By Nina Pullman
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Underwater salad farm seeks partners

Nemo's Garden, an underwater salad and herb trial site in Italy, has said it would welcome partners to take the project forward.

A company that is trialling underwater salad production is looking for partners interested in growing in a double pressure environment.

Nemo's Garden is based off the coast of Italy and has been growing salad and herbs underwater for the past four years. It is run by Italian-American group Ocean Reef Group, which has specialist expertise in scuba diving equipment and an interest in innovative growing.

"We will give the possibility to rent part of our site and our technologies to anyone (universities, laboratories, etc) keen to study the plant's growth in a double pressure environment," said project co-ordinator, Gianni Fontanesi. "We are creating unique underwater laboratories. The scaleability could be a real chance, with the right combination of resources and efforts. At the moment we are doing everything by ourselves, but we are open to future partnerships."

Having begun with basil, the site now produces green basil, red basil, tomatoes, salad, courgette, green peas, beans and mint.

Produce grown in the tanks has not been sold commercially, although they were eaten at a recent milestone event held by the group. Most of the crop is sent to labs and universities for testing.

"The primary goal for this project is to create an alternative food source," said Fontanesi. "Nowadays it is not possible to cultivate in so many places all around the world due to desertification, lack of fresh water, unfertile soil, bugs, changing weather, big gap in terms of temperature between night and day. We tried something super uncommon and we succeeded."

The group is currently working on controlling the high humidity level in the underwater tanks, as well as testing different growing systems and structures that can resist the swells in the sea.

It has previously trialled a range of different tanks – or 'biospheres' – with a two-metre diameter and at a depth of between five and 10 metres. The biospheres are anchored at the bottom of the sea and each houses growing systems including hydroponic systems, soil, coir and other substrates.

The project has continued to attract media attention, and last year was selected to take part in the Milano Expo 2015 on the Italy pavilion. The idea came from Ocean Reef Group's president Sergio Gamberini, who combined his passions of scuba diving and gardening.

Benefits of underwater production include a constant stable temperature during night and day, meaning no energy is wasted on a cooling/heating system; there are no pests; and automatic fresh water is produced from the gap between sea and air temperature inside the tanks. Plant growth is quicker underwater.
according to Fontanesi, with basil seed sprouting within 48 hours due to higher pressure.

The project currently only runs between June and September, during which time it is broadcast live online.