

Elza Berta Aguirre Vargas
Academic Department of Agroindustry and Agronomy
Universidad Nacional del Santa



Qualifications

Master, Magister Scientiae, Universidad Nacional Agraria la Molina
Bachelor, Ingeniero en Industrias Alimentarias, Universidad Nacional de la Amazonía Peruana
Bachiller en Ciencias de la Industria Alimentaria, Universidad Nacional de la Amazonía Peruana
PhD, Ingeniería, Universidad Nacional del Santa

Employment

Academic Department of Agroindustry and Agronomy
Universidad Nacional del Santa
17 Feb 2025 → present

Universidad Nacional del Santa
17 Feb 2025 → present

Research outputs

Valorization of artichoke bract flour as reinforcement in biodegradable cassava starch trays: Physicochemical, structural, and thermo-mechanical properties

Ponce-Ramirez, J. A., Horna-Menacho, N., Rodríguez Paucar, G. N., Barco-Jara, M. S., Villanueva, E., Hurtado-Soria, B. Z., Ortecho-Llanos, R., Arevalo-Oliva, M. D. F., Tapia-Blácido, D. R. & Aguirre, E., Sep 2026, In: Carbohydrate Polymer Technologies and Applications. 15, 101190.

Optimization and modeling of microwave drying of osmotic dehydrated Averrhoa carambola: physicochemical and dielectric characterization

Cruz-Calderon, G. D. L., Aguirre, E., Malpartida-Yapias, R., Echevarria-Victorio, J., Arteaga, H., Chavez, S., Castro, W. & Chuquizuta, T., Jun 2026, In: Measurement: Food. 22, 100291.

Nutritional and functional properties of defatted avocado (*Persea americana*) pulp cake and its application in the manufacture of cookies

Berru, S. Q., Aguirre, E., García-Siu, M. W., Arias-Nuñuvero, J. O., Córdova-Chang, A., Rodríguez Paucar, G. N. & Villanueva, E., May 2026, In: Food and Humanity. 6, 101032.

Advances in Proteomics and Functional Foods from Fermentation and Bioencapsulation of Andean Grains and Tubers: Applications and Perspectives

Castañeda-Rodríguez, W. A., Rodríguez-Yparraguirre, A. J., Rodríguez-Yparraguirre, C. D., Maco-Vásquez, W. A., Olivares-Espino, I. M., Epifanía-Huerta, A. D., Lara-Rivera, O., Guarniz-Vásquez, E., Moreno Rojo, C. & Aguirre, E., Feb 2026, In: Foods. 15, 3, 425.

Discovering the Bioactive and Antibacterial Potential of Essential Oils from Aromatic Plants of Northeastern Peru

Fernandez-Rosillo, F., Aguirre, E., Quiñones Huatangari, L., Chavez, S. G., Caetano, A. C., Iliquin-Chavez, A. F., Silva-Zuta, M. Z., Castro-Alayo, E. M. & Balcázar-Zumaeta, C. R., Nov 2025, In: Molecules. 30, 21, 4236.

Physicochemical Profiling, Bioactive Properties, and Spectroscopic Fingerprinting of Cow's Milk from the Pampas Valley (Tayacaja, Peru): A Chemometric Approach to Geographical Differentiation

Villanueva, E., Ore-Quiroz, H. P. J., Prieto-Rosales, G. P., Veliz-Sagarvinaga, R. N., Chavez-Solano, Y. M., Aguirre, E., Puma-Isuiza, G. & Hurtado-Soria, B. Z., Nov 2025, In: Molecules. 30, 22, 4484.

Development of Biodegradable Foam Trays from Brewer's Malt Bagasse and Potato Residues from Agricultural Crops

Vásquez-Bacilio, E. F., Mejía-Llontop, C. I., Tirado-Rodríguez, C. E., Arévalo-Oliva, M. D. F., Hurtado-Soria, B. Z., Villanueva, E., Rodríguez Paucar, G. N., Tapia-Blácido, D. R. & Aguirre, E., Aug 2025, In: *Polymers*. 17, 15, 2146.

