

## ABSTRACT

Naomi Krismeidita, 24020120120008. **Microanatomy of the Ren White Rat (*Rattus Norvegicus L.*) after Giving Red Beetroot Powder (*Beta Vulgaris L.*) Supplements.** Under the guidance of Silvana Tana and Teguh Suprihatin.

Red Beetroot (*Beta vulgaris L.*) is rich in phenolic antioxidants and free radical scavengers. The betacyanin and betalain compounds in red beets have many benefits for the body, to maximizing kidney function and can prevent and reduce kidney damage due to exposure to free radicals. This study aims to analyzed the microanatomy of ren which includes glomerular diameter, Bowman's capsule space distance, proximal tubular epithelial thickness, distal tubular epithelial thickness, ren weight and water consumption after giving of red beetroot powder. This research is carried out for 6 months at the Animal Structure and Function Biology Laboratory and in the test animal cage, Department of Biology, Faculty of Science and Mathematics, Diponegoro University This research used a Completely Randomized Design. 30 white mice are divided into 5 treatment groups and 6 replications. P0 (white rats give distilled water), P1 (white rats give 10 mg red beet powder/rat/day), P2 (white rats given 20 mg red beet powder/rat/day), P3 (white rats given 30 mg red beet powder/rat/day), P4 (white rats given 40 mg red beet powder/rat/day). Renal histology preparations are made by paraffin method and Hematoxylin-Eosin staining. Observation of preparations using a photomicrograph. Statistical analysis test used ANOVA then followed by Duncan test. The results showed that there is a significant difference on glomerular diameter and there is no significant difference in Bowman's capsule space distance, proximal tubular epithelial thickness, distal tubular epithelial thickness, kidney weight, and water consumption. The conclusion of this researched, red beetroot has potential to increased glomerular diameter of white rats but within the normal range.

*Keywords: glomerular, bowman's capsule, proximal tubule, distal tubule*