

Effect on productivity of silk (*Antheraea mylitta*) due to changes Environmental Factors in Ambikapur Surguja District CG

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Abstract: Ambikapur is a city in Surguja district of Chhattisgarh. The oldest districts of the Indian state of Chhattisgarh in the east. Central Indian Ambikapur is also the divisional headquarters of Surguja district which consists of the five districts of Surguja, Koriya, Balrampur, Surajpur and Jashpur. Ambikapur is located at 23° 37' 25" to 24° 6' 17" North latitude and 81° 34' 40" to 84° 4' 40" east longitude, 244.62 km long east to west and 167.37 broad north to south. This land has an area of about 16359 sqkm. Ambikapur Tasar silkworm areas of 10 hectares in Arjuna plants culture. In current issue changing global climate seems to be one of the major hindrance in the effect on productivity of silkworm *Antheraea mylitta*. Various climatic factors such as temperature, humidity, light, air, wind etc. The present experimental analysis conducted in environment factors the role and influence of temperature and humidity in the growth of pupa from larvae of silkworm *Antheraea mylitta*. It is also observed that weight of pupa and shell reared at temperature 22-26 °C and 80-85% relative humidity are more. The present observation of the effect on productivity of silk due to environmental factors in Ambikapur district Surguja. The study includes the steps to be taken for the management of condition and improved quality and quantity of silk production in future.

Keywords: Abiotic factors, temperature, humidity, rainfall, wind, diseases, pest.

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Introduction

Sericulture is the cultivation of silk through rearing of silkworm. It is an agro-based industry. Sericulture also includes the practical aspects such as increasing productivity of land as well as labour, stabilization of cocoon production, improvement of silk, fabric and generating profitable income for rural poor people. It was discovered in China between 2600 and 2700 BC. Today China and India are two main producers with more than 60% of the world's. Annual production in India is the second largest producer of silk in the world and contributes 18% of the total world raw silk production. In India silk is available with varieties such as Mulberry, Eri, Tasar and Munga. Tasar silkworm are reared traditionally by the tribes of Madhya Pradesh, Bihar, and Orissa; Munga and eri silk are produced exclusively in Assam. Mulberry silk is produced extensively in the states of Karnataka, West Bengal, Jammu & Kashmir. Sericulture or silk production is the breeding and management of silkworms for the commercial production of silk. It is an economically important insect being a primary producer of silk. All the sections of sericulture industry viz; cultivation, silkworm seed production, silkworm 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 population (Gregory 1914 and Srivastava 2003). 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). Presently in Chhattisgarh three types of silk viz; Mulberry, Tasar culture furthermore it is practiced especially in tribal belts of Surguja, Raigarh, Bilaspur, Korba, Bastar district of the Chhattisgarh state. Keeping in view of the above facts into consideration. The silk is preferred over all other types of fibres due to its remarkable properties like water absorbency, heat resistance, dyeing efficiency and luster. Factors mainly influence the physiology of insects are temperature and humidity. The adaptability is quite different from those of wild silkworm; temperature, humidity, light, wind. Rainy effect on the physiology of silkworm depending upon the combination of factors and development stages affecting growth, development, productivity and quality of silk. The present study of silk production effect on due to changeable environmental factors is possible at the outdoor condition. Culture also included future strategies to be taken for the management of best successful silk production by best environmental factor conditions.

Research Methodology:-

Fig 1: Terminalia arjuna food plant

Systematic position

- Kingdom - Plantae
- Phylum - Magnoliophyta
- Class - Magnoliopsida
- Order - Myrtales
- Family - Combretaceae
- Genus - *Terminalia*
- Species - *arjuna*

Fig 2: *Antheraea Mylitta* –Fifth Instar Larva, cocoon, Silkmoth**Systematic Classification:**

- Kingdom - Animalia
- Phylum - Arthropoda
- Class - Insecta
- Order - Lepidoptera
- Family - Saturniidae
- Genus - *Antheraea*
- Species - *Mylitta*

The present work was sericulture center of Ambikapur Surguja district during 2018-2019. The Chhattisgarh state represented by climate is tropical. It is hot and humid because of its proximity to the tropic of cancer and its dependence on the monsoon for rains. Summer temperature can reach up to 45°C (113°F). The monsoon season is from late June to October and is a welcome respite from the heat. The average rainfall of Chhattisgarh is 1292mm. Winter is from November to January and is a good time to visit.

