



EFFECT OF DIFFERENT CONCENTRATION OF COLCHICINE IN RESPECT OF DOSAGE – SENSITIVITY RELATIONSHIP OF ALKALOID TREATMENTS AMONG *Antheraea mylitta* TASAR SILKWORM UNDER DIFFERENT CONDITIONS.

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ABSTRACT

The present communication accounts for the relative effects of different dosages of colchicine on different characters of tasar producing silkworm *Antheraea mylitta* D. The study indicates that different concentrations of colchicine in respect of dosage. Sensitivity relationship among *Antheraea mylitta* under different conditions.

Keywords: Alkaloid Treatment; Tasar silkworm sercigenous insects, colchicines.

INTRODUCTION

The effectiveness of colchicine as chemical mutagens is well established. The role of colchicines has been reported to bring evident changes in the chromosomal behavior among sericigenous insects *Antheraea ylitta* by Jolly (1977) Similarly, the

effectiveness of colchicine as chemical mutagen has been studied in plant by sen (1958).

The present experiment has been designed to evaluate the relative effects of different concentration of colchicines along with three different combination of solvent on quantitative and qualitative characters of *Antheraea mylitta*.

MATERIALS AND METHODS

The Effective of different concentration of colchicine of *Antheraea mylitta* under different conditions in respect of hatching E.R.R and mortality at egg level and pupal treatment have been carried out and the results obtained have been presented.

The Data eggs (Diapausing crop) within 30 min of deposition were immersed in 0.01, 0.005 and 0.0025% colchicines (c) in distilled water (D) Buffer (B) (PH = 6.5) and (N) saline (S) for 5 min and air dried. They were then washed thoroughly with distilled water after 24 hrs. and incubated at $30^{\circ}\text{C} \pm 1$. The controls, consisting of lots treated with individuals, solvent and untreated population at 100 egg and each were taken for every treatment control. The treated lots were raised for two generations. The data were analysed statistically and C.D at 5% calculated.

RESULTS AND DISCUSSION

The result of the table-1 as indicative of the fact the percentage of hatching is significantly inferior to the untreated control in all the concentrations C+B, 0.01 and 0.005% C+S, B+S. However it is quite pronounced in 0.01% and 0.005% C+B (51&50%). The larval loss during first instar level is also very high in C+B (15.1-37.9) C+S (42.953.9%) and S (40%) while the E.R.R. is loss in C+S (11.1-27.3%) and S (20.4%). It is very clear that mortality (+5%) occurred due to treatment.

Table: 1

The effects of colchicine on commercial characters of *Antheraea mylitta* under different concentration .

Treat ment	Concentration	Fucundity	Hatching	E.R.R.	Cocoon Wt.(g)	Shell Wt.(g)
Colchicine distilled water	0.01	217	70.2	65.7	3.44	2.0
	0.005	270	(56.90)	68.19	13.42	1.81
	0.0025	217	71.1	69.7		
		57.86	56.60			
Colchicine in Buffer	0.01	211	7.23	62.2	13.72	2.01
	0.005	58.24	(50.89)	62.7	13.07	1.74
	0.0025	182	80.1	70.2	12.82	1.80
		213	62.00			
Colchicine Salive	0.01	193	61.0	55.0	12.02	1.35
	0.005	(51.35)	47.87	54.5	13.07	+81.82
	0.0025	190	64.7	57.3	12.41	1.73
		(53.55)	(47.52)			
		1585	78.0			
Controls Distilled Water	.....	240	69.0	61.3	13.31	1.96
		56.17	52.54			
Buffer	.....	220	57.2	64.5	13.34	1.85
		49.14	53.54			
Saline Untreated	.....	190	62.4	59.3	12.52	1.60
		254	86.20	61.50	13.7	1.96
			(68.149)	(51.65)		
S.E	.....	±7.5676	±2.2048	+1.3930	0.1234	0.0523
		±1.4971	±1.3685			
CD at 5% level	.....	24.3 (5.6)	7.8	6.2	(0.35)	(0.15)
			(3.2			

The table further reveals that the health of Saline treated worms is relatively weak in relation to other solvents. The analysis of the qualitative traits shows significant deterioration in hatching and fecundity in all the treatments as compared to the untreated control. It is thus logical to think that the treatment are toxic in the initial stage and such as it affect the fertility of the adults. Which is very much is confirmates with the earlier work of Jolly (1977).

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