Table 1. Influence of PVC tubes of different diameters on infective propagule numbers AMF

AMF	Diameter of PVC tubes (cm)	No. of infective propagules g^{-1}
Rhizophagus fasciculatus	3.2	1800
	2.5	1700
	1.9	1400
Funneliformis mosseae	3.2	1700
	2.5	1400
	1.9	1400
Ambispora leptoticha	3.2	1800
	2.5	1400
	1.9	1400

substrate from each dilution was added to PVC tubes of the three different diameters. Five replicate tubes for each dilution were prepared. Finger millet (*Eleusine coracana*) seeds were sown in each tube and plants were maintained in a glasshouse and watered whenever necessary. Plants (all 60 replicates) were harvested 25 days after sowing (DAS). Roots were washed free from soil and stained with Trypan blue[3]. Using a dissection microscope, presence or absence of mycorrhizal colonization was determined in each replicate. Counts of positive tubes (those containing mycorrhiza) in different dilutions were used to calculate MPN values using the table by Alexander[4].

Table 1 presents IP data of the three AMF determined in PVC tubes of different diameters. The results show that IP is slightly higher when determined in 3.2 cm dia. PVC tubes in all three AMF tested, the IP number per gram being 1800, 1700 and 1800 for *R. fasciculatus*, *F. mosseae* and *A. leptoticha* respectively. In 2.5 cm dia tubes, the IP number per gram was 1700, 1400 and 1400 respectively for *R. fasciculatus*, *F. mosseae* and *A. leptoticha.* In 1.9 cm dia. tubes, the IP number per gram was 1400 for all three AMF. Earlier studies have shown that to attain significant plant growth response, the IP required is 1562 g^{-1} (ref. 5). The present study also indicated that the minimum value required to initiate root colonization is 3 IP g^{-1}. The Fertilizer Control Order of India (amended up to 2015), which gives the specification of biofertilizer quality has prescribed 1200 IP g^{-1} as the quality standard for AMF[6].

From the results of the present study it can be concluded that for determination of IP numbers of AMF by MPN method[2], the period of raising plants can be reduced from 45 to 25 days. This is achieved using PVC tubes of 3.2 cm dia. that can hold only 21 g of substrate (vermiculite 80% + sterilized soil 20%), which is easy to handle and more economical when compared to 300 g of soil in the original method. Thus the present procedure will not only bring about saving of substrate but, more importantly, save the assay time by 20 days.

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Corals dominate monofilament lines in Sesoko Island, Japan

The damage to corals and other coral-associated organisms due to various fishing methods and gears is long documented[1]. As observed in the Florida Keys, USA, 84% of the sponges and cnidarians have faced partial or full mortality due to the adverse effects of lost fishing gear[2]. However, only recently the effects of monofilament fishing lines on corals have been identified as seen in Hawaii, where they have caused higher mortality and damage to colonies compared to areas where fishing is not prevalent[1]. Monofilament lines were present in 65% of the colonies observed leading to partial or full mortality to 80% of corals[3]. Similarly, in the subtropical reefs of eastern Australia, monofilament lines have caused damage and mortality to *Pocillopora damicornis*, a common species in the region[4]. With such damage and mortality due to monofilament lines reported from different parts of the world, it becomes important to report any adaptive mechanism that has lead the corals to accept the presence of such debris rather than facing damage or death.

Sesoko Island (26°38′36″N, 127°51′51″E) in Japan, which is located towards the western side of mainland Okinawa supports the presence of a fringing reef[5]. Towards the southern end of the island, the reef gets denser where species of tabular *Acropora* seem common and dominant. Though commercial fishing surrounding the island is limited, local fishermen and tourists are seen regularly angling along the island edge, especially towards the southern part of the island where designated spots are present for fishermen and tourists to practice angling with a rod. Thus, it is highly probable for monofilament lines to get entangled within the coral colonies around the island.

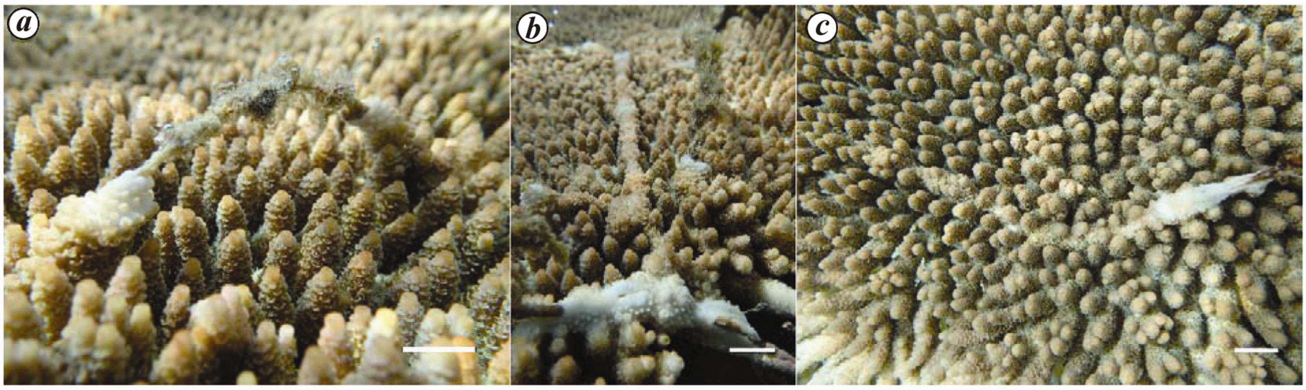

Figure 1. Physical modification shown by *Acropora* sp. in response to monofilament invasion in the reefs of Sesoko Island, Okinawa, Japan. (scale: 1 cm).

At the southern reef of Sesoko Island, we observed three colonies of tabular *Acropora*, which had overgrown on the monofilament lines, facilitating further growth without facing any physical damage or mortality. The term '*Scaffold*' as mentioned by Smith and Hattori[4], who had observed a similar phenomenon on the corals of Savusavu Bay, Fiji, can be well applied in this scenario. Our findings indicate that when thick fishing lines (diameter 0.6 mm) are stable enough and have strong tension, the surrounding coral tissue might have subsequently covered the filament showing physical modifications to accept foreign material (Figure 1). Moreover, subsequent surveys revealed that the phenomenon is not limited to a particular genus or colony morphology, which calls for detailed future studies. In addition to Japan, similar observations have been recently reported from Clipperton Island (Eastern Pacific)[6] and Oahu (Hawaii)[7]. Although, little is known about the long-term effects of such adaptation, it seems the corals are developing a different strategy amidst the rising presence of marine debris.

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