

**PRODUCTION OF TEMPEH BY *R. oligosporus* BY USING
PUMPKIN SEED (*Cucurbita pepo*) AS A SUBTRATE**

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This Final Year Project Report entitled **“PRODUCTION OF TEMPEH BY *R. oligosporus* BY USING PUMPKIN SEED (*Cucurbita pepo*) AS A SUBTRATE”** was submitted by Izzah Batrisyia Binti Jaidi, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Biology, in the Faculty of Applied Sciences, and was approved by

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ABSTRACT

PRODUCTION OF TEMPEH BY *R. oligosporus* BY USING PUMPKIN SEED (*Cucurbita pepo*) AS A SUBSTRATE

Pumpkin seed was subjected to fermentation by *R. oligosporus* strain and the ability of the strain to produce tempeh and a comparison of pumpkin seed and soybean tempeh nutritional profile was studied. Spore suspension obtained from 6 days old culture grown on SDA plate were used to inoculate the substrate after identification of expected *R. oligosporus* was made. End of incubation at 33°C was seen when there were complete coverage of mycelia. It has been observed that pumpkin seed tempeh took longer period (5hr) to ferment than soybean. All the tempeh that were produced with *R. oligosporus* strain were of good quality with tempeh characteristic of compactness, meatiness, sliceability, elasticity, rubberiness and also color. In nutritional evaluation, pumpkin seed tempeh and soybean tempeh showed no significant difference in ash value. In fat content, pumpkin seed tempeh showed the highest value while moisture, protein and carbohydrate content was lower in pumpkin seed tempeh compared with the soybean tempeh. Therefore, pumpkin seed can be used as substrate in production of tempeh with using *R. oligosporus* as its strain.