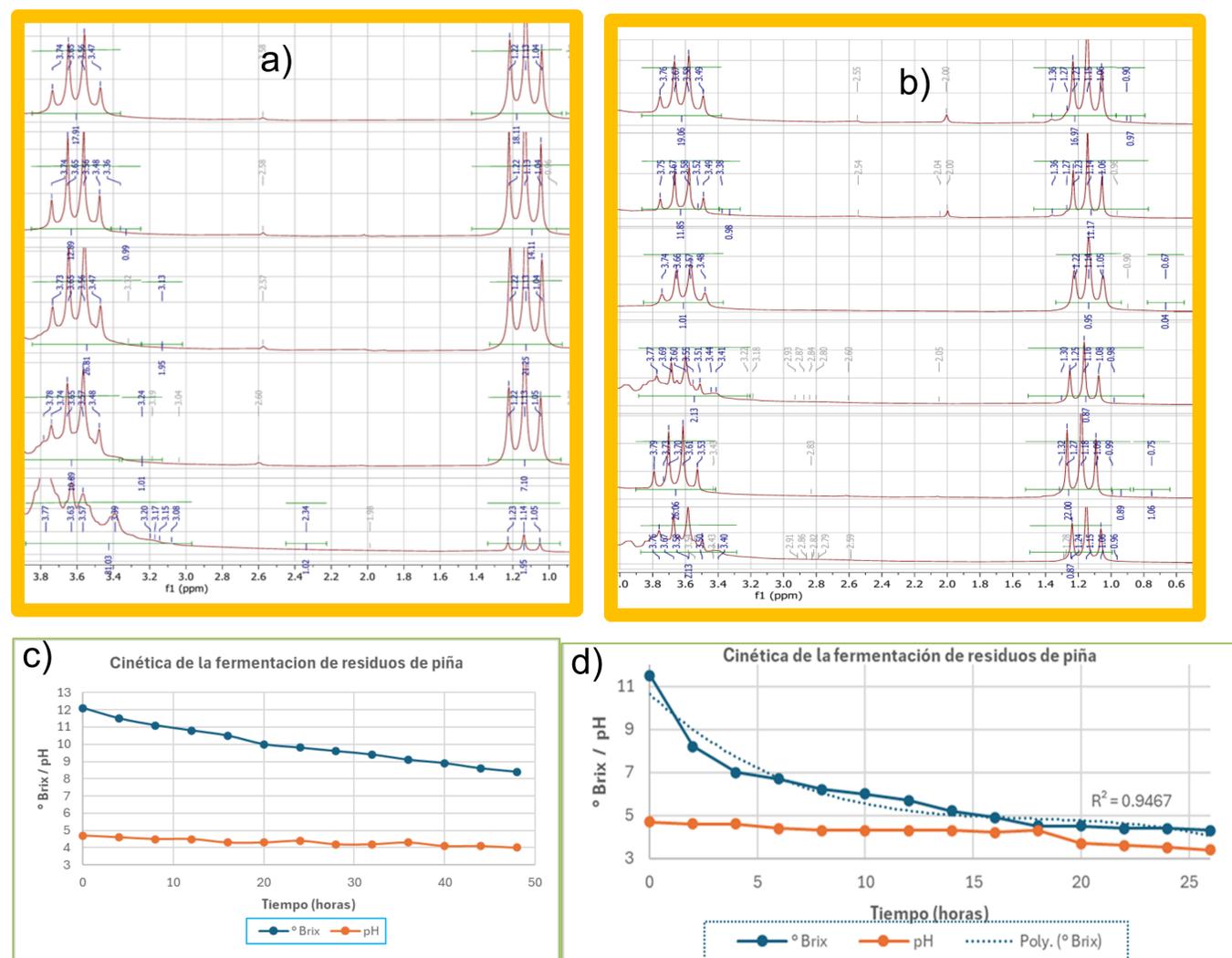


Figure 1. Monitoring of ethanol production by ¹H NMR a) Treatment T1. b) Treatment T3. c) and d), Monitoring °Brix and pH

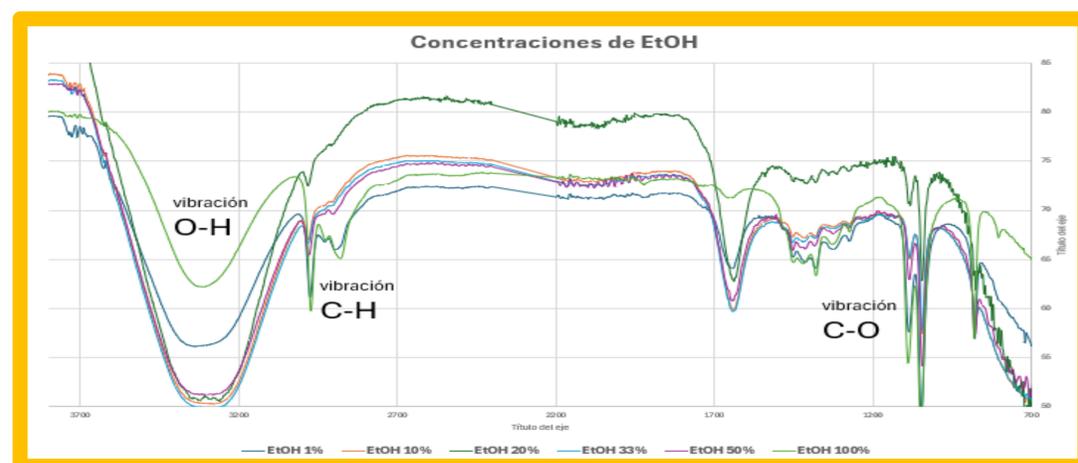


Figure 2. Infrared spectrum of all treatments

CONCLUSION

Producing bioethanol from pineapples is both viable and profitable, as the waste generated by pineapple production contains enough sugars to supply efficient fermentation. This process yields high-quality bioethanol and demonstrates that this waste can serve as a raw material, greatly aiding in renewable energy production, reducing harmful vectors, and supporting the circular economy.

FUTURE WORK / REFERENCES

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- Pérez-Picaso L, Martínez-Pascual R, Martínez-Galero NX (2022). RMN libre de criogénicos. En: Una aproximación a la espectroscopia de Resonancia Magnética Nuclear (pp. 92-120). http://dx.doi.org/10.48043/utm_uarmn01