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## EFFECTS OF HOMEOPATHICS DRUG (LYCOPODIUM) ON LIPID CONTENT IN LAMELLIDENS MARGINALIS IN DIFFERENT TISSUE

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**Introduction:**-The Bio-chemical constituents shown cyclic changes in reproduction due to great amount of energy to be canalized to the gonad during reproduction (Muley, 1988). This is reflected in the deposition of depletion of the nutrients with the advent or departure of reproductive period (Lambert and Dehnel, 1974). Bivalves can be considered to be polysaccharide oriented (Martin, 1961, Martin and Godderd, 1966). Due to the commercial importance and edibility value of number of species of bivalves the aspect of energy metabolism has been reported by a number of workers but the relative influence of gonad development on the distribution in different body parts has been examined in only a few cases Sastry., 1979., Gobbott, 1975., Bayne, 1976 and Dezwaan, 1983 have reviewed much of the work on bio-chemical changes in bivalves mollusca particularly with reference to the carbohydrates metabolism. Kulkarni *et.al.* (2005) reported that the no significant change in total lipid content in foot for each exposure period was observed when compared with control and no significant changes in total lipid content in hepatopancrease also at each exposure period was control and same results was observed in gills. Hence in the present investigation to study evaluate the effect of homeopathic drugs on lipid content of *Lamellidiens marginalis*.

**Materials & Methods:**-The fresh water bivalve

molluscs *Lamellidiens marginalis* 65-70 mm in size collected from Manjara river 2km away from Kallam in Osmanabad District Maharashtra. All the collected animals were brought in to laboratory and washed to remove fouling biomass & acclimatize. After 24 hours of acclimatization animals were numbered in four sets, containing 10 animals first set is served as control and remaining 3 are experimental for respiration studied. and homeopathic drug (Lycopodium) were injected to the *Lamellidiens marginalis*. In control group animals were injected with w/w, while experimental in 2, 3 & 4th sets. They were injected 0.1, 0.2, & 0.5 ppm respectively. Animal from control and experimented groups also sacrificed for estimation of glycogen from different soft body parts. The body parts of 10 animals from each group were used and mantle gills, hepatopancreas.

Every time samples were pooled from 5 different animals for each group to estimate lipid by using gravimetric method according to Byane and Dyer, 1959 and percentage differences were also calculated between control and experimental groups in every season. The estimations were done on 1<sup>st</sup> day and 15<sup>th</sup> day of experiment. All the valves of each biochemical content of each tissue were subjected to statistical analysis for significant difference among the control and experimental groups.

**Results and Discussion:-**The seasonal variation of lipid content in *Lamellidians marginalis* are expressed in table No. 1,2 and 3. In the present investigation on 1<sup>st</sup> Day Lipid content in mantle, in summer decreased in both the groups compared to control. In 0.1ppm it decreased (non-significant) by 8.72 % (10.22±0.25) and in 0.2ppm significantly by 2.36 % (9.18±1.07), there was 8.31 % decreased in content of 0.5ppm compared to control group (non-significant). In Monsoon also the content showed significant decreased trend in both the 0.1ppm & 0.2ppm. In 0.1ppm the content increased by 31.59 % (12.15±1.2) and in 0.2ppm by 23.38 % (13.94±1.64) compared to control.

Thus there was 20.60 % increased in the content in 0.5ppm (14.45±1.38). In winter also the content significantly decreased in both 0.1ppm there was 19.37 % (12.2±0.2) and in 0.2ppm 27.00 % (12.98±1.81) decrease in content giving 29.3 % (10.25±0.4). On 15<sup>th</sup> day the Lipid content in mantle, in summer decreased in both the groups compared to control. In 0.1ppm it decreased (non-significant) by 8.82 (10.88 ±1.49) and in 0.2ppm significantly by 5.94% (11.51 ±0.58), there was 79.7 % decreased in content of 0.5ppm compared to control group (non-significant). In Monsoon also the content showed significant decreased trend in both the 0.1ppm & 0.2ppm. In 0.1ppm the content increased by 5.79 % (14.17 ±8.86) and in 0.2ppm by 2.88 % (13.78 ±0.53) compared to control. Thus there was 9.74 % increased in the content in 0.5ppm (14.70 ±1.02). In winter also the content significantly decreased in both 0.1ppm & 0.2ppm compared to control. In 0.1ppm there was 20.40 % (12.85 ±0.59) and in 0.2ppm 16.22 % (12.40 ±10.72) decrease in content giving 11.9 % (10.66 ±0.87). In the present investigation the lipid content on 1<sup>st</sup> Day the Lipid content in Hepatopancreas, in summer decreased in both the groups compared to control. In 0.1ppm it decreased (non-significant) by 13.33 % (7.28 ±0.70) and in 0.2ppm significantly by 25.71 % (6.24 ±0.93), there was 9.09 % decreased in content of 0.5ppm compared to control group (non-significant).