Chhattisgarh winters are pleasant with low temperature and less humidity. Temperature increases from march to June but by the end of June, the temperature decreases as the monsoon moved. In July Temperature remain about 27 °C -27 °C, there is no variation in the temperature in the month of September and October, but in the most of September and October, when the sky is clear, there is a slight increase in the temperature. There are 3 seasons in the Chhattisgarh.

1. Hot season - this season starts from march and goes up to mid june. In the month of June when the sun shines vertically over the tropic of cancer; due to high temperature. The pressure decreases and temperature rises to as much as 42 °C in some parts of the state.

2. Rainy season - From mid June to September Ambikapur, Bilaspur and Bastar experiences rain more than 100 c.m.

3. Winter season – It starts from November to January. In September Temperature starts decreasing this is caused due to rainfall and humidity and winter arrives in November.

The Surguja district enjoy tropical climate which characterized by a hot summer and well distributed rainfall. The present work was in Ambikapur Tasar Silkworm host plant Terminalia arjuna was selected for the study. The period of sampling will collected from sericulture center of Ambikapur was 1st week of July 2018, total areas covered under Tasar fields is about 10 hectares through effective area is about 8 hectares and selected to 1st crop 50 Trees (2 plot) in Terminalia arjuna. Each plots consisted of approximately 25 trees. At First Tasar silkworm eggs has been taken at 10 dfl after that having keeping it in tray, then larves began to come out. After being observation of environmental factors, temperature, humidity, speed of wind. Then processes of making of cocoon is observed. After that doing analysis of cocoons production is done. After this crop is totally prepared. All the eggs have been taken in equal quantity. In these three crops 2018-2019, the whole process is completed. After observing of these one year we know the maximum production of silk. All these environmental factor effects of production capacity and they determine the quantity of silk

1st Crop - Rearing Performance

3-Jul-18	12-Aug-18	Meteorological Data (Day-wise) at Ambikapur Antheraea mylitta Feed in Arjuna Plant 2018-19									
	Date	T.MAX	T.MIN	R Fall (mm)	RH-I	RH-II	W SPEED	Rainy Day	No. of larva	Mor.No.	Mor.%
	1-Jul-18	31.2	24.2	0.0	83	58	4.7				
	2-Jul-18	31.4	21.2	61.0	98	72	4.5	1			
1st crop	3-Jul-18	30.0	21.4	4.8	90	74	4.2	1			
	4-Jul-18	29.2	21.1	10.3	95	73	6.8	1			
	5-Jul-18	29.5	23.5	0.0	84	67	7.3				
	6-Jul-18	30.5	23.6	0.0	84	52	3.7				
	7-Jul-18	34.0	21.5	39.4	98	59	3.5	1			
	8-Jul-18	33.0	25.0	0.0	85	59	1.6				
	9-Jul-18	33.5	24.5	0.0	88	74	2.9				
1st larva*	10-Jul-18	31.2	22.9	44.0	98	68	2.8	1	1800	140	7.8
	11-Jul-18	31.2	23.7	0.0	92	66	2.3				
	12-Jul-18	31.7	24.7	0.4	94	84	2.7				
	13-Jul-18	29.5	24.5	2.3	94	76	1.4				
	14-Jul-18	30.2	23.2	15.3	95	77	2.7	1			
	15-Jul-18	29.0	24.4	4.2	94	66	1.7	1			
2nd larva*	16-Jul-18	31.7	23.8	6.2	97	70	3.9	1	1660	125	7.5
	17-Jul-18	30.5	23.5	23.7	95	91	4.4	1			
	18-Jul-18	27.5	23.5	44.8	98	98	4.3	1			
	19-Jul-18	25.0	22.6	24.7	98	84	3.7	1			
	20-Jul-18	28.0	23.2	30.0	98	71	1.9	1			
3rd larva*	21-Jul-18	31.6	21.5	19.8	98	80	3.2	1	1535	60	3.9
	22-Jul-18	30.3	23.0	0.2	93	100	3.2				
	23-Jul-18	25.0	23.0	39.6	98	87	4.5	1			
	24-Jul-18	26.5	22.6	0.0	92	79	11.0				
	25-Jul-18	27.6	22.5	15.4	97	92	9.8	1			
	26-Jul-18	25.2	22.1	32.4	100	98	7.9	1			
4th larva*	27-Jul-18	24.6	21.0	6.6	98	89	3.6	1	1475	52	3.5
	28-Jul-18	26.0	22.2	4.4	90	73	7.4	1			

