

ABSTRACT

STUDY ON THE EFFECT OF GIVING PURPLE SWEET POTATO FLOUR YIELD RESISTANT STARCH TO HIGH BLOOD SUGAR LEVELS, WEIGHT, FECES WEIGHT AND HISTOLOGY OF THE MICE PANCREAS

By

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Modified purple sweet potato is very potential to be developed as a main diet for people with obesity and diabetes mellitus. Modification of the flour was done by partly gelatinizing and storing of the flour at 5°C for 24 hours so that the flour contains high level of resistant starch. The aim of this research was to investigate the effect of using purple sweet potato flour with a high content of resistant starch as the main diet or rations on blood sugar level, body and faeces weight of alloxan-induced mice as well as healthy mice. The experiment consisted of four treatments: the provision of ration standard on healthy mice, provision of ration with the addition of resistant starch rich-purple sweet potato flour on healthy mice, provision ration standard on diabetic mice, provision ration by adding resistant starch rich-purple sweet potato flour on diabetic mice. The parameters observed were the blood sugar levels, body weight, and feces. The results of this study showed that rationing of resistant starch rich-purple sweet potato were able to

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normalize blood sugar levels, reduce the body weight, and increase the feces weight on both healthy and diabetic mice.

Keywords: *mice, purple sweet potato flour, resistant starch*

ABSTRAK

KAJIAN PENGARUH PEMBERIAN TEPUNG UBI JALAR UNGU BERKADAR PATI RESISTEN TINGGI TERHADAP KADAR GULA DARAH, BERAT BADAN, BERAT FESES DAN HISTOLOGI PANKREAS MENCIT

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Ubi jalar ungu yang telah dimodifikasi mempunyai potensi untuk dikembangkan sebagai pangan fungsional, salah satunya sebagai alternatif diet bagi penderita obesitas dan diabetes mellitus. Modifikasi kandungan pati resisten melalui proses pendinginan pada suhu 5°C selama 24 jam mampu meningkatkan kandungan pati resisten tepung ubi jalar ungu. Tujuan penelitian ini yaitu mengetahui pengaruh penambahan tepung ubi jalar ungu dengan kandungan pati resisten yang tinggi pada ransum terhadap kadar gula darah, berat badan, berat feses, dan histopatologi pankreas mencit diabetes dan mencit sehat. Penelitian terdiri dari empat perlakuan yaitu, pemberian ransum standar pada mencit sehat, pemberian ransum dengan penambahan tepung ubi jalar ungu berkadar pati resisten tinggi pada mencit sehat, pemberian ransum standar pada mencit diabetes, dan pemberian ransum dengan penambahan tepung ubi jalar ungu berkadar pati resisten tinggi pada mencit diabetes. Pengamatan yang dilakukan meliputi kadar gula darah, berat badan, berat feses, dan histologi pankreas mencit. Kesimpulan dari

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penelitian ini yaitu bahwa pemberian ransum ubi jalar ungu berkadar pati resisten tinggi mampu menormalkan kadar gula darah, menurunkan berat badan, dan meningkatkan berat feses baik pada mencit sehat maupun mencit diabetes.

Kata kunci: *mencit, pati resisten, tepung ubi jalar ungu*