

<b>Research Title</b>	<i>In vitro</i> propagation of <i>Momordica cochinchinensis</i> (Lour.) Spreng
<b>Researcher</b>	Sainiya Samala, Ponlawat Pattarakulpisutti and Sompong Te-chato
<b>Organization</b>	Biology program, Faculty of Science and Technology, Surathani Rajabhat University
<b>Academic Year</b>	2015

## ABSTRACT

*Momordica cochinchinensis* (Lour.) Spreng is an important medicinal plant which an increasing of consumer demand. In nature, this plant is difficult to propagate. Thus, this study has developed protocol for shoot induction, shoot multiplication and root induction. The results revealed that nodal explant cultured on MS medium supplemented with 3% sucrose, 1 mg/L 6-benzyladenine (BA) in combination with 0.5 mg/L  $\beta$ -naphthalene acetic acid (NAA) gave the highest percentage of shoot formation at 100 % and number of shoot at 8.93 shoots/explant significant difference with other treatments. For shoot elongation, 1/2MS medium gave the shoot length at 5.2 cm and number of leaves at 7.76 leaves/shoot higher than MS medium (shoot length at 3.01 cm and number of leaves at 4.04 leaves/shoot). For root induction, 1/2MS medium supplemented with 3% sucrose, 1 mg/L Indole-3-butyric acid (IBA) gave the highest percentage of root formation at 100 % and number of roots at 4.55 roots/explant after 3 weeks of culture. After 4 weeks of acclimatization, the plantlets showed the survival rate at 85%. *In vitro* conservation of *Momordica cochinchinensis* (Lour.) with 2 types of growth retardant which are paclobutrazol (PBZ) at the concentration 0, 1, 2 and 4 mg/L, or mannitol at the concentration 0, 10, 20 and 30 g/L were studied. The results revealed that PBZ caused a significantly decrease in shoot height and number of leaves per plantlet. MS medium supplemented with 4 mg/L PBZ gave the shoot height at 2.18 cm and number of leaves at 5.2 leaves/plantlet significant difference with medium without PBZ (shoot height at 3.2 cm, 6.4 leaves/plantlet). After transferring the conserved shoot to the MS medium supplemented with 1 mg/L IBA for 4 weeks, it was found that shoot obtained from MS medium supplemented with 4 mg/l PBZ gave the shoot height at 2.20 cm and root length at 0.86 cm significant difference with medium without PBZ (shoot height at 2.76 cm, root length at 3.38 cm). However, shoot height and number of leaves per plantlet obtained from MS medium supplemented with mannitol were not significant difference with control medium.