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# EFFECT ON PRODUCTIVITY OF SILK DUE TO CHOICE OF DIFFERENT FEEDING PLANTS (TARMINALIA ARJUNA –TASAR SILKWORM, MULBERRY PLANT –BOMBYX MORI) IN AMBIKAPUR DISTRICT SURGUJA CHHATTISGARH

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**ABSTRACT**

Each of the silkworm is specific in its feeding habitats. The suitable Increase the production, productivity and quality of silk. The choice of different varieties of feeding food plants (*Tarminalia arjuna* plant –Tasar silkworm and *Bombyx mori* -mulberry plant) effect on production of silk. Rearing performance of silkworm in growth and development of silkworms, different larval stages duration observation mortality rate, cocoon of the silkworm. The cocoon quality (cocoon weight, pupa weight, shell weight) were investigated made for economically important traits of each stages of silk production.



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## INTRODUCTION

Sericulture or silk farming is the cultivation of silkworms to produce silk. Today China and India are the two main producers with more than 60% of the worlds annual production. India is the second largest producer of silk in world and contributes 18% of the total world raw silk production. In India silk is available with varieties such as Mulberry, Eri, Tasar and Muga.Mulberry silk is produced extensively in the states of Karnatka, West Bengal, Jammu & Kashmir similarly Tasar silkworms are reared traditionally by the tribes of Madhya Pradesh, Bihar and Orissa Muga and Eri silk are produced exclusively in Assam. The food plant of silkworm is Mulberry for producing Mulberry silk.Tasar silk producing silkworm feed on Terminalia Tomentosa and Terminalia Arjuna similarly Muga silk producing silkworm feed on scalu or som ; Eri silk producing silkworm feed on Castor (Ricinus Communis). All the section of sericulture industry viz, mulberry cultivation, silkworm seed production, silk rearing, reeling and weaving of the silk and collection of by products and its processing provide a large scale employment, there by a source of livelihood for the rural and tribal people (Gregory,1994 and Srivastava, 2003).

Silk is composed of two major proteins a fibrous protein (fibroin) and 2nd globular gumming protein (sericin) (Takasu, 2002 and Mondal, 2007). Chhattisgarh state is a very high quality kosa silk production. Silk way of life in Chhattisgarh has become an inseparable part of Indian culture and tradition should be considered for rural management and development (Dewangan et al ; 2011) Chhattisgarh three types of silk viz; mulberry, tasar, Eri silk are producing (Singh 1993) in six district such as Raigarh, Bilaspur ,Korba, Champa, Baster and Ambikapur (Surguja). In Chhatishgarh State is the producer of both types mulberry and tasar. The silk final product of this industry. Silk production is expensive ; consequently silk is considered a fiber of luxury. It is thought that silk expense, beauty and hand contributed to thebeginning of the manufactured fiber, industry. People wanted fabrics that look and felt like but with out the cost so they tried to manufacture fiber similar to silk. Eventually rayon was developed from these efforts of trying to artificially produce silk. Cultivated silk is a beautiful luxurious hand. This type of silk can be dyed and printed in bright color that are very pleasing to the eye. Man is always inquisitive of silks products.silk the queen of textiles spells luxury, elegance, class, and comfort.Man kind has always loved this simmering fiber of unparalleled

granducer from the moment chinese empress shilling Ti-discovered it in her tea cup.It with stood many a dauling challenges from the natural and artificial fibers and yet, remained the undisputed queen of texxtiles since centuries. Exquisite qualities look the natural seen inherent affinity of dyes and vibrant color, high absorbance, light weight resistance and excellent drop etc have made silks, the irresistible and inevitable companion of the eve, all over the world. Commercially silk is made of protein secreted in the fluid state by a caterpillar.popularly known as "SILKWORM".These silkworms feed on the selected food plants and spin cocoons as a "protective shell" to perptuate the life.silkworm has four stages in its life cycle viz. Egg, Caterpillar, Pupa and Moth. Man interferes this life cycle at the stage to obtain the silk a continuous filament of commercial importance, used in weaving of the dream fabrics.

