

Now, soil-less veggies aboard warships

By Vijay Mohan

After introducing soil-less micro-farming techniques in high-altitude areas where cultivable space is a serious constraint, the Defence Research and Development Organisation (DRDO) wants to explore the possibility of producing fresh vegetables on the high seas. The concept of Aeroponics has been tested in Ladakh by DRDO's Leh-based Defence Institute of High-Altitude Research with vegetables such as spinach



and lettuce, where two harvests have been obtained within 45 days. The technique involves growing plants in an air or mist environment without the use of soil or an aggregate medium. A modular vertical tube with niches in which plants can be embedded is used. Water mixed with nutrients is sprayed automatically inside at fixed intervals and is absorbed by the roots. Dozens of plants can be grown in a single tube depending upon available height and it uses just a fraction of water and space vis-à-vis conventional cultivation for the same number of plants. The Indian Navy has already communicated

to DRDO that it is willing to make available a Landing Ship Tank or a Landing Craft Utility — flat-bottomed amphibious warfare ships meant to ferry and offload vehicles, troops and equipment on beaches for an assault — to carry out a pilot project. The Navy is reluctant to carry out such experiments onboard frontline warships due to operational reasons and space constraints, sources said.

DRDO scientists said the idea behind the project is not only an attempt to make a limited quantity of fresh produce for sailors deployed onboard ships for weeks or months on end, but also to introduce a means of breaking monotony and reducing stress during long cruises.

“Tending to plants is a natural stress-buster and is known to have a positive effect on psychological health and mitigate depression,” a scientist said. Another spin-off is that since a majority of armed forces personnel comes from rural or agricultural background, they can help spread the use of this technology in their native places, he added. Aeroponics is not new to India and though still in its infancy is finding increasing acceptance among progressive farmers in several parts of the country. It is ideal for small and leafy vegetables, herbs and some root varieties.