Development of a Citrus Drink Using Mixture Design: Sensory Evaluation, Total Polyphenols and Vitamin C

Bazán-Plasencia, J., Mejía-Vásquez, A., Bracamonte, G. H., Ponce Ramírez, J. A., Ortecho-Llanos, R., Hurtado-Soria, B. Z., Villanueva, E. & Aguirre, E., Apr 2025, In: *Beverages*. 11, 2, 51.

Biodegradable trays made from Poraqueiba sericea Tulasne seed starch and Zea Mays cob flour

Huertas, A., Barrios, P., de Fátima Arevalo-Oliva, M., Córdova-Chang, A., Hurtado-Soria, B. Z., Villanueva, E., González-Cabeza, J., Rodríguez, G. & Aguirre, E., Jan 2025, In: *Scientia Agropecuaria*. 16, 1, p. 17-26 10 p.

Evaluation of Chenopodium quinoa (Willdenow) malting parameters on the quality of a red Ale craft beer supplemented with Pilsen base malt and caramel malt

López-Rodríguez, W. E., Ramírez-Gutierrez, J. L., Morales Valdiviezo, M. D., Muñoz-Agreda, J. E., Paredes-Barrios, K. S., Ponce-Ramírez, J. A., Barco-Jara, M. S., de Fatima Arevalo-Oliva, M., Carbajal-Romero, G. P., Domínguez, J., Rodríguez, G. & Aguirre, E., Jan 2025, In: *Journal of Cereal Science*. 121, 104085.

Impact of Hop Residue Reuse on the Chemical and Sensory Properties of Craft Beer

Mejía-Llontop, C. I., Tirado-Rodríguez, C. E., Acosta-Baca, A., Aguayo-Flores, M., Ascate-Pasos, M., Ayala-Jara, C., Rodríguez, G., Villanueva, E. & Aguirre, E., 26 Dec 2024, In: *Resources*. 14, 1, 2.

Antioxidant Activity of Zingiber officinale R. Extract Using Pressurized Liquid Extraction Method

Saldaña-Olguin, M., Quispe-Ciudad, B. J. & Aguirre, E., Dec 2024, In: *AgriEngineering*. 6, 4, p. 3875-3890 16 p.

Physico-chemical characteristics of flours obtained from raw, roasted and autoclaved Cucurbita, Passiflora and Annona seeds

Artica Mallqui, L., Baquerizo Canchumanya, M., Rosales Papa, H., Rodríguez, G., Aguirre, E. & Hidalgo, A., Apr 2024, In: *International Journal of Food Science and Technology*. 59, 4, p. 2318-2326 9 p.

Biodegradable trays based on Manihot esculenta Crantz starch and Zea mays husk flour

Aguirre, E., Domínguez, J., Villanueva, E., Ponce-Ramírez, J. A., de Fátima Arevalo-Oliva, M., Siche, R., González-Cabeza, J. & Rodríguez, G., Sep 2023, In: *Food Packaging and Shelf Life*. 38, 101129.

Modification ω -6/ ω -3 ratio and increase of the shelf life of anchovy oil (Engraulis ringens) with addition of olive oil (Olea europaea)

Alonso, F., Chuqui, A., Rodríguez, G., Aguirre, E., Villanueva, E. & Hidalgo, A., 2023, In: *OCL - Oilseeds and Fats, Crops and Lipids*. 30, 2-3, 1.

Modification of the Nutritional Quality and Oxidative Stability of Lupin (Lupinus mutabilis Sweet) and Sacha Inchi (Plukenetia volubilis L.) Oil Blends

Rodríguez, G., Aguirre, E., Córdova-Chang, A., Muñoz-Saenz, J. C., Baquerizo, M., Brandolini, A., Villanueva, E. & Hidalgo, A., Nov 2022, In: *Molecules*. 27, 21, 7315.

Physico-chemical characteristics and oxidative stability of oils from different Peruvian castor bean ecotypes

Huaman, L., Huincho, S., Aguirre, E., Rodríguez, G., Brandolini, A. & Hidalgo, A., 1 Jan 2022, In: *Grasas y Aceites*. 73, 1, e445.

