ECONOMICS OF BROODLAC AND KUSUMILAC PRODUCTION ON BUSHY HOST, FLEMINGIA SEMIALATA ROXBERG

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ABSTRACT

Lac insects belong to the super-family *coccoidea* (Hemiptera: Sternorrhyncha), commonly known as scale insects or *coccoids*, which comprises of about 7,500 species under variable number of families (20 and above). Globally, ninety species of Tachardiidae have been reported under nine genera. Twenty-one species of *Kerria* have been reported so far. Out of the 14 species of *Kerria* reported in India, only a few are exploited for commercial lac production. Tree-hosts, depending upon their habit, 15-20 years to reach the stage of lac inoculation and hence, do not find favour with the lac growers for raising systematic plantations to grow lac. To cultivate lac on plantation basis, some short stature, a fast growing perennial shrub has been identified for systematic plantation raising and/or integrating with agricultural crops. *Flemingia semialata* Roxberg has shown great promise for lac production due to its fast growth, tender shoots and suitably for intensive lac cultivation. Economics of lac cultivation was studied in one ha plantation *semialata* and Computation was scaled up from the broodlac production on *F. semialata* studied with 8200 plants planned in paired row system. It was noticed that net profit increased from second year onwards (Rs. 2,43,880/-) when compared with the calculated net profit of (Rs 28,240/-) in the first year.

Keywords: Broodlac, Kusumilac, *Flemingia semialata*, Economics

INTRODUCTION

Lac cultivation has been traditionally carried out on naturally occurring tree hosts. Palas (*Butea monosperma* Lamk), Ber (*Ziziphus mauritiana* Lam) and Kusum (*Schleichera oleosa* Lour) are considered major lac-hosts of all India importance, as about 90% of the lac produced in our country comes from these three hosts (Dave, 1950). Besides these three, there are some other important tree species belonging to Acacia, Albizia, Ficus etc. Which are utilized for commercial production of lac. However, these hosts lie scattered in the forests leading to difficulties in efficient utilization for production of lac. To make matter worse, population of these host-trees is decreasing also, that too rapidly due to deforestation and unawareness of their economic potential. Tree-hosts, depending upon their habit, take 15-20 years to reach the stage of lac inoculation and hence, do not find favour with the lac growers for raising systametic plantations to grow lac. Moreover, lac culture operations have to be carried out by climbing on to the tree which is cumbersome in the absence mechanized methods. Lack of skilled man-power in the changing socio-economic scenario is further adding to the woes of lac development. Therefore, to address the above issues and to cultivate lac on plantation basis, some short stature, fast growing perennial shrubs have been identified for systematic plantation raising and/ or integrating with agricultural crops. *Flemingia semialata* Roxberg has shown great promise for lac production due to its fast growth, tender shoots and suitability for intensive lac cultivation. Identification of *Semialata* as a potential Kusmi lac-host especially for growing winter season (Aghani) lac crop, has come as boon to farmers who do not have lac-hosts but are interested in lac cultivation (Sarker, 2002).

Earlier, though some isolated attempts were made in south India to cultivate lac crop, its cultivation was traditionally practised on scattered host trees of Kusum, ber, and palas in sub-forest and forest areas and uncultivated lands. Use of these trees hosts have limitations such as difficulty in cultural operations, vulnerability to theft and also consumes several years to initiate lac cultivation as the gestation period (10-15years) for lac inoculation on host trees acts as determent to farmers for raising systematic plantations (Sharma, 2009). It was therefore felt that this could be addressed by introducing new bushy, short height lac hosts which are quick growing.

Flemingia semialata Roxberg is a quick-growing bushy host and an attempt has been made for the first time to cultivate lac in bushy hosts in systematic plantations in TN obtain attractive returns as these plantations facilitate easy maintenance operations manually. The production could be started from second year of raising plantation and women folk also undertake all operations as these could be carried out from the ground.

Materials and Methods:

The gross and net income/ha was calculated based on the prevailing market and computations were scaled up to about 8200 plants by deducting the cost of cultivation from the gross return. Gross income /rupee invested was worked out by dividing the gross return by the cost of cultivation.

Results:

Economics of lac cultivation in one ha plantation *semialata* is provided in following tables. Computation was scaled up from the broodlac production on *F. semialata* Roxberg. studied with 8200 plants planned in paired row system. It was noticed that net profit increased from second year onwards (Rs. 2,43,880/-) when compared with the calculated net profit of (Rs28,240/-) in the first year. High expenditure was involved in *F.semialata* Roxberg plantation on the first year establishment and got drastically reduced from the second year on ward of planting.

After 1 year of planting, the net profit was profit was dependant price of broodlac @ Rs. 160/kg and other yield attributes such as thickness of encrustation of broodlac which, also, fluctuates considerably in the market.

Table 1. Economics of Broodlac production on *Flemingia semialata*

Work/Activities	Quantity	Expenditure(Rs.)
Fertilizer and Manure	180 Kg Urea, 260 Kg SSP, 140 Kg MOP, 15 ton FYM	34,000/-
Seedling and plantation raising	22 man-days @ Rs. 150 and 500g seeds @ 2500/Kg	27,000/-
Farm implements	25 secateurs, 10 tree pruners, One foot sprayers, bucket, baskets etc.	21,000/-
Miscellaneous expenditure	-	10,000/-
Total	-	92,000/-

Table 2: Economics of *Kusumi* lac production on *F.semialata* after one year of planting

Items required	Quantity	Amount (Rs.)
Expenditure		
Nylon net and pesticides	5.0 Kg nylon roll, 3.0 Lt. Endosulfan 3.0 Lt. Dichlorvas 4.0 Lt. Ethofenprox, 6.0 Kg Carbendazim	8,000/-
Broodlac@ 20g	164 Kg @ Rs. 150/Kg	24,600/-
Labour charges	300 man-days @ Rs. 125	37,500/-
Refund of principal and interest (10%/annum) in five equal instalments	-	30,500/-
Total		1,00,600/-
Income		
Broodlac	674 Kg @ Rs.160/Kg	1,07,840/-
Sticklac including Phunki	150 Kg	15,000/-
Fuel wood (Stick)	6000Kg	6,000/-
Gross income		1,28,840/-
Less expenditure		1,00,600/-
Net profit		28,240/-

Table 3: Economics of *Kusumi* lac production on *F.semialata* from 2nd year onward of planting

Items required	Quantity	Amount (Rs.)
Expenditure		
Broodlac@ 20g	246Kg	Nil
Nylon net and pesticides	5.0 Kg nylon roll, 3.0 Lt. Endosulfan 3.0 Lt. Dichlorvas 4.0 Lt. Ethofenprox, 6.0 Kg Carbendazim	10,500/-
Labour charges	500 man –days @ Rs.150	75,000/-
Refund of principal and interest (10%/annum) in equal instalments	-	25,000/-
Total		1,10,500/-
Income		
Broodlac	1,968 Kg @ Rs. 160/Kg	3,14,880/-
Stick lac including Phunki		35,000/-
Field wood (stick)		4,000/-
Gross income		3,53,880/-
Less expenditure		1,10,500/-
Net profit		2,43,880/-

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