

# II INTERNATIONAL SYMPOSIUM ON SCIENCE AND BIOTECHNOLOGY ENTREPRENEURSHIP AND INNOVATION

## THE BEST TISSUE TO OBTAIN DNA FROM APPLE TREE USING CTAB EXTRACTION PROTOCOL

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### Abstract

The DNA extraction is the key for all molecular biology procedures. In plants, this stage is absolutely affected by the tissue compounds, that are variable between the species. In apple tree, polyphenols are the main compounds that affects DNA quality and integrity. The aim of this work was to apply a protocol for DNA extraction using different apple tree tissues and to determine the best one to obtain high DNA quality. The protocol tested was an adaptation of CTAB, using leaf, bud, stem, apple skin and flesh. The experiment was carried out in a completely randomized design with five replicates, considering each tissue. To determinate the best quality of DNA was used the relation  $260\text{ nm}/280\text{ nm}$  and  $260\text{ nm}/230\text{ nm}$ . Quality parameters and DNA concentration were obtained with absorbance spectrophotometer. It was performed variance analysis and Tukey's test, with a significance level at 5 %. The DNA integrity was observed in agarose gel 0.8 %. The highest mean concentration were 374.53 ng/ $\mu\text{L}$  in stem and 395.58 ng/ $\mu\text{L}$  in bud tissue. The best quality ( $260/280 \approx 2.0$ ,  $260/230 \approx 1.8$ ) was obtain with leaf, bud and stem, the same for DNA integrity.

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The best tissues to obtain DNA from apple tree with high concentration and quality were bud, stem and leaf, suggesting higher efficiency using this protocol.

Keywords: Malus sp.. Molecular biology. Biotechnology. Deoxyribonucleic acid.

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