



Dietary Supplementation for Stress Tolerant Poultry Birds: An Innovative Practice by Sri Saroj Sahoo

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Prologue

Saroj Sahu, a 41-year-old enthusiastic innovative small farmer from NICRA adopted Tharkaspur village having only 2.5 acres of own land and 0.5-acre lease land for the cultivation of crops. He practices integrated farming of paddy, vegetables like cabbage, cauliflower, brinjal, tomato, chilli, cowpea, bottled gourd, dairy & poultry. He faced the challenges of high-cost feed that account for 70% of the total cost of rearing poultry birds. Providing commercial poultry feeds round the year is not financially feasible. Then he thought innovatively to cut down on the feed cost by replacing the costly commercial feed with some comparatively cheaper feed resources. Azolla is one of the best plant resources as a supplementary feed with high biomass and protein content.

Situation

Earlier Sh. Saroj was rearing poultry birds but it was not remunerative to manage the family day to day needs. The major constraint was on scavenging in birds,

lower body growth rate and lesser egg production due to inadequate nutrition. He was interested in new farmer-friendly technologies to boost his income within a stipulated time.

Under the NICRA project, backyard poultry rearing and demonstration trials were given higher priority on stress-tolerant poultry breeds i.e., Kadaknath & Vanaraja. Based on the prevailing situation, KVK demonstrated Azolla cultivation in the farmer's field to minimize the nutritional cost and gaps for poultry bird-rearing farmers. Saroj was included as a beneficiary under the NICRA project to realize the problem by KVK Scientists. Now he is cultivating Azolla in a polythene-covered earthen tank provided under the NICRA project. He has 5 no's of tanks having the dimension of 6 ft. ×3 ft. ×1 ft. for each of the Azolla tanks.

Innovation

Realizing the needs of Sh. Saroj, KVK planned a systematic and scientific approach to improve income and livelihood through a diversified need-based approach. He attended a need-based training programme on low-cost Azolla production followed by various crop production technologies including vegetables, paddy production, and the rearing of poultry birds on his farmland.

He got introduced to low-cost Azolla production techniques to supplement the dietary requirement of poultry birds which helps him to minimize the cost of poultry feeds and change his attitude & knowledge level of Saroj. He was nominated under the NICRA project as a beneficiary and helped them with the establishment of the Azolla demo units in his farmland. Replacement of costly commercial feed with easily available non-conventional feed would be an option for reducing production costs.

Azolla, an aquatic fern, has higher biomass and protein content. The water fern Azolla, which grows in association with the blue-green alga *Anabaena azollae*, is one of the most promising fodders for poultry feeding. As a result, the feeding cost was reduced to 60% of the total cost involved during the rearing of poultry birds. Azolla is a very rich source of protein (25-35%), Calcium (67 mg/100g), and Iron (7.3 mg/100g).

5	Fertilizer (SSP 525 kgs kg each & Mineral 10 kgs mixture 2 kg each)		Rs 10 Rs 70	250 700
6	Azolla culture	Lump-sum		500
7	Shade net	Lump sum		1000
8	Pandal making	Optional		600
9	Miscellaneous			500
	Total			5630

Azolla fed group gave the highest net profit (Rs.151) where the Gross cost is in comparison to the concentrate fed group



Saroj's Azolla Production Units

Impact

Azolla production has minimized the feed cost by up to 60% and the body weight of poultry birds increased regularly due to supplementary feed. As per the yield concerned the Annual production of biomass of Azolla is 1000 MT/ha which is significantly higher than hybrid Napier, lucerne, cowpea, subabool and sorghum. The details are stated below:

Table 4.1 Details of Azolla Production

S. No	Particulars	Quantity	Rate (Rs.)	Amount (Rs.)
1	Cost of trench making (6 ft x 3ft x 1 ft)	5 trenches	Three-man days @ 300	900
2	Poly sheet	5 sheets	200	1000
3	Fertile soil	10 kg /trench	15	80
4	Cow dung	5 kg per trench	Rs 4	100

(Rs 83) and control group (Rs.123) as well as the B: C ratio as 1.94, 1.44 and 1.88 respectively.

Conclusion

A young farmer's livelihood through Agriculture and allied activities particularly, poultry farming got a new dimension because of innovation with the support of Azolla feed. The project should encourage such innovative practices across the farming community. It can be linked with Agril. Dept., Horticulture Dept., KVK or Veterinary Dept. for better convergence of services including inputs, production, marketing and technology dissemination. KVK will extend all possible technical support during the establishment and post-care management of the Azolla unit.



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