Ultrasound-assisted extraction of polyphenols from avocado residues: Modeling and optimization using response surface methodology and artificial neural networks

Monzón, L., Becerra, G., Aguirre, E., Rodríguez, G. & Villanueva, E., 9 Feb 2021, In: *Scientia Agropecuaria*. 12, 1, p. 33-40 8 p.

Incorporation of chia seeds (*Salvia hispanica* L.) in cereal flour mixtures: Rheology and quality of sliced bread

Aguirre, E., Rodríguez, G., León-López, A., Urbina-Castillo, K. & Villanueva, E., 1 Jan 2021, In: DYNA (Colombia). 88, 216, p. 109-116 8 p.

Comparison of the hydrocolloids *Nostoc commune* and *Nostoc sphaericum*: Drying, spectroscopy, rheology and application in nectar

Torres-Maza, A., Yupanqui-Bacilio, C., Castro, V., Aguirre, E., Villanueva, E. & Rodríguez, G., Dec 2020, In: Scientia Agropecuaria. 11, 4, p. 583-589 7 p.

Oxidative Stability of Chia (*Salvia hispanica* L.) and Sesame (*Sesamum indicum* L.) Oil Blends

Rodríguez, G., Villanueva, E., Cortez, D., Sanchez, E., Aguirre, E. & Hidalgo, A., 1 Jul 2020, In: JAOCS, Journal of the American Oil Chemists' Society. 97, 7, p. 729-735 7 p.

Press/Media

Studies from Universidad Nacional del Santa in the Area of Resource Research Described (Impact of Hop Residue Reuse on the Chemical and Sensory Properties of Craft Beer)

Rodriguez Paucar, G. N., Aguirre Vargas, E. B. & Ascate Pasos, M. E.

14/01/25

1 item of Media coverage

Teachers from Universidad Nacional del Santa win Concytec contest

Zelada Mazmela, E. V. & Aguirre Vargas, E. B.

16/07/22

1 item of Media coverage

Universidad Nacional del Santa Researchers Add New Data to Research in Beverages (Development of a Citrus Drink Using Mixture Design: Sensory Evaluation, Total Polyphenols and Vitamin C)

Ponce Ramirez, J. A. & Aguirre Vargas, E. B.

9/05/25

1 item of Media coverage

Projects

Aplicación y Análisis de Automatización en el Proceso de Carbonatación de Cerveza Artesanal para el Desarrollo de la Calidad y Seguridad Alimentaria

Aguirre Vargas, E. B. (PI)

22/08/23 → ...

Estudio del Residuo de Lúpulo de Dry-Hop e Impacto del Re-Pelletizado en las Propiedades Físico-Químicas y Antioxidantes para la Elaboración de Lúpulo de Amargor

Aguirre Vargas, E. B. (PI)

25/08/22 → 27/12/24

Fortalecimiento de capacidades en el incremento de la vida útil del filete de pescado mediante técnicas de conservación con especias, aceites esenciales y ahumado, para la mype Productos Del Mar Grexhibuc Chimbote S.A.C. y la conservera San Lucas SAC

Aguirre Vargas, E. B. (PI)

28/12/21 → 31/10/22

Fortalecimiento de Capacidades para la Elaboración de Conservas de Anchoveta en Salsas Funcionales, Tipo Gourmet para Consumo Humano

Aguirre Vargas, E. B. (PI)

2/03/20 → 31/12/20

Fortalecimiento de las Capacidades para la Producción de Pan de Molde enriquecido con Algas Marinas, para la Población de la Región Ancash

Aguirre Vargas, E. B. (PI)

22/02/21 → 31/10/22

Generación de Nuevos Protocolos y Capital Humano en Seguridad Alimentaria y Economía Circular para el Desarrollo de las Industrias Alimentarias Peruanas Mediante la Ampliación del Equipamiento del Laboratorio

Aguirre Vargas, E. B. (PI)

11/01/24 → ...