IMPACT OF HYDROPONIC FODDER PRODUCTION TECHNOLOGY

The word hydroponics has been derived from the Greek word ‘water working’. Hydro means ‘water’ and ponic means ‘working’ and it is a technology of sprouting grains or growing plants without soil, but only with water or nutrient rich solution. It is the production of fodder by hydroponic technology for feeding animals. The advantages of hydroponic fodder production are;

1. Requires less water
2. Requires less land
3. Very short growth period
4. High nutritious fodder
5. Round the year production

Increase in the livestock population along with the intensive rearing system has resulted in increased demand for the feed and fodder in the country. Feed scarcity had been the major limiting factor in improving the livestock productivity. With very limited land allocation of 5% of the gross cropped area for the fodder cultivation, water scarcity and frequent draught like condition in many parts of the country, the production of sufficient green fodder to feed the huge livestock population has become a big challenge. At present, the country faces a net deficit of 61.1% green fodder. In this situation hydroponic fodder production technology is emerging as an alternative to grow fodder for animals. Hydroponic fodder production is a promising technology for fodder scarcity and sustainable livestock production in India.

Hydroponic fodder production at Instructional Livestock Farm Complex (ILFC) – Madras Veterinary College (MVC)

Hydroponic fodder production technology was adopted at ILFC – MVC of TANUVAS under NADP scheme on “Water conserving hydroponic green forage production to augment livestock productivity” during the year 2014 – 15. A One ton capacity hydroponic machine was installed at ILFC –MVC under this scheme. Different seeds such as yellow maize, horse gram, sun hemp, foxtail millet, jowar, bajra, cow pea, sanwa millet etc were utilized for fodder production by hydroponic method and their growth parameters were studied. Among all these yellow maize was found to be a suitable seed of choice for hydroponic fodder production under Tamil Nadu condition based on availability, cost and

biomass yield. Among the leguminous type, sun hemp and horse gram showed higher biomass yield when compared to others. Feeding trials were conducted to study the impact of hydroponically grown fodder on the milk yield of cattle and growth performance of kids. From the study it was concluded that hydroponic maize fodder can be used as an alternative to conventional green fodder in cattle without affecting its milk yield and hydroponic horse gram and sun hemp fodder can be used as an alternate to conventional green fodder in kids. A new low cost hydroponic machine of 40 kg production capacity /day was also designed at University Instrumentation and Innovation Centre (UIIC) of ILFC – MVC for the benefit of small scale livestock farmers.

The hydroponic unit at ILFC-MVC acted as a model unit for hydroponic fodder production technology. It attracted more than 100 livestock farmers throughout Tamil Nadu to make visit and to enhance their knowledge on hydroponic fodder production technology. It also encouraged many livestock farmers to opt hydroponic fodder production method as an alternative fodder production method for their livestock. About 3 farmers have purchased the low cost hydroponic device fabricated at UIIC, ILFC –MVC for green fodder production for their livestock. Moreover through popularisation of hydroponic fodder production technology among livestock it is possible to face the current challenge of fodder scarcity in the country.