	29-Jul-18	28.5	22.2	3.7	98	98	4.7	1			
	30-Jul-18	25.0	22.1	22.2	95	75	3.6	1			
	31-Jul-18	28.5	22.5	0.0	86	87	4.4				
	1-Aug-18	26.0	21.4	0.4	92	86	6.6				
	2-Aug-18	25.2	20.8	10.0	98	86	7.9	1			
5th larva*	3-Aug-18	26.0	23.2	0.1	86	79	4.5		1423	11	0.8
	4-Aug-18	27.6	22.5	0.0	89	67	3.4				
	5-Aug-18	30.5	23.5	5.0	87	57	2.6	1			
	6-Aug-18	30.0	23.2	0.0	93	78	1.8				
	7-Aug-18	27.5	21.5	23.8	98	100	2.2	1			
	8-Aug-18	25.5	22.5	19.4	92	65	2.2	1			
	9-Aug-18	30.2	22.6	1.2	83	89	5.7				
	10-Aug-18	27.6	23.5	1.0	97	80	2.4				
	11-Aug-18	29.3	22.5	11.6	97	80	2.2	1			
	12-Aug-18	29.6	23.0	0.0	92	73	2.0				
Total									1412	388	
Prod.%									78.44%		

2nd Crop - Rearing Performance

3-Sep-18	9-Oct-18	Meteorological Data (Day-wise) at Ambikapur Antheraea mylitta Feed in Arjuna Plant 2018-19									
	Date	T.MA X	T.MI N	R Fall (mm)	RH- I	RH- II	W SPEED	Rain y Day	No. of larva	Mor.No .	Mor. %
2nd crop	3-Sep-18	29.2	21.2	17.6	93	86	4.2	1			
	4-Sep-18	25.5	22.5	0.0	92	74	4.7				
	5-Sep-18	28.8	21.6	11.0	98	90	4.6	1			
	6-Sep-18	25.5	22.2	22.6	98	73	6.8	1			
	7-Sep-18	29.0	21.5	26.2	100	97	2.0	1			
	8-Sep-18	24.2	20.7	11.4	93	75	3.4	1			
	9-Sep-18	27.0	21.9	0.0	95	84	3.7				
1st larva*	10-Sep-18	28.5	23.0	0.8	97	64	3.0		1500	90	6
	11-Sep-18	29.5	22.4	0.0	87	61	2.1				
	12-Sep-18	30.4	21.8	0.0	84	64	2.3				
	13-Sep-18	29.5	22.3	0.4	92	72	3.0				
	14-Sep-18	28.8	21.5	6.7	93	60	2.9	1			
2nd larva*	15-Sep-18	31.0	22.5	0.0	89	58	2.6		1410	25	1.8
	16-Sep-18	30.8	21.6	0.0	92	62	1.6				
	17-Sep-18	31.0	22.0	0.0	92	62	2.0				
	18-Sep-18	29.8	21.9	0.0	92	54	1.6				
3rd larva*	19-Sep-18	32.0	21.5	0.0	92	55	1.4		1385	18	1.3
	20-Sep-18	31.3	19.8	0.0	93	61	2.0				
	21-Sep-18	29.8	20.5	1.6	93	77	4.2				
	22-Sep-18	27.2	20.7	0.0	84	67	6.9				
	23-Sep-18	29.6	20.6	0.0	80	60	4.7				
4th larva*	24-Sep-18	30.2	20.5	0.0	88	63	3.0		1367	10	0.7
	25-Sep-18	32.0	22.0	0.0	90	56	3.7				
	26-Sep-18	32.0	20.7	0.0	92	48	2.9				

