

World Biotechnology Congress

July 16-17, 2018 Berlin, Germany

Effect of spray drying, high pressure and UV radiation in the quality of human milk

Ariana Rodríguez Arreola and Adriana Cavazos Garduño
CUCEI-University of Guadalajara, México

Many studies have proved that human milk is the ideal food to feed children during the first six months of life, complementing their feeding with other more complex foods up to two years. But there is the problem of those children whose mothers cannot feed them for some reason beyond their control. For this, it has begun the transformation of mother's milk in powder treated with High Pressures (HP) and UV radiation; with the purpose of supplying human milk Banks in Mexico. It is essential to know if this change allows human milk to conserve its nutritional properties, it is also important to know if the shelf life of the product allows it to compete in quality with the big companies that make formulations of cow's milk powder for babies. The results obtained over the course of 10 weeks have shown that there is no significant loss in the protein and carbohydrates content of the spray-dried human milk powder relative to fresh human milk ($p > 0.05$). Microbiological analyzes performed after high pressure treatment and spray drying did not show growth in standard count, dextrose and Macconkey agar, except in MRS agar ≤ 12 UFC; treated with UV radiation there were growth in standard count, potato dextrose, and MRS agar. The results allow to continue with the transformation of the human milk powder and know which treatment is the best for its conservation.

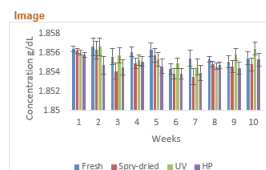


Figure 1. Comparison of concentration of proteins between fresh human milk and different treatments applied during ten week.

Biography

Ariana Rodríguez Arreola is pursuing PhD from the Department of Biotechnological Process in University of Guadalajara, México. Her research area of interest includes food biotechnology, microbiology, food processing and preservation.

ari03na@hotmail.com

Notes: