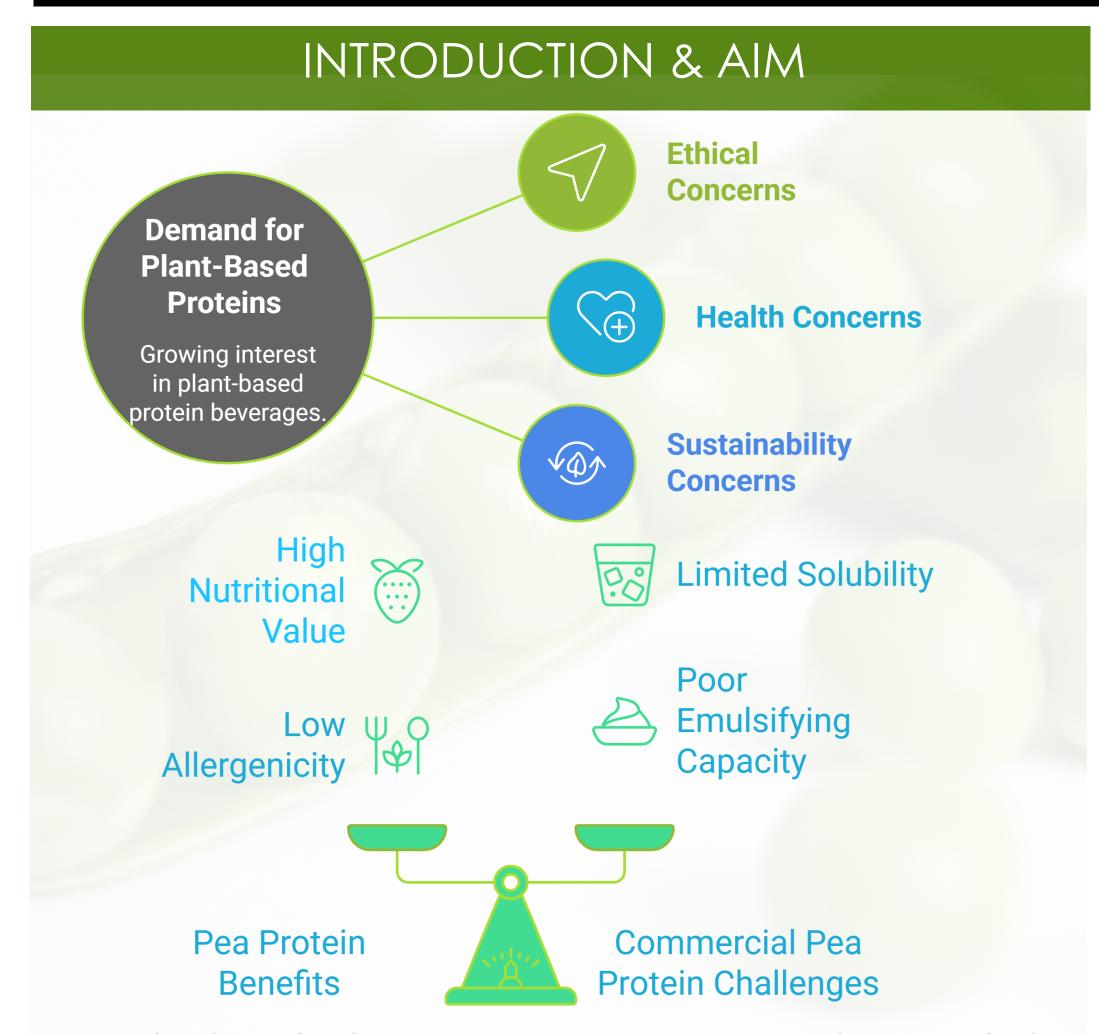




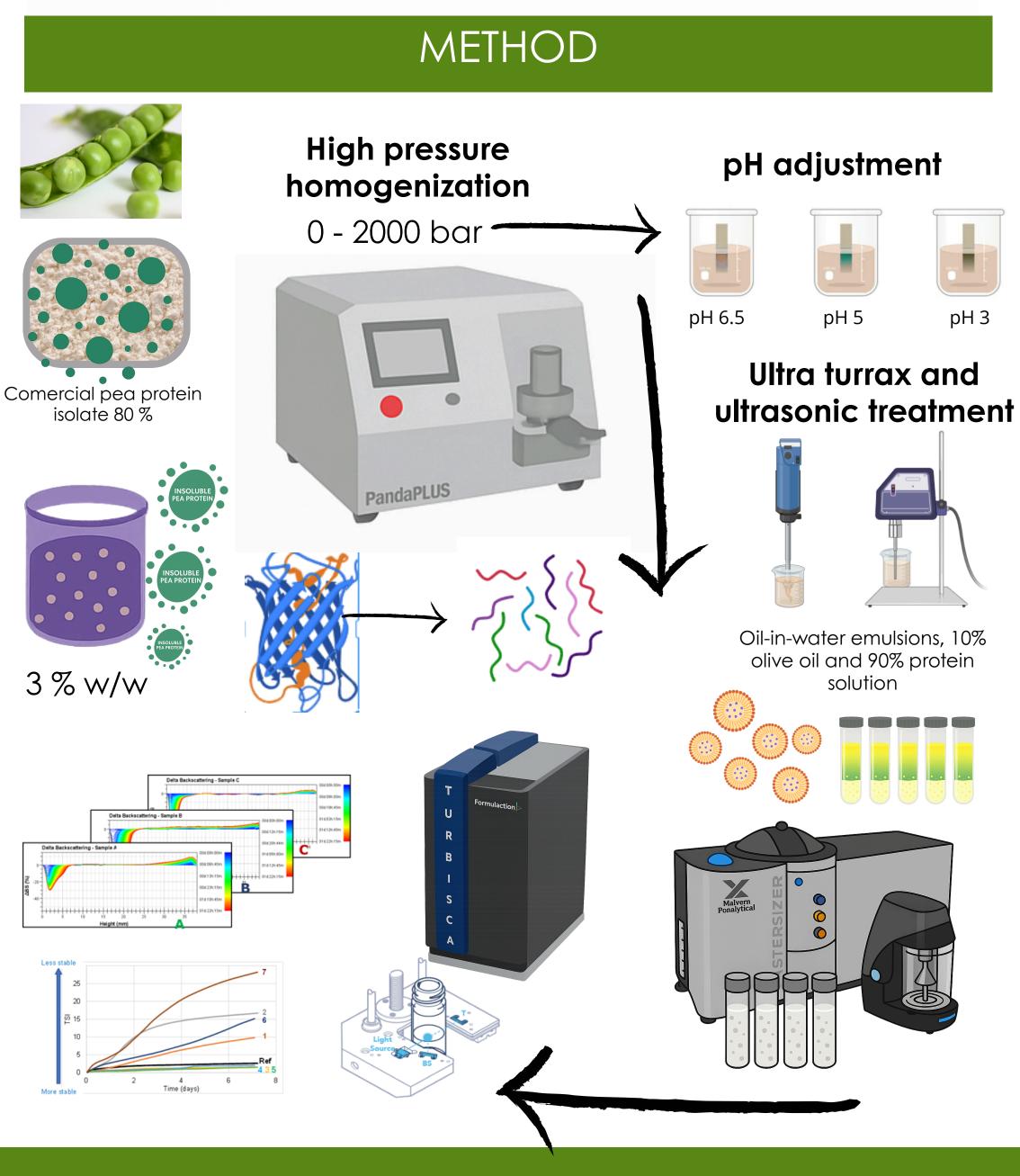
High-pressure homogenization enhances the colloidal stability and emulsifying capacity of commercial pea protein