	27-Sep-18	31.6	21.0	0.0	90	47	3.5				
	28-Sep-18	33.0	20.7	0.0	84	43	3.4				
	29-Sep-18	33.2	19.0	0.0	77	49	1.4				
5th larva*	30-Sep-18	32.0	19.7	0.0	85	49	1.6		1357	7	0.5
	1-Oct-18	32.0	18.6	0.0	80	39	1.5				
	2-Oct-18	33.2	19.2	0.0	71	38	1.7				
	3-Oct-18	33.2	18.7	0.0	69	37	1.8				
	4-Oct-18	33.0	18.0	0.0	71	36	1.8				
	5-Oct-18	33.0	19.0	0.0	81	37	1.2				
	6-Oct-18	33.2	18.1	0.0	88	37	1.6				
	7-Oct-18	32.6	17.8	0.0	87	32	1.3				
	8-Oct-18	32.0	17.0	0.0	75	37	1.0				
	9-Oct-18	32.5	15.5	0.0	76	34	0.6				
Total									1350	150	
Prod.%									90.00%		

3rd Crop –Rearing Performance

5-Nov-18	31-Jan-19	Meteorological Data (Day-wise) at Ambikapur Antheraea mylitta Feed in Arjuna Plant 2018-19									
	Date	T.MAX	T.MIN	R Fall (mm)	RH-I	RH-II	W SPEED	Rainy Day	No. of larva	Mor. No.	Mor.%
3rd Crop	5-Nov-18	30.0	15.6	0.0	90	45	3.1				
	6-Nov-18	30.8	17.6	0.0	93	42	2.1				
	7-Nov-18	30.2	12.4	0.0	62	30	1.4				
	8-Nov-18	30.5	10.0	0.0	93	29	1.6				
	9-Nov-18	28.4	9.0	0.0	84	28	1.3				
	10-Nov-18	28.6	9.0	0.0	95	34	1.6				
	11-Nov-18	27.8	9.1	0.0	95	34	1.4				
	12-Nov-18	26.9	9.0	0.0	95	31	1.4				
	13-Nov-18	27.0	10.5	0.0	86	29	2.0				
	14-Nov-18	28.5	11.0	0.0	89	26	1.6				
	15-Nov-18	30.0	12.5	0.0	81	31	1.7				
	16-Nov-18	29.8	13.3	0.0	74	29	2.0				
	17-Nov-18	29.5	12.3	0.0	91	33	3.1				
	18-Nov-18	27.2	10.5	0.0	86	26	1.6				
	19-Nov-18	28.0	10.0	0.0	91	35	1.3				
	20-Nov-18	29.0	11.0	0.0	87	25	1.5				
1st larva*	21-Nov-18	29.8	10.5	0.0	91	30	1.0		1680	300	17.85
	22-Nov-18	29.0	9.9	0.0	91	32	1.9				
	23-Nov-18	27.0	7.8	0.0	90	32	1.9				
	24-Nov-18	27.2	8.0	0.0	93	31	1.6				
	25-Nov-18	25.0	7.0	0.0	95	34	1.6				
	26-Nov-18	25.5	7.3	0.0	92	32	1.8				
	27-Nov-18	25.3	8.3	0.0	93	38	1.2				
	28-Nov-18	27.0	11.3	0.0	87	44	1.2				
	29-Nov-18	26.5	10.8	0.0	93	43	1.5				
	30-Nov-18	26.2	10.0	0.0	89	43	1.2				
	1-Dec-18	25.5	9.2	0.0	93	34	1.0				
	2-Dec-18	24.1	7.6	0.0	97	40	1.1				
	3-Dec-18	24.2	8.5	0.0	98	34	1.0				
	4-Dec-18	25.0	8.6	0.0	93	41	0.9				
	5-Dec-18	24.1	10.0	0.0	85	43	1.0				