In Monsoon also the content showed significant decreased trend in both the 0.1ppm & 0.2ppm. In 0.1ppm the content increased by 13.50 % (12.30 ±0.4) and in 0.2ppm by 5.41 % (13.45 ±0.7) compared to control. Thus there was 21.09 % increased in the content in 0.5ppm (14.25 ±1.75). In winter also the content

significantly decreased in both 0.1ppm & 0.2ppm compared to control. In 0.1ppm there was 13.57 % (10.12 ±0.92) and in 0.2ppm 6.15 A % (12.40 ±0.57) decrease in content giving 39.92 % (10.20 ±0.25). On 15<sup>th</sup> day the Lipid content in Hepatopancreas, in summer decreased in both the group compared to control. In 0.1ppm it decreased (non-significant) by 10.44 % (7.91 ±0.56) and in 0.2ppm significantly by 22.58 A % (6.84 ±1.50), there was 3.50 % decreased in content of 0.5ppm compared to control group (non-significant). In monsoon also the content showed significant decreased trend in both the 0.1ppm & 0.2ppm. In 0.1ppm the content increased by 9.87 %A (12.49 ±0.97) and in 0.2ppm by 11.31 % (15.41 ±0.70) compared to control. Thus there was 5.36 % increased in the content in 0.5ppm (13.10 ±0.84).

In winter also the content significantly decreased in both 0.1ppm & 0.2ppm compared to control. In 0.1ppm there was 17.61 % (9.63 ±0.39) and in 0.2ppm 2.02 % (11.45 ±0.92) decrease in content giving 9.43 % (10.89 ±0.36). In the present study the lipid content on 1<sup>st</sup> day in Gonad, it is decreased in summer in both the groups compared to control. In 0.1ppm it decreased in both the groups compared to control. In 0.1ppm it decreased (non-significant) by 1.31 % (9.22 ±1.12) and in 0.2ppm significantly by 9.01 % (8.28 ±0.76), there was 21.9 % decreased in content of 0.5ppm compared to control group (non-significant). In monsoon also the content showed significant decreased trend in both the 0.1ppm & 0.2ppm. In 0.1ppm the content increased by 12.45 % (14.20 ±0.5) and in 0.2ppm by 2.44 % (15.20 ±0.47) compared to control. Thus there was 2.04% increased in content in 0.5ppm (13.48 ±0.6). In winter also the content significantly decreased in both 0.1ppm & 0.2ppm compared to control.

In 0.1ppm there was 13.57 % (13.43 ±0.88) and in 0.2ppm 6.15 % (14.34 ±0.36) decrease in content giving 39.92 % (9.18±0.37). On 15<sup>th</sup> day the Lipid content in Gonad, in summer decreased in both the groups compared to control. In 0.1ppm decreased (non-significant) by 6.06 % (10.85 ±0.58) and in 0.2ppm significantly by 2.93 % (10.2 ±0.98), there was 26.09 % decreased in content of 0.5ppm compared to control group (non-significant). In monsoon also the content showed significant decreased trend in both the 0.1ppm

