

Abstract

Growth and survival rates of juvenile coral, *Acropora millepora*, were investigated. This juvenile *Acropora millepora* were from culturing using sexual reproduction technique. Coral gametes were collected from a coral reef at Ko Tao Mo. They were fertilized and reared in the rearing system at Ko Samae San Corals Hatchery and Nursery. In this study, the treatments included land based rearing for 9 months group, 1 year and 9 months group, and 2 years and 9 months group of juvenile corals (2013, 2012, and 2011 spawning season respectively). Growth and survival rates of corals in all groups were monitored after transplanted into the sea by fixing on cement structures at Ko Chan and at Had Naa Ban Ko Samae San. In addition, coral groups which age 1 month, 2 months, and 3 months after settle (2014 spawning season) were also studied. The results showed that older ages/sizes of corals had higher growth and survival rates after transplantation. However, for 9-month-old coral group in rearing system showed higher survival rates than that of in the transplanted groups. Yet, juvenile corals from 2014 spawning season were all died in all groups within 4 months after transplanted while the ones raised in the rearing system had nearly 50% survival rate. The results can imply that smaller corals could not compete with marine fouling organisms and sedimentation in the sea after transplanted to the sea. Thus, 2-years-old corals is a suitable age for transplantation because of high survive and growth rates.

Keywords: staghorn coral, coral cultivation, coral transplantation to the sea, growth, survival rate