**Object of the study**

Arjun (T.arjuna) and mulberry are primary food plants and commonly available in the chhattisgarh state.Farmers of this state conduct Tasar silkworm rearing plant for conducting Tasar rearing for better cocoon crop harvest and ultimately for getting more income and there choices in different feeding plants (mulberry and t.arjuna plant) effect on productivity of silk. The present research study has been carried out in Ambikapur district Surguja Chhattisgarh state. Ambikapur were both types of silk namely mulberry, T.arjuna and Bombyx mori, tasarsilkworm are being produced. Based on Kosa silk many villagers are running unit for producing Kosa sarees and dress materials of export quality. The study area has about 10 acres under T.arjuna cultivation through effective area is only 8 acres, T.arjuna garden are 7 in number and

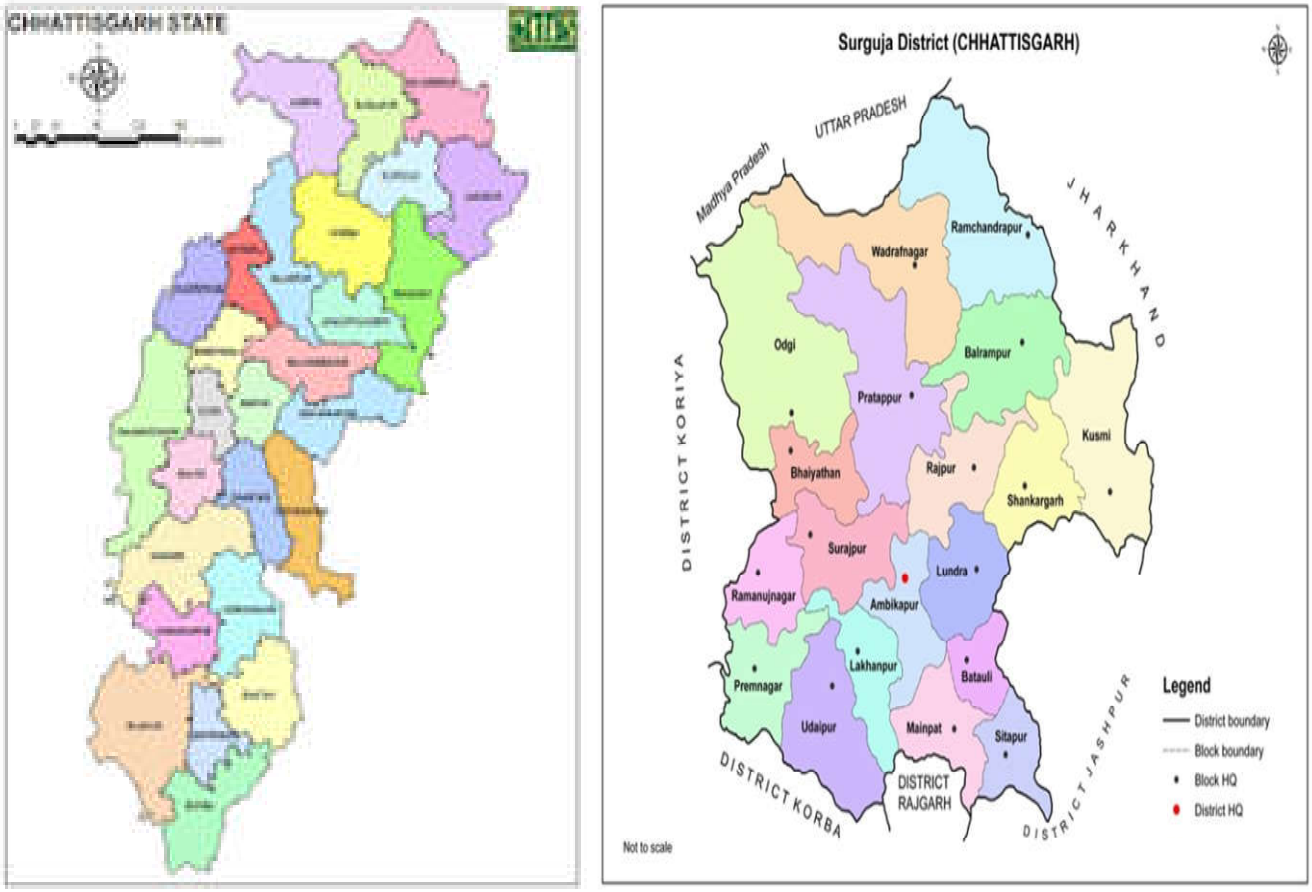


**Figure 1. Map of Sericulture in Ambikapur Surguja, Chhatisgarh state, India**

## MATERIAL AND METHDOLOGY

**Terminalia arjuna**

**Mulberry Plant**

grainages are 1 in Ambikapur , reeling unit in 1 number at Ambikapur,Surguja district is major tasar growing area where trible are engaed in sericulture activities. Tasar culture is a traditional and exclusive craft of the tribal of study area and is being practice from old times. Maximum numbers production of tasar cocoons in Ambikapur, Surguja district. Total area covered under tasar centers is about 10 acres through effective area is about 8 acre and Mulberry plant cultivation area 6 acres effective is only 3 acres. For the recent work we used two types of food plant effect on productivity :-

