

Comparative study of selected cocoa clones (PBC 137,KKM 22, BR 25) from Kota Marudu for antioxidant capacity, total phenolic and flavonoid content

ABSTRACT

Cocoa (*Theobroma cacao* L.) is a tropical fruit associated with several nutritional benefits. Cocoa has been found to be a good source of antioxidants responsible for combating free radicals in the body. This study investigated the total phenolic content, total flavonoid content, and antioxidant capacity in cocoa beans of different clones, namely PBC 137, KKM 22, BR 25 and commercial bean (mixed clones). The cocoa samples were extracted with water and 70 % methanol. Extraction using 70 % methanol produced better result when compared to water extraction. Determination of antioxidant activity showed the highest activity obtained from methanol extract of BR 25 clone and the lowest activity for water extract of KKM 22. Total phenolic and flavonoid content analysis showed identical result in which BR 25 produced the highest result whereas the lowest was found in KKM 22 for both extracts.