# STUDY ON ENHANCING AZOLLA PRODUCTION BY USING CONY BIO-BALL AND BIO-BAG.

**EP No:**35/2007-08 and 31/2007-08,;**Research centre:**Thoppur and Harur Modern Nursery Centre, **Range:**Dharmapuri Modern Nursery Range, Modern Nursery Division, Dharmapuri; **Scheme:**-TAP scheme

## Introduciton

Azolla, a fast-growing aquatic fern, is widely recognized for its role in sustainable agriculture, particularly as a biofertilizer and livestock feed. Its ability to fix atmospheric nitrogen through its symbiotic relationship with *Anabaena azollae* makes it a valuable resource for improving soil fertility and crop productivity. However, optimizing Azolla production requires efficient cultivation techniques and suitable growth-enhancing materials.Cony Bio-Ball and Bio-Bag are innovative tools designed to enhance Azolla growth by improving nutrient availability, water retention, and microbial activity. These materials provide a stable environment for Azolla cultivation, ensuring higher biomass yield and better nutrient absorption. Studies suggest that incorporating these bio-materials into Azolla farming can accelerate growth rates, improve nitrogen fixation efficiency, and enhance overall productivity.

This study aims to evaluate the effectiveness of Cony Bio-Ball and Bio-Bag in Azolla production, focusing on their impact on growth parameters, nutrient composition, and sustainability.

## Objectives

1. To multiply the Azolla production by using cony bio-ball and bio-bag

## Materials and Methods

### Materials

- **Location**: Experiments were conducted in Modern Nursery Centres (Thoppur (Ep No. 35/2007-08) and Harur (Ep No.31/2007-08) Modern Nursery Range of Modern Nursery Division, Dharmapuri.

- Experiment was conducted during the year 2007 - 2008

**Methodology**

Five different treatments have been applied in the present study with different combinations and details are given below.Biomass of Azolla was recorded every 10 days interval for the total of 80 days (in both the centres)

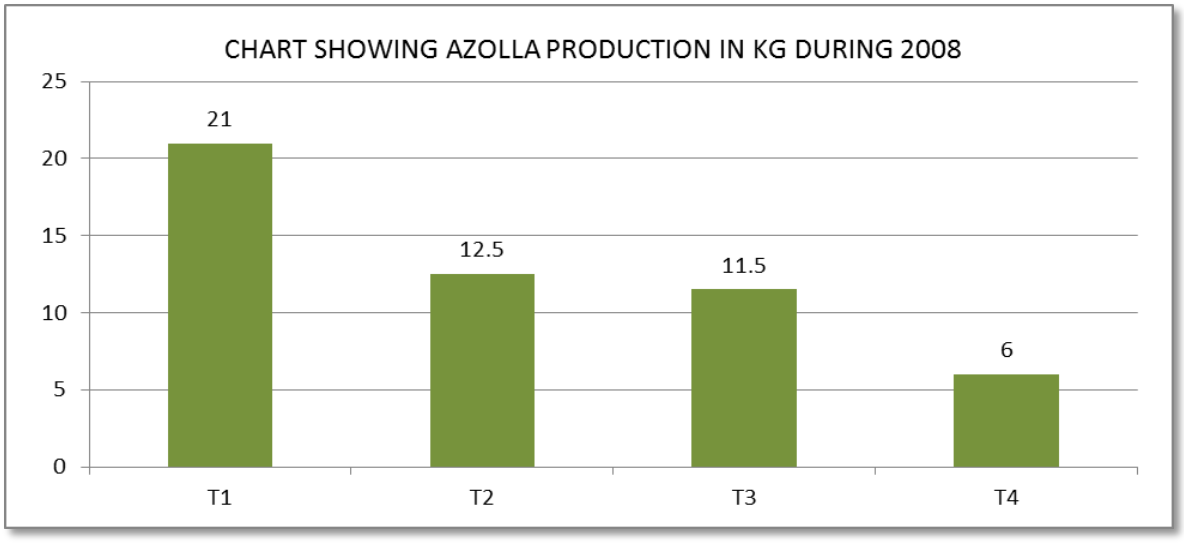
| Treatment | | Component |
|---|---|---|
| **T1** | : | Control |
| **T2** | : | Cony bio bag + Azolla – 1/2kg + cow dung -50kg + super phosphate - 30g + carbofuron -1g. |
| **T3** | : | cony bio ball + Azolla -1/2kg + cow dung -50kg + super phosphate - 30g + carbofuron – 1g. |
| **T4** | : | cony bio bag + cony bio ball + Azolla – 1/2kg + cow dung- 50kg + super phosphate- 30g + carbofuron -1g. |