1. Arjuna plant : *Terminaliya arjuna*(outdoor condition crop)
2. Mulberry plant : *mulberry* (Indoor Condition crop)

Newly hatched larvae were released on the leaves of the host plants with the help of soft camel hairbrush 4.5 such leaves with mounted larvae were placed in the plastic box size 27 cm X6 cm X7cm in length,width and height respectively. The maximum portion of edge of each leaf was available to the larvae for feeding.The box was perforated with numerous exits for aeration and with covered lid to prevent escape of the larvae, next day the larvae were transferred to the new box containning fresh leaf diet. The moulting larvae transferred along with their support leaves. The old leaves were removed. Silkworm undergo four moultings (instars) in the larval stage and are fed according to these instars.

**1st Stage(1st instar)** - The young worms should be fed with young tender leaves.2nd and 3rd leaves from the tip of the shoot. These are chopped into small pieces and fed to worms for 4 days at least twice a day in the morning and late afternoon.After the 4 days the worms go into moult (sleep). Moulting is the shedding of skin as worms enter into the next instar. moulting takes 18-24 hours (1days) and the worms should not be fed during this period. the rearer must beable to identify when the worms are getting into and out of moult a past from counting days. moulting signs swollen heads,raised heads, worms are immoblile.During moulting the bed should be kept dry and uncovered. Signs of getting out of moult *The worms are active and move around, * The mouth part is broader, The body is dull with loose skin, *Shed off skin are easily seen on the bed. Once the worms come out of moult spread them out evenly to enhance dryness in the bed and to increase the bed space to match with their increasing body size. feed the worms when all of them have come out of moult.

**2nd Stage(2nd instar)** - Feed 3rd and 4th young glossy leaves continue feeding chopped leaves for 4 days.After this period the worms go into moult again.

**3rd Stage(3rd instar)** - Continue feeding the silkworm on good leaves harvested from the green part of the stem/shoot for three days after this period silkworm go into moult.

**4th Stage (4th instar)** - Feed worms on whole shoot for 6 days.

**5th Stage(5th instar)**- Feed on whole shoot for 7/8 days. During feeding always maintain asingle layer of shoot. Avoid over mature yellow and diseased leaves.5th instar silkworms feeding on shoots.

**Effecting factors**

**Tempreture and humidity** - They survive at temperature and relative humidity as 34-35 0c and 90-100 % 0c and as low as 9-10 0c and 30-40%.The optimum relative humidity for moulting larvae is 40-50%,as higher humidity renders the casting of old skin difficult.

**Sunlight** - Newly hatched and early-instar larvae avoid bright sunlight and therefore usually rest on the underside of the leaves. Late-instar larvae prefer bright sunlight but move to shade when the sun is very strong. During moulting and cocoon formation they prefer shade.

**Rain and Storm** - In breeze and drizzle the larvae continue to feed normally. Gusty wind, heavy rains and disturbing.

**Limitation** - Morphology changes can be observed afer the spinning period.Observation is affected by dieses in tasar silkworm like virosis, bacteriosis and also affected by heavy rain and change in temperature.they become restless, however, above 30 0c and inactive 20 0c. The resent work start on 1st July Monday at 10.30 am on Ambikapur (surguja), chhattisgarh. Rearing performance of tropical tasar silkworm (*A.mylitta)* and *Bombyx mori* have been studied in sericulture department Ambikapur,surguja.We have reared Three crop 1st with 10dfl Tasar silkworm,10dfl Mulberry silkworm and 2nd with 10dfl Tasar silkworm ,10dflMulberry Silkworm,3rd crop with 10dflTasar silkworm,10dfl Mulberry silkworm.

