EFFECT OF BRAZILIAN BERRIES (*Myrciaria cauliflora* and *Myrciaria dubia*) ON THE INTESTINE-LIVER AND INTESTINE-BRAIN AXIS OF ANIMALS SUBMITTED TO ACUTE AND CHRONIC METABOLIC ALTERATIONS

Obesity and inflammatory bowel disorders represent one of the greatest current challenges in public health. These conditions are characterized by low-grade systemic inflammation, oxidative stress, and metabolic dysfunction. Recent evidence highlights the gut as a central organ in the pathophysiology of these conditions, since alterations in intestinal barrier integrity and microbiota negatively affect distant organs, such as the liver and the brain. In this context, nutritional strategies based on foods rich in bioactive compounds have emerged as promising approaches for modulating these axes and attenuating the metabolic and inflammatory alterations. Brazilian berries, such as jabuticaba (*Myrciaria cauliflora*) and camu-camu (*Myrciaria dubia*), stand out due to their high content of phenolic compounds, anthocyanins, and vitamin C, which exhibit antioxidant, anti-inflammatory, and immunomodulatory properties. However, despite the growing interest in these fruits, studies that investigate their mechanistic effects on the gut-liver and gut-brain axes in experimental models of intestinal inflammation (acute) and obesity (chronic) are still limited. Therefore, the present project aims to evaluate the effects of jabuticaba and camu-camu consumption on the gut-liver and gut-brain axes in experimental models of dextran sulfate sodium (DSS)-induced ulcerative colitis in *Gallus gallus* (acute model) and diet-induced obesity caused by a high-fat, high-sugar diet in C57BL/6 mice (chronic model). Parameters related to intestinal barrier integrity, inflammation, and oxidative stress in the intestine, liver, and brain will be investigated, as well as histological changes in these tissues. In addition, modulation of the gut microbiota and gene expression of markers associated with epithelial junctions, inflammatory pathways, antioxidant responses, hepatic lipid metabolism, and neuroplasticity will be evaluated. It is expected that supplementation with jabuticaba and camu-camu will promote beneficial effects on the gut microbiota, preserve epithelial barrier integrity, and reduce the activation of pro-inflammatory and oxidative pathways, thereby attenuating metabolic endotoxemia, hepatic lipid accumulation, and neuroinflammation. The results of this study may contribute to a mechanistic understanding of the role of Brazilian berries in the integrated modulation of the gut-liver and gut-brain axes.

Keywords: Jabuticaba; camu-camu; bioactive compounds; obesity; ulcerative colitis; intestinal permeability; neuroplasticity; hepatic health.