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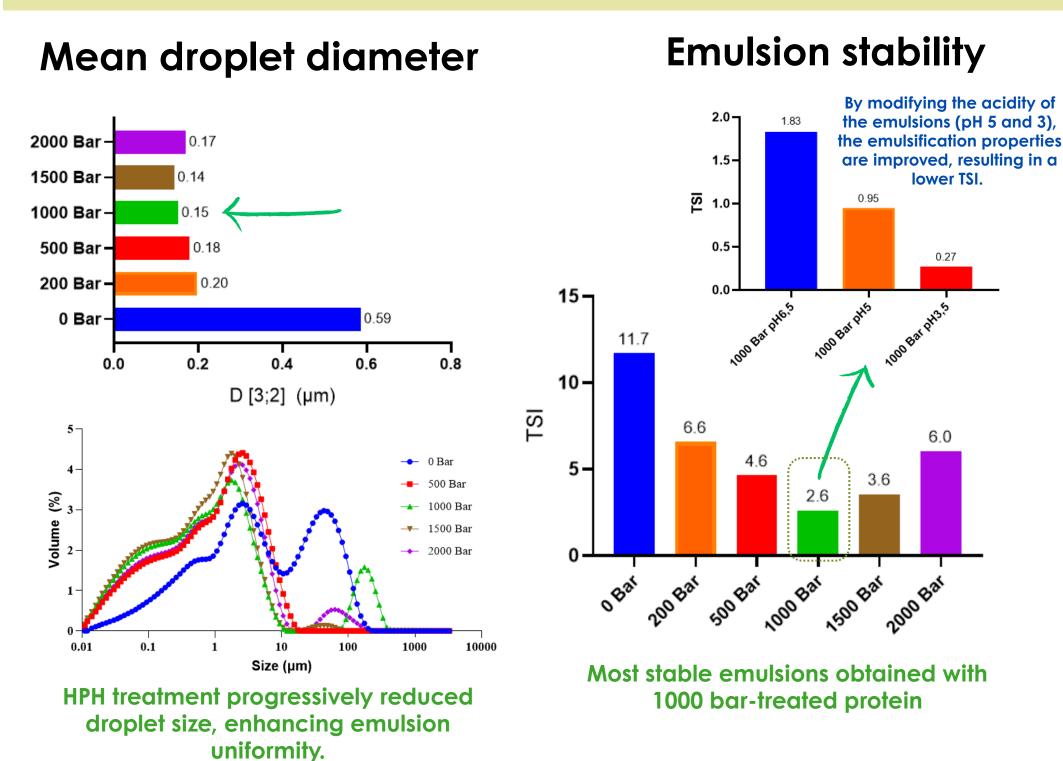
The objective of this study was to evaluate the impact of highpressure homogenization (HPH) on the solubility, colloidal stability and emulsifying properties of a commercial pea protein isolate



RESULTS & DISCUSSION **DISPERSIONS** Soluble fraction Mean diameter D[3,2] **Progressive size** 2000 Bar - 0.51 Soluble fraction (%) decrease with **1500 Bar -** 0.78 increasing pressure 1000 Bar -500 Bar-200 Bar-0 Bar-D [3;2] (µm) Increase in solubility with homogenization Marked reduction in particle size pressure, attributable to the disruption of insoluble aggregates 0 Bar 500 Bar Z ▲ 1000 Bar ▼ 1500 Bar 2000 Bar Time (Day) Lower TSI values indicate more stable Enhanced colloidal stability under high dispersions. Treatments above 1000 bar pressure exhibited sustained colloidal stability for up

EMULSIONS

to 90 days



CONCLUSION

Overall, HPH effectively modified the structure of commercial pea protein isolate, improving its solubility, colloidal stability, and emulsifying functionality, thereby supporting its application in protein-rich beverages.

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