## 1st Crop

**1st crop *Antheraea mylitta* -Terminalia arjuna plant fed in Rearing Performance**

Date of Hatching :- 03-07-2019 to 11-08-2019
Spinning :- 30 days
Larval period :-30 days
Total no. of dfl :- 10 dfl egg
1720 larva inition
Hatching % :- 86 %
Production :- 68.31%
Cocoon Harvested :- 1175
Mortality no. :- 545

| Stage | No. of Larva | Mortality no. | % of Mortality | Reason of Mortality |
|---|---|---|---|---|
| 1st Instar Larva(3-5 days) , Ist Molting | 1720 | 287 | 16.68% | Due to Becterial disease, viral, Predators. |
| 2nd Instar larva (2-4 days) ,IInd Moulting | 1433 | 106 | 7.39% | |
| 3rd Instar larva (3-5 day),IIIrd Moulting | 1327 | 96 | 7.23% | |
| 4th Instar larva (5-6 days) ,IV Moulting | 1231 | 43 | 3.49% | |
| 5th Instar larva(6-8 days) ,Vth Moulting | 1188 | 13 | 1.09% | |
| Total | 1175 | 545 | | |
| Production = 68.31 % | | | | |

At the end of rearing only 1175 larvae were survived in and able to spinning cocoon means that 68.31 % larvae were completed their life cycle and converted to cocoon and pupal stage. Result shows that 545larvae were dead out of 1720 larvae. At the end of rearing only 1341 larvae were survived in and able to spinning cocoon means that 85.96% larvae were completed their life cycle and converted to cocoon and pupal stage. Result shows that 219 larvae were dead out of 1560 larvae, because due to bacterial disease, viral, predators in some resons. At the end of rearing only 1412 larvae were survived in and able to spinning cocoon means that 78.44% larvae were completed their life cycle and converted to cocoon and pupal stage. Result shows that 388 larvae were dead out of 1800 larvae, because due to bacterial disease, viral, predators in some resons.

### 1st crop Mulberry - Mulbery plant fed in Rearing Performance

Date of Hatching :- 03-07-2019 to 11-08-2019
Spinning :- 29 days
Larval period :-29 days
Total no. of dfl :- 10 dfl egg
1500 larva inition
Hatching % :- 75 %
Production :- 62.6%
Cocoon Harvested :- 939
Mortality no. :- 561

| Stage | No. of Larva | Mortality no. | % of Mortality | Reason of Mortality |
|---|---|---|---|---|
| 1st Instar larva (3-5 days) ,Ist Moulting | 1560 | 102 | 6.53% | Due to Bacterial disease ,Viral, Predators. |
| 2nd Instar larva (2-4 days) ,IInd Moulting | 1458 | 72 | 4.93% | |
| 3rd Instar larva (3-5 days) ,IIIrd Moulting | 1386 | 21 | 1.51% | |
| 4th Instar larva (5-6 days) ,IVth Moulting | 1365 | 14 | 1.02% | |
| 5th Instar larva (6-8 days) ,Vth Moulting | 1351 | 10 | 0.74% | |
| Total | 1341 | 219 | | |
| Production = 85.96 % | | | | |

### 2nd crop *Bombyx mori* - Mulberry plant fed in Rearing Performance

Date of Hatching :- 03-09-2019 to 08-10-2019
Spinning :- 29 days
Larval period :-29 days
Total no. of dfl :- 10 dfl egg
1800 larva inition
Hatching % :- 90 %
Production :- 78.44%
Cocoon Harvested :- 1412
Mortality no. :- 388

| Stage | No. of Larva | Mortality no. | % of Mortality | Reason of Mortality |
|---|---|---|---|---|
| 1st Instar Larva(3-5 days)27 0c, Ist Molting | 1800 | 140 | 7.77% | Due to Becterial disease, viral, Predators. |
| 2nd Instar larva (2-4 days) 26 0c,IInd Moulting | 1660 | 125 | 7.53% | |
| 3rd Instar larva (3-5 days)25 0c,IIIrd Moulting | 1535 | 60 | 3.90% | |
| 4th Instar larva (5-6 days)23 0c,IV Moulting | 1475 | 52 | 3.52% | |
| 5th Instar larva(6-8 days)22-23 0c ,Vth Moulting | 1423 | 11 | 0.77% | |
| Total | 1412 | 388 | | |
| Production = 78.44 % | | | | |

### 3rd crop - Mulberry plant fed in REARING PERFORMANCE

Date of Hatching :- 05-11-2019 to 28-01-2020
spinning :- 30 days
Larval Period :- 30 days
Total No. of dfl :- 10 dfl egg
1620 larva inition
Hatching % :-81%
Production :54.87%
Cocoon Harvested :-889
Mortality No. :- 731

| Stage | No. of Larva | Mortality no. | % of Mortality | Reason of Mortality |
|---|---|---|---|---|
| 1st Instar Larva(3-5 days) Ist Molting | 1620 | 316 | 19.50% | |
| 2nd Instar larva (2-4 days) IInd Moulting | 1304 | 185 | 14.18% | Due to Becterial disease, viral, Predators. |
| 3rd Instar larva (3-5 days), IIIrd Moulting | 1119 | 136 | 12.15% | |
| 4th Instar larva (5-6 days), IV Moulting | 983 | 81 | 8.24% | |
| 5th Instar larva(6-8 days), Vth Moulting | 902 | 13 | 1.44% | |
| Total | 899 | 731 | | |
| Production = 54.87 % | | | | |