	6-Dec-18	23.9	8.0	0.0	98	38	0.7				
	7-Dec-18	25.0	7.7	0.0	93	32	1.4				
	8-Dec-18	24.2	8.7	0.0	72	39	1.6				
	9-Dec-18	24.9	6.0	0.0	92	30	1.1				
2nd larva*	10-Dec-18	25.5	9.0	0.0	86	49	1.0		1380	195	14.13
	11-Dec-18	25.5	13.1	1.2	83	58	1.4				
	12-Dec-18	25.0	11.0	0.0	89	49	1.1				
	13-Dec-18	24.2	9.2	0.0	91	32	0.8				
	14-Dec-18	25.8	12.0	0.0	93	33	1.1				
	15-Dec-18	23.8	7.0	0.0	95	39	2.2				
	16-Dec-18	22.0	6.0	0.0	93	36	1.8				
	17-Dec-18	22.0	11.6	0.5	95	98	1.6				
	18-Dec-18	15.0	11.0	40.8	93	88	3.5	1			
	19-Dec-18	16.0	7.5	0.0	87	57	1.0				
	20-Dec-18	20.0	6.6	0.0	92	44	1.2				
	21-Dec-18	21.0	5.3	0.0	84	39	1.1				
	22-Dec-18	20.0	3.0	0.0	91	30	1.2				
	23-Dec-18	20.5	4.6	0.0	94	33	1.2				
3rd larva*	24-Dec-18	21.5	5.4	0.0	91	39	1.0		1195	196	16.54
	25-Dec-18	21.0	5.7	0.0	89	29	1.0				
	26-Dec-18	20.5	5.2	0.0	94	36	1.4				
	27-Dec-18	21.6	7.6	0.0	90	36	1.0				
	28-Dec-18	22.0	5.2	0.0	89	28	1.9				
	29-Dec-18	19.5	4.2	0.0	97	25	1.6				
	30-Dec-18	20.0	2.6	0.0	84	29	1.1				
	31-Dec-18	19.5	2.0	0.0	97	38	1.0				
Week No.	January										
1	4th larva*	23.2	5.1	0	93.0	29.7	1.1	0	989	79	7.98
2		22.7	6.8	0.0	93.0	41.0	1.6	0.0			
3	5th larva*	23.3	5.7	0.0	87.7	23.6	1.2	0.0	910	10	1.09
4		22.8	11.5	16.2	85.3	59.7	2.6	2.0			
5		22.8	7.6	0.0	85.9	31.0	1.7	0.0			
	Total								900	780	
	Prod. %								53.57%		



Fig 3. Spinning cocoon and cocoon, Silkmonth(Tasar silkworm)

1st, 2nd, 3rd Crop- Cocoon weight, table (1,2,3)

Set. No.	Terminalia arjuna plant Cocoon Wt. in gram	
	Female	Male
1	12.17	11.08
2	10.87	8.55
3	11.71	7.28
Total	35.29	26.91
Mean	11.76	8.97
SD	0.751	1.579
SE	0.433	0.911

Set. No.	Terminalia arjuna plant Cocoon Wt. in gram	
	Female	Male
1	11.70	10.8
2	12.83	9.07
3	12.71	9.12
Total	37.24	28.99
Mean	12.41	9.66
SD	0.506	0.806
SE	0.292	0.465

Set. No.	Terminalia arjuna plant Cocoon Wt. in gram	
	Female	Male
1	10.16	7.69
2	10.38	8.58
3	10.22	8.6
Total	30.76	24.87
Mean	10.25	8.29
SD	0.092	0.424
SE	0.053	0.244

Table 1,2,3 : Total mean of Female and Male Cocoon weight of 5th instar in the arjuna food plant. In the **table 1**. Female cocoon mean weight 11.76gm, male mean weight 8.97gm. **Table 3**. Female cocoon mean weight 10.25 gm and male cocoon mean weight 8.29 gm. In the **Table -2**. mean weight of female cocoon from Arjuna plant is 12.41gm and the mean of male cocoon of Arjuna plant is 9.66 gm. **table 3**. We observed that mean weight of Female cocoon from Arjuna plant is 10.25gm and the mean of Male cocoon of Arjuna plant is 8.29gm,