& 0.2ppm. In 0.1ppm content increased by 4.25 % (15.32 ±0.56) and in 0.2ppm content increased by 4.25 % (15.32 ±0.56) and in 0.2ppm by 1.44 % (16.18 ±1.00) compared to control. Thus there was 18.44 % increased in the content in 0.5ppm (13.22 ±0.99). In winter also the content significantly decreased in both 0.1ppm & 0.2ppm compared to control. In 0.1ppm there was 2.39 % (14.25 ±0.96) and in 0.2ppm 40.11 % (15.19 ±1.00) decrease in content giving 34.21 % ± 0.69). On 1<sup>st</sup> Day the Lipid content in Gill, in summer decreased in both the groups compared to control. In 0.1ppm it decreased (non-significant) by 27.41 % (2.25 ±0.53) and in 0.2ppm significantly by 25.80 % (2.30 ±0.53), there was 0 % decreased in content of 0.5ppm compared to control group (non-significant). In Monsoon also the content showed significant decreased trend in both the 0.1ppm & 0.2ppm. In 0.1ppm by 30.63 % (2.9 ±1.73) compared to control. Thus there was 12.60 % increased in the content in 0.5ppm (205 ±0.67). In winter also the content significantly decreased in both 0.1ppm & 0.2ppm compared to control. In 0.1ppm there was 26.19 % (3.1 ±0.3) and in 0.2ppm 23.80 % (3.2 ±0.7) decrease in

content giving 19.01 % (3.4 +0.9). On 15<sup>th</sup> day the Lipid content in Gill, in summer decreased in both the groups compared to control. In 0.1ppm it decreased (non-significant) by 15.58 % (2.96 ±0.49) and in 0.2ppm significantly by 7.42 % (3.24 ±0.44), there was 10.5 % decreased in content of 0.5ppm compared to control groups (non-significant). In monsoon also the content showed significant decreased trend in both the 0.1ppm & 0.2ppm. In 0.1ppm content increased by 85.71 % (2.15 ±0.14) and in 0.2 ppm 5.66 % (2.93 ±0.82) compared to control. Thus there was 30.40 % increased in the content significantly decreased in both 0.1ppm & 0.2ppm compared to control. In 0.1ppm there was 12.5 % (3.5 ±0.29) and in 0.2ppm 12.5 % (3.5 ±0.2) decrease in content giving 10.0 % (3. ±0.11). In the present investigation the effect of homeopathic drugs on content of lipid in hepatopncrease lipid content was high in summer and monsoon and low in winter. Similar observation were made by Sastry, 1970., Sastry and Blake, 1971., Kukkarni, et.al (2005), Vedpathak et.al. (1987), Mane and Talikhedkar (1976).

**Table No.8 Effect of Lycopodium on the Lipid content of *Lamellidiens marginalis* during Monsoon Season. (Bracket Values represent percentage differences)**

Control	01.ppm	0.2ppm	0.5ppm	On 15 <sup>th</sup>			
				Control	0.1ppm	0.2ppm	0.5ppm
10.22 ±0.4	12.2 ±0.22 (-19.375) -7.523	12.98 ±1.81 (-27.0058) -2.578	10.25 ±0.4 (-0.2935) -0.29939	10.6761 ±0.7001	12.85 ±0.5919 (-20.409) -4.195	12.40 ±10.7252 (-16.225) -2988	10.6633 ±0.87386 (0.11989) 82612
11.26 ±0.44	10.12 ±0.92 (13.574) 1.93671	12.40 ±0.5715 (6.1518) -273490	10.20 ±0.25311 (39.92) -20043	11.6966 ±0.4800	9.6366 ±0.3992 (17.61436) 5.78467	11.4566 ±0.922 (2.0242) 0.39490	10.89 ±0.3637 (-9.43531) -3.31346
15.83 ±0.56	13.43 ±0.885 (-13.574) 3.3413	14.34 ±0.36 (6.1518) 2.4456	9.18 ±0.37 (39.9214)	14.60 ±0.4972	14.2533 ±0.96027 (2.39671) 1.033413	15.19 ±1.00 (-40117) 0.905600	9.606 ±0.69787 (34.21624) -1.7730
4.2 ±0.4	3.1 ±0.3 (26.1906) -3.1141	3.2 ±0.7 (23.8095) -2.1483	3.4 ±0.9 (19.047) -0.2247	4.0 ±0.4	3.5 ±0.2 (12.5) 1.