

# CHANGES IN CYSTEINE PROTEASE ACTIVITY FROM ANANAS COMOSUS OVER TIME

Taisa Vashkevich<sup>1</sup>, Vilma Kaškonienė<sup>1</sup>, Audrius Sigitas Maruška<sup>1</sup>

<sup>1</sup>Instrumental Analysis Open Access Center, Vytautas Magnus University, Lithuania  
[taisa.vashkevich@stud.vdu.lt](mailto:taisa.vashkevich@stud.vdu.lt)

Proteases are enzymes that break down proteins and peptides. They play important roles in physiological and pathological processes, such as digestion, blood clotting, and inflammation. Proteases can be derived from various sources, including fruits and vegetables, microorganisms, and even the digestive systems of animals. Depending on the protease's origin, different activities are observed, such as varying pH ranges and optimal temperatures. To our knowledge, there is a lack of literature data regarding changes in bromelain activity during the storage of both core and flesh juice. Bromelain is a cysteine protease found in pineapples, especially in the core. This enzyme is known for its proteolytic, anticoagulant, and anti-inflammatory properties and has applications in medicine, food science, and other fields [1]. This study aimed to compare and characterize protease activity between the juice of the core and flesh in the Golden Sweet pineapple (*Ananas comosus*) variety over time. Protease activity was measured using a casein digestion spectrophotometric assay adapted from Sigma's Non-specific Protease Activity protocol [2]. The activity of proteases from the fresh core appeared to be 29.24% higher than that from the flesh. These findings are consistent with existing studies of bromelain activity, which is higher in the core than in the flesh of pineapple [3]. During the conference, data describing bromelain activity between the core and flesh of the *Ananas comosus* measured every ten days will be presented.

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