1st, 2nd, 3rd Crop-Pupa weight, table (4,5,6)

Set. No.	Terminalia arjuna plant Pupa Wt. in gram	
	Female	Male
1	11.17	9.70
2	9.48	7.33
3	10.19	6.11
Total	30.84	23.14
Mean	10.28	7.71
SD	0.692	1.49
SE	0.399	0.86

Set. No.	Terminalia arjuna plant Pupa Wt. in gram	
	Female	Male
1	10.06	9.01
2	11.23	8.03
3	11.13	8.01
Total	32.42	25.05
Mean	10.81	8.35
SD	0.529	0.405
SE	0.305	0.233

Set. No.	Terminalia arjuna plant Pupa Wt. in gram	
	Female	Male
1	9.15	6.6
2	9.21	7.5
3	9.2	7.5
Total	27.56	21.6
Mean	9.19	7.2
SD	0.09	0.04
SE	0.052	0.244

In the **Table 4, 5, 6**. Total mean of Female and Male pupa weight of 5th instar in the arjuna food plant. **Table -4**. mean weight of female pupa from Arjuna plant is 10.28gm and the mean of male pupa of Arjuna plant is 7.71gm In the **Table -5**. mean weight of female pupa from Arjuna plant is 10.81gm and the mean of male pupal of Arjuna plant is 8.35gm. **Table 6**. We observed that mean weight of female pupa from Arjuna plant is 9.19 gm and the mean of male pupa of Arjuna plant is 7.2gm. In the

1st, 2nd, 3rd Crop- Shell weight, table (7,8,9)

Set. No.	Terminalia arjuna plant Shell Wt. in gram	
	Female	Male
1	1.54	1.26
2	1.39	1.1
3	1.52	1.08
Total	4.45	3.44
Mean	1.48	1.14
SD	0.066	0.072
SE	0.038	0.041

Set. No.	Terminalia arjuna plant Shell Wt. in gram	
	Female	Male
1	1.64	1.07
2	1.6	1.04
3	1.5	1.15
Total	4.74	3.26
Mean	1.58	1.09
SD	0.098	0.097
SE	0.056	0.056

Set. No.	Terminalia arjuna plant Shell Wt. in gram	
	Female	Male
1	1.01	1.09
2	1.17	1.08
3	1.02	1.1
Total	3.2	3.27
Mean	1.06	1.09
SD	0.073	2.581
SE	0.042	1.49

.In the Table 7,8,9 .Total mean of Female and Male Shell weight of 5th instar in the arjuna food plant. In the **Table -7** mean weight of female shell from Arjuna plant is 1.48gm and the mean of male shell of Arjun plant is 1.14 gm. In the **Table –8** mean weight of female shell from Arjuna plant is 1.58gm and the mean of male shell of Arjuna plant is 1.09. **Table -9**. We observed that mean weight of female shell from Arjuna plant is 1.06gm and the mean of male shell of Arjuna plant is 1.09gm.

Table 1. Data showing I,II and III crop on Terminalia arjuna,cocoon weight(g),Pupa weight(g),shell weight(g) of Antheraea mylitta (male)Values are mean+_SE (N=3)

crop	Cocoon Weight (g)	Pupa weight (g)	Shell weight (g)
I	8.97±0.91 (3)	7.71±0.86 (3)	1.14±0.04 (3)
II	9.60±0.46 (3)	8.30±0.23 (3)	1.00±0.05 (3)
III	8.29 ±0.24 (3)	7.20 ±0.24 (3)	1.09±1.49 (3)

Xp< 1.49 in respect to I crop

Table 2. Data showing I,II and III crop on Terminalia arjuna,cocoon weight(g),Pupa weight(g),shell weight(g) of Antheraea mylitta (Female)Values are mean±SE (N=3)

crop	Cocoon Weight (g)	Pupa weight (g)	Shell weight (g)
I	11.76±0.43 (3)	10.28±0.39 (3)	1.48±0.03 (3)
II	12.40±0.29 (3)	10.80±0.30 (3)	1.50±0.05 (3)
III	10.25 ±0.05 (3)	9.10 ±0.05 (3)	1.06±0.04 (3)