### 3rd crop *Antheraea mylitta* - Terminalia arjuna plant fed in Rearing

**Performance**
Date of Hatching :- 5 -11 -2019 to 28 -01-2020
Spinning :- 29 days
Larval period :-29 days
Total no. of dfl :- 10 dfl egg
1490 larva inition
Hatching % :- 74.5 %
Production :- 56.71%
Cocoon Harvested :- 845
Mortality no. :- 645

| Stage | No. of Larva | Mortality no. | % of Mortality | Reason of Mortality |
|---|---|---|---|---|
| 1st Instar Larva(3-5 days) 27 0c , Ist Molting | 1490 | 263 | 17.65% | Due to Becterial disease, viral, Predators. |
| 2nd Instar larva (2-4 days) 26 0c ,IInd Moulting | 1227 | 178 | 14.50% | |
| 3rd Instar larva (3-5 days)25 0c ,IIIrd Moulting | 1047 | 165 | 15.75% | |
| 4th Instar larva (5-6 days)23 0c ,IV Moulting | 884 | 28 | 3.16% | |
| 5th Instar larva(6-8 days) 22-23 0c ,Vth Moulting | 856 | 11 | 1.28% | |
| Total | 845 | 645 | | |
| Production = 56.71 % | | | | |

At the end of rearing only 899 larvae were survived in and able to spinning cocoon means that 54.87 % larvae were completed their life cycle and converted to cocoon and pupal stage.Result shows that 731 larvae were dead out of 1620 larvae. At the end of rearing only 845 larvae were survived in and able to spinning cocoon means that 56.71% larvae were completed their life cycle and converted to cocoon and pupal stage. Result shows that 645 larvae were dead out of 1490 larvae, because due to bacterial disease, viral, predators in some resons.

