

**AZOLLA AS A ORGANIC NUTRITIOUS FEED FOR CATTLES**

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Abstract

Azolla is a freshwater water fern that lives in ponds, lakes, swamps, and streams in both tropical and sub-tropical conditions. For many centuries, azolla has been used in southern China and northern Vietnam as green manure for rice (Anonymous, 2003). Azolla is a floating fern mostly utilized as a common bio-fertilizer in rice crops, responsible for the fixation and assimilation of atmospheric nitrogen. It is a very nutritive and cheap organic useful feed supplement for dairy cattle, poultry, pig, fish, sheep, goat, and rabbit, etc. They have higher crude protein content, essential minerals, amino acids, vitamins many probiotics, Biopolymers. and beta carotene.

Introduction

Azolla family azollaceae is a floating fern mostly utilized as a common bio-fertilizer in rice crops. The blue-green algae (*Anabaena azollae*) grow in symbiotic association with this fern and are responsible for the fixation and assimilation of atmospheric nitrogen. Many of the species of genus Azolla are found but Azolla pinnata is popular. Azolla was found to be a very nutritive and cheap organic useful feed supplement for dairy cattle, poultry, pig, fish, sheep, goat, and rabbit, etc. They have higher crude protein content (25 to 30 % on a dry weight basis), essential minerals like Iron, Calcium, Magnesium, Phosphorus, Copper, Manganese, etc, and almost all essential amino acids (high lysine content) vitamins like A & B₁₂, many probiotics, Biopolymers, and B carotene. Azolla as a feed substitute shows that there is an overall increase of milk by 15 to 20% by supplementing feed (Singh, 2019).

How to grow Azolla

1. Making an artificial water body for the growth of Azolla.
2. A pit size 2×1 m² length, width, and 20 cm depth should be dug on earth.
3. Then the pit is covered with plastic gunnies to prevent the growth of roots of trees, soil temperature, and seepage water.
4. Plastic gunnies covered by Silpuline plastic sheet / plastic sheet are spread without any fold.
5. Uniformly sieve soil (about 10 to 15 kg.) is spread over the plastic sheet.

6. 5 kg of cow dung, 40 g of azophos and 20 g of azofert or SSP made into slurry in 10 liters of water and is transfer in the pit, and then more water is discharged to make the water level at about 8 cm.

7. About 12 kg of fresh, Azolla seed culture (pest and disease-free) is inoculated into the pit.

8. 7 to 10 days after Azolla will fill the pit. About 12 kg of Azolla can be harvested daily/pit therefore

9. About 2 kg of dung, 25 g of Azophos, and 20 g of azofert is ready into a slurry in 2 liters of water should be given once in 7 days (for rapid multiplication of Azolla).



Harvesting

Easily harvested with a scoop net, or grown in enclosed, floating rings which can be pulled to the edge for easy harvest and with the help of plastic tray having holes of 1 sq cm mesh size Azolla should be harvested, daily harvesting yield 12Kg/pit.

Precaution

1. Temperature maintain below 25⁰ C
2. For the good growth of Azolla or avoid overcrowding the biomass should be removed every day or alternative days.
3. pH should be maintained 5.5 to 7. Never bellow or above.
4. Seed stock can be treated with the help of pesticides and fungicides.
5. Azolla should be well washed with water before feeding to livestock.
6. The pesticide used biomass collected from the field should not be used as a feed for livestock (Anonymous, 2013).

Conclusion:

Azolla is a very nutritive and cheap organic useful feed supplement for dairy cattle, Duck, poultry, pig, fish, sheep, goat, and rabbit, etc. Azolla substitute shows that there is an overall increase of milk by 15 to 20% by supplementing feed. After initial collection/buying, you get a lifetime supply, cost effective for farmers and eco-friendly to environment due to also use as organic source for crop field.

References:

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