POLY STUDENTS TO TURN WASTE INTO FOOD

First homegrown mushroom being produced sparks twin hope of greater recycling effort and revival of food production cottage industry

Singapore, 4 October 2007 – Eight final year students from Republic Polytechnic (RP) have successfully developed a technology that can produce high quality Oyster mushroom from recycled food scraps. The first in Singapore, this breakthrough by the students from Biomedical Science Diploma Programme, highlights the role that our young can do in promoting re-cycling efforts and the ingenuity to grow pesticide free, completely organically grown mushroom as a food produce that could lower the dependency on Malaysian supply and prices.

The recycling process which begins from the collection and composition of food scraps collected from RP canteens also marks the first by a local polytechnic to grow a lab-engineered edible substance entirely on campus ground environment-controlled facility. The project has already produced an average yield of about 300g Oyster mushroom per kg of compost material (recycled waste) collected over three harvests and is expected to reach a total yield of about 500g mushroom harvested in a maximum of six cycles spanning over little more than a month. The growth rate of a Malaysian commercial farm, which supplied the mushroom spawns for this project, is about 180g produced over a total of 5 to 6 flushes. The RP student project has supersede this growth rate by about more than 2.5 times that of the commercial production. Moreover, the time required for the vegetative growth (mycelium run) of the spawns before fruiting has also been cut down by well over 25% as compared to the commercial production.

Commenting on the successful result of the project, Zhao Zipeng, project team leader said, “We are elated at the outcome of the project. We have taken waste and made it into a cuisine ingredient. From start to end, we made it as a students’ effort and we nurtured the growth of the mushroom in our campus. We truly felt that we have added value in expanding the food chain.”

Under the guidance of Dr Khaleda Ali Mita from RP’s School of Applied Sciences, the recycling process consists of two distinct phases:

Phase 1 – collecting waste material such as used coffee grounds, grass clippings etc and preparation of the growth medium (substrate) for oyster mushroom; and

Phase 2 - designing a controlled environment where conditions, such as temperature, humidity and light, can be monitored and maintained for the conducive growth of the mushroom.
RP is also working out a potential deal with a local mushroom producer in taking this project to revive the mushroom cultivation in Singapore.

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About Republic Polytechnic

The first educational institution in Singapore to adopt the Problem-Based Learning approach for all its diploma programme, Republic Polytechnic has five schools and two centres offering twenty nine diploma courses in Information & Communications Technology, Engineering, Applied Science, Technology for the Arts, Sports, Health & Leisure, Innovation and Enterprise, and Culture and Communication. Republic Polytechnic is committed to nurturing innovation and entrepreneurial learning in an environment that develops problem-solving process skills and a life-long learning attitude. Its holistic, broad-based curriculum, covering culture, enterprise development and cognitive processes, prepares students for an active and meaningful role in society. Republic Polytechnic strives for excellence by achieving various national and international accreditations, including People Developer Standards, ISO9001, ISO14001, OHSAS 18001, Singapore Quality Class, Singapore Innovation Class, and the Singapore Health Awards (Gold). For more information, visit http://www.rp.sg

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