**Observation**

*Antheraea Mylitta Cocoon*

*Bombyx Mori Cocoon*

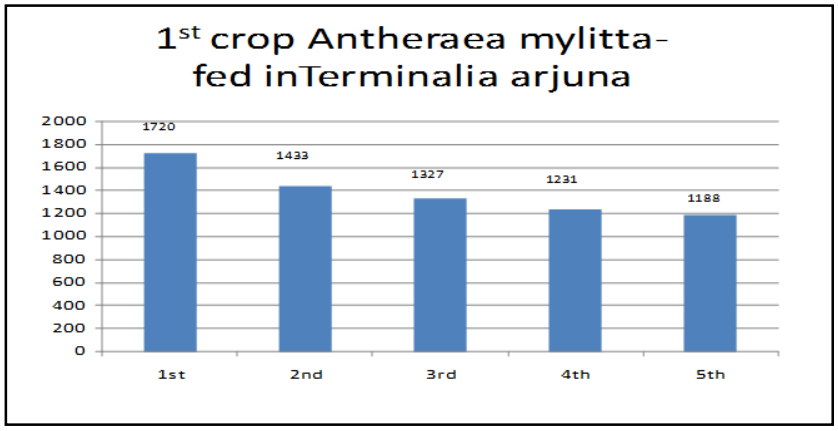


**Fig. 1. Graph Showing: Effective Rate of Rearing (No.of Larvae 0-2000 and Mortality Rate)**

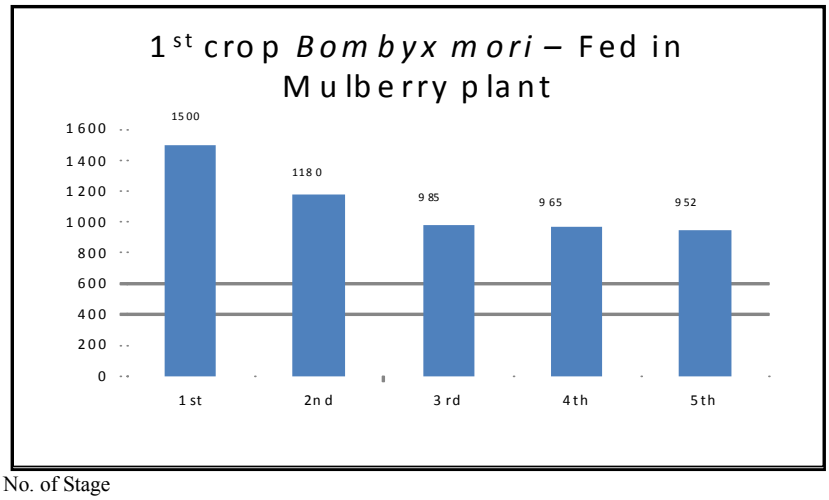


**Fig. 2. Graph Showing: Effective Rate of Rearing (No.of Larvae 0-1600 and Mortality Rate**

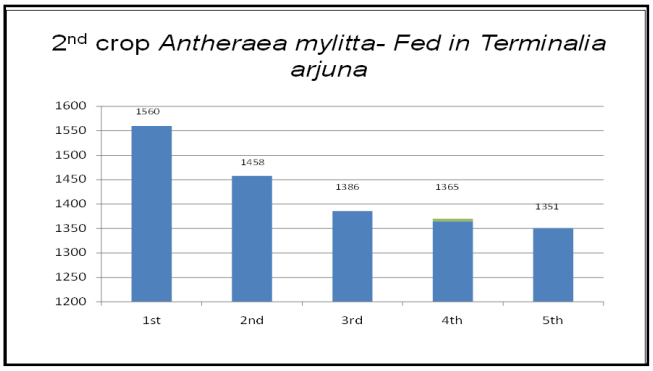


**Fig. 3. Graph Showing: Effective Rate of Rearing (No.of Larvae 0-1600 and Mortality Rate)**

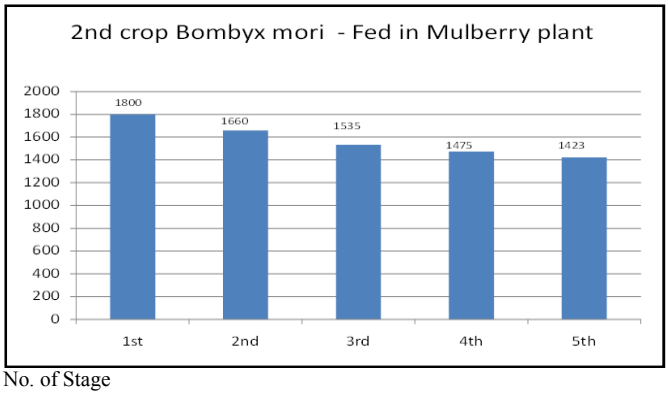


**Fig. 4. Graph Showing: Effective Rate of Rearing (No.of Larvae 0-2000 and Mortality Rate)**

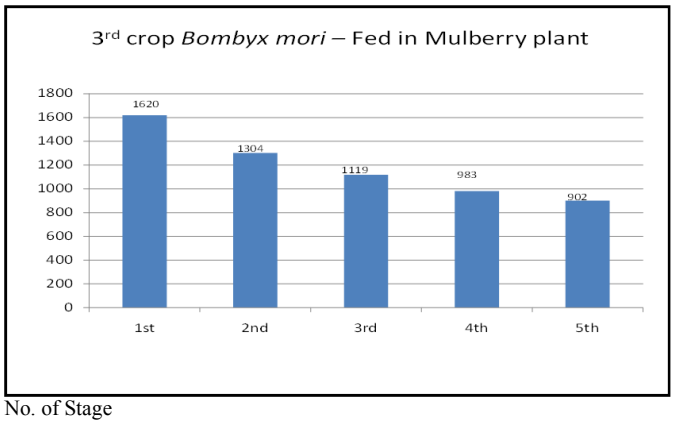


**Fig. 5. Graph Showing: Effective Rate of Rearing (No.of Larvae 0-1800 and Mortality Rate)**

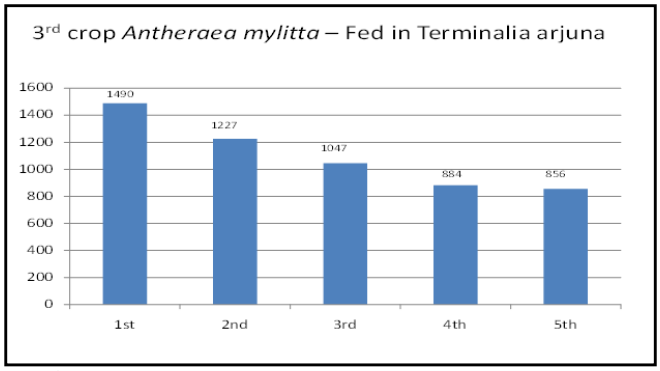


**Fig. 6. Graph Showing: Effective Rate of Rearing (No.of Larvae 0-1600 and Mortality Rate)**

## Analysis

Research methodology applier in this study was a combination of descriptive analytical and quantitative methods and statistical methods. 1st crop and 2nd crop ,3rd crop data was analyzed using various statistical tool viz,mean standard daviation,standard error in addition to usual statistical measures techniques were employed at appropriate context in the study to evaluate and analyze the collected data.