Xp<0.04 in respect to I crop

1st crop Antheraea mylitta- Feed in Terminalia arjuna

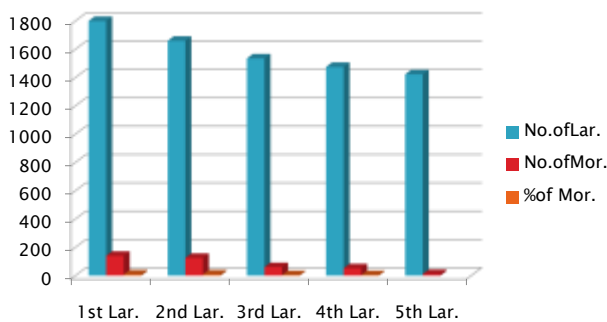


Fig 1 : Graph showing :Effective Rate of Rearing(No.of Larvae 0-1800)and effective mortality rate

2nd crop Antheraea mylitta- Feed in Terminalia arjuna

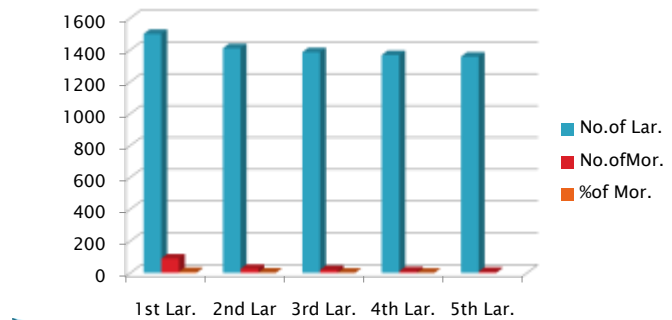


Fig 2 : Graph showing :Effective Rate of Rearing(No.of Larvae 0-1600)and effective mortality rat

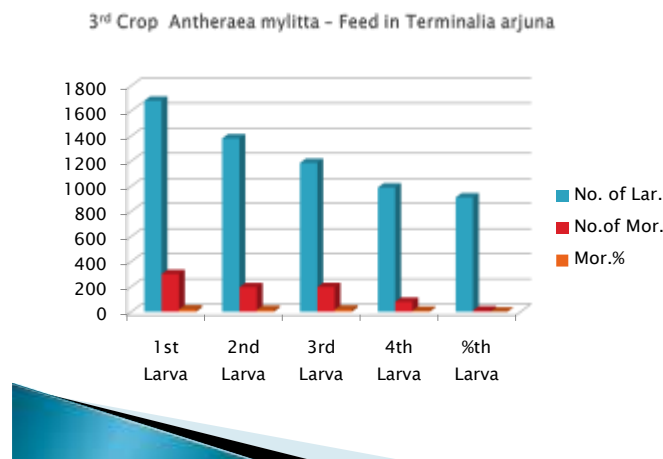


Fig 3: Graph Showing: Effective Rate of Rearing (No. of Larvae 0-1800 and Mortality Rate)

Results and discussion –

The result of the present study gives insight on the role of different environmental factors on the survivability of Tasar silkworm larvae in different stages in Ambikapur sericulture department. The larval mortality due to bacteria, viruses, and pests was recorded in different larval stages in plot. The data analysis that larval mortality rate increases with fluctuation in the temperature and relative humidity existing in the previous two or three days. The environmental factor which exists during 4 days earlier plays a major role in deciding the survivability of the larvae outdoor condition. The results of the present study confirm that more larval mortality was noticed in depend favorable or non favorable environmental condition responses for spread of the diseases. Then main responses of silk production of environmental reasons. After study of doing analysis to find how much contribution of male is in the production of Tasar silkworm. How much contribution of female is also shown in the study report. In the production of silk how much directly or indirectly between. The both male and female is concerned is also mentioned in the report. Hence for more silk production depends upon suitable seasons. As a result of production of cocoon can be increased and more and more income can be earned in the production of Tasar silk.

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