**Table 1: Azolla production Treatment Wise (Modern Nursery Centre, Thoppur)**

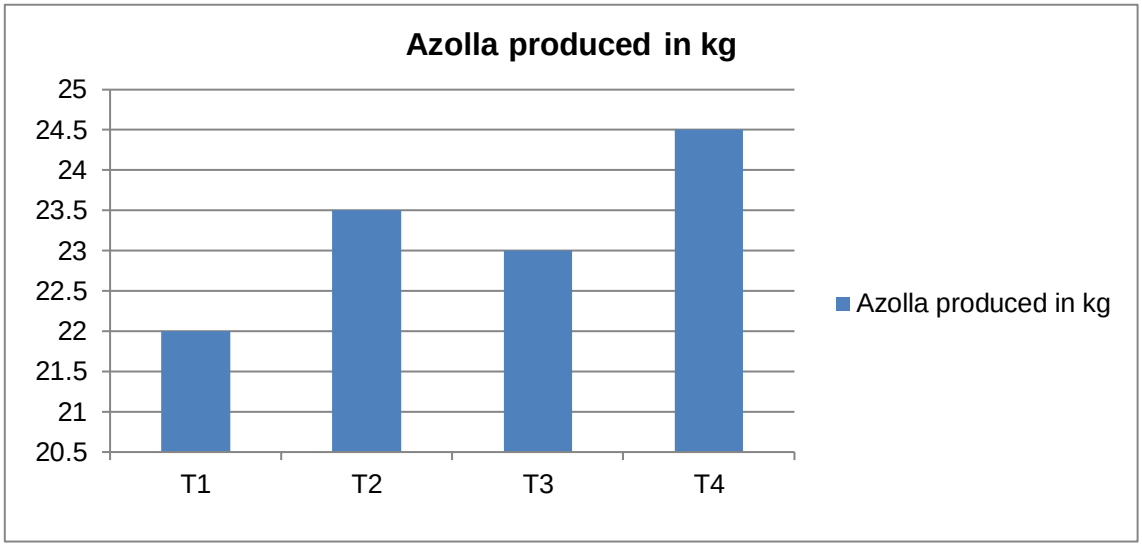
| S.NO | Treatment | Azolla produced in kg |
|---|---|---|
| 1. | T1 | 21 |
| 2. | T2 | 12.5 |
| 3. | T3 | 11.5 |
| 4. | T4 | 6 |
| **Total** | | **51** |

**Table 2: Azolla production Treatment Wise (Modern Nursery Centre, Harur)**

| S.NO | Treatment | Azolla produced in kg |
|---|---|---|
| 1. | T1 | 22 |
| 2. | T2 | 23 ½ |
| 3. | T3 | 23 |
| 4. | T4 | 24 ½ |
| **Total** | | **93** |




**The chart represents the Azolla Production Treatment Wise (Modern Nursery Centre, Thoppur)**




## Results and Discussion

Since the available data has no replication hence statistical analysis could not be made. With respect to azolla production in Thoppur MNC, control (T1) had registered highest azolla production compared to other treatments. In Harur MNC T4 had registered highest azolla production (24.5 kg) compared to other treatments. Even T4 had registred maximum azolla production compared to control the difference of the

production just 2.5 kg. With application of cony bioball and cony bio bag did not influence azolla production compared to control. Hence the study revealed that, for azolla production there is no additional carrier material need for effective production without any treatment or carrier material the azolla production was good in both the centers.

**Recommendation:**

Based on the outcome of this experiment, cony bio ball and cony bio bag carrier materials are not recommended for increase in Azolla production due to its low productivity and without any treatment under controlled conditions the production of Azolla was good and Control has been recommended as best method of Azolla production compared to other treatments.