## DISCUSSION

During our reaserch we have used the rearing performance of tropical tasar silkworm (*A.mylitta)* and Mulberry (Bombyx mori).We have reared Three crops 1st with 10dfl, 10dfl and 2nd with 10 dfl , 10dfl and 3rd 10dfl,10dfl eggs.

**Mulberry food plant give in -**

In 1st crop rearing commences from 03-07-2019 to 11-08-2019 from 10 dfl containing 1500 larvae were hatched out and hatching percent 75%.At the end of rearing only 939 larvae were survived in and able to spinning cocoon means that 62.6% larvae were completed their life cycle and converted to cocoon and pupal stage. Result shows that 561 larvae were dead out of 1500 larvae. Then 2nd crop 03-09-2019 to 08-10-2019 from 10dfl containning 1800 larvae were hatched out and hatching percent 90%.At the end of rearing only 1412 larvae were survived in and able to spinning cocoon means that 78.44 % larvae were completed their life cycle and converted to cocoon and pupal stage. Result shows that 388 larvae were dead out of 1800 larvae. Then 3rd crop 05-11-2019 to 28-1-2020 from 10dfl containning 1620 larvae were hatched out and hatching percent 81%.At the end of rearing only 889 larvae were survived in and able to spinning cocoon means that 54.87 % larvae were completed their life cycle and converted to cocoon and pupal stage. Result shows that 731 larvae were dead out of 1620 larvae.

**Terminalia arjuna food plant give in -**

**In 1st crop rearing commences** from 03-07-2019 to 11-08-2019 from 10 dfl containing 1720 larvae were hatched out and hatching percent 86%.At the end of rearing only 1175 larvae were survived in and able to spinning cocoon means that 68.31% larvae were completed their life cycle and converted to cocoon and pupal stage. Result shows that 545 larvae were dead out of 1720 larvae.

**In 2nd crop rearing commences** from 03-09-2019 to 08-10-2019 from 10dfl containing 1560 larvae were hatched out and hatching percent 78%.At the end of rearing only 1341 larvae were survived in and able to spinning cocoon means that 85.96% larvae were completed their life cycle and converted to cocoon and pupal stage. Result shows that 219larvae were dead out of 1560 larvae.

**In 3rd crop rearing commences** from 05-11-2019 to 28-1-2020 from 10dfl containing 1490 larvae were hatched out and hatching percent 74.5%.At the end of rearing only 845 larvae were survived in and able to spinning cocoon means that 56.71% larvae were completed their life cycle and converted to cocoon and pupal stage. Result shows that 645 larvae were dead out of 1490 larvae. The result in this study has been supported by the statistical data analysis presented in the form

of tables given under three different sections.Cocoon yield and egg quality of *A. mylitta* and *Bombyx mori* is dependent on variety and nutritional status of host plant farmers for the economic advantage use alternative food plants based on availability and accessibility. The rate of leaf production,quantity,gestation period of host plants in relation to season compared to primary food plant and their commercial feasibility is an important factor for silkworm rearing and grainage & performance.

The study **1st crop** - shows that tasar rearing and graninage behaviour is better when the larvae were fed Terminalia arjuna food plant though commercial traits viz; cocoon weight,silk ratio and egg fertility are much better than t. arjuna host plant for *A. Mylitta* and same as to Mulberry host plant for *Bombyx mori*.This is indicative of availability of suitable nutrients cocoon weight 10.25 gm was recorded for species *A.mylitta* (female),and the cocoon weight 8.29 gm was recorded for species *A.mylitta(*male). Then give into other mulberry food plant cocoon weight 1.10 gm was recorded for species *A. myllita(*female),and the cocoon weight 0.97gm was recorded for species *A.mylitta*(male) shows in table 2 and The Pupa weight 9.1 gm was recorded for species *A.mylitta* (female) and The pupa weight 7.2gm was recorded for species *A. mylitta(*male).Then mulberry plant pupa weight in 0.92gm was recorded for species *A. mylitta (female)*,and (male) pupa weight 0.84gm ,shows table 3.andT.arjuna plant the shell weight 1.06 gm (female),&(male) shell weight 1.09 gm.and the mulberry plant shell weight 0.18gm, (female), (male) shell weight 0.12gm shows table3 in 1st crop July to August.

**2nd crop -** cocoon weight 11.76 gm was recorded for species *A.mylitta* (female),and the cocoon weight 8.97gm was recorded for species *A.mylitta(*male). Then give into other mulberry food plant cocoon weight 1.19 gm was recorded for species *A. myllita(*female),and the cocoon weight 0.99gm was recorded for species *A.mylitta*(male) shows in table 4 and The Pupa weight 10.28 gm was recorded for species *A.mylitta* (female) and The pupa weight 7.71gm was recorded for species *A. mylitta(*male).Then mulberry plant pupa weight in 0.92gm was recorded for species *A. mylitta (female)*,and (male) pupa weight 0.84gm ,shows table 5.andT.arjuna plant the shell weight 1.48 gm (female),&(male) shell weight 1.14 gm.and the mulberry plant shell weight 0.26gm, (female), (male) shell weight 0.15gm shows table 5 in 2nd crop september to October.

**3rd crop -** cocoon weight 12.4 gm was recorded for species *A.mylitta* (female),and the cocoon weight 9.6gm was recorded for species *A.mylitta(*male). Then give into other mulberry food plant cocoon weight 1.1 gm was recorded for species *A. myllita (*female), and the cocoon weight 1.0gm was recorded for species *A.mylitta*(male) shows in table 6 and The Pupa weight 10.8 gm was recorded for species *A.mylitta* (female) and The pupa weight 8.3gm was recorded for species *A. mylitta(*male). Then mulberry plant pupa weight in 0.9gm was recorded for species *A. mylitta (female)*,and (male) pupa weight 0.86gm, shows table 7.and T.arjuna plant the shell weight 1.5gm (female), &(male) shell weight 1.0 gm.and the mulberry plant shell weight 0.25gm, (female), (male) shell weight 0.19gm shows table 8 in 3rd crop November to January.Productivity of cocoon in outdoor rearing is poor due to attack of number of pest and predators besides natural vagaries such as wide fluctuating temperature,heavy rain and stormy wind etc.The rearing performance of *A. mylitta* (female),(male) and *Bombyx mori* (female),(male) is presented in table 1 and 2,3. The cocoon traits like cocoon weight,shell weight pupal weight in rainy season is related to the host plant to larvae.Shows the statistical data of cocoon parameter from *A.mylitta and Bombyx mori (female and male)* Figure 7,8.9 and Graph Showing1,2,3,4,5,6 effective rate of rearing performance.

## RESULTS

We found in our research that the two different feeding plants (T.arjuna and Mulberry) rearing performance and effect on productivity of silk in tropical tasar silkworm *(Antheraea mylitta)*and mulberry silkworm(*Bombyx mori)* have been studied in Sericuture Department ,Ambikapur District Surguja, Chhttisgarh.

**1st crop:** In Treminalia arjuna food plant Fed in tasar silkworm, then Production of cocoon 68.31%and mulberry food plant fed in mulberry silkworm Production of cocoon 62.2%.

**2nd crop:** In Treminalia arjuna food plant Fed in tasar silkworm, then Production of cocoon 85.96%and mulberry food plant fed in mulberry silkworm Production of cocoon 78.44%.

**3rd crop:** In Treminalia arjuna food plant Fed in tasar silkworm, then Production of cocoon 56.71%and mulberry food plant fed in mulberry silkworm Production of cocoon 54.87%.

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**Conclusion**

In the research observed that at the end of rearing 1st,2nd,3rdcrop 1175,1341,845 larvae were survive inTerminalia arjuna plant and 939,1412,889 larvae were survived in mulberry plant.Then able to spinning cocoon means that 68.31% ,85.96% ,56.71%Tasar silkworm and 62.6%,78.44%,54.87%Mulberry silkworm larvae were completed their life cycle and converted to cocoon and pupal stage.result 1stand 2nd,3rd crop in Terminalia arjuna plant shows that 545 and 219,845 larvae were dead out of 1720,1560 and 1490 larvae.Then other mulberry plant 1st and 2nd ,3rdcrops shows that 561,388 and 731 larvae were dead out of 1500,1800 and 1620 larvae. Overall conclusions choice to different food plant effect on productivity of silk. .

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