

Identification of Saponin, an Anticancer Candidate, from Shallot (*Allium cepa* Aggregatum group) Cultivated in The Marginal Area

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ABSTRACT

Cancer is a deadly disease which the research on their medicine is still goin on. One of the efforts carried out by researchers is finding anti-cancer drugs derived from plants. One strong candidate that indicated a good activity in increasing apoptosis of cancer cells is saponin. Saponin, found mostly in shallots, especially in the roots. Like other secondary metabolites, saponin production is also affected by abiotic conditions. This study aims to identify the differences of saponin content in shallot cultivated in marginal areas, precisely in coastal sand fields with those grown on ordinary agricultural land.

This research is an observation research with sampling method. The sample came from the shallot plant population. Two varieties 'Yellow Crok' and 'Bima' which were cultivated by farmers in Bantul, Yogyakarta Special Region were used. Plant material was harvested at three different ages, at 1 month, 1.5 months and 2 months respectively, after planting. Samples that have been taken are then given drying treatment before the extraction and analysis stages. Analysis was carried out to see the quality and quantity of saponins produced.

The results showed that saponin content tended to increase along with plant growth and development. Roots of shallot plants cultivated on marginal land tend to have lower saponins compared to saponins from the roots of shallots grown on ordinary agricultural land.

Kata Kunci: *marginal land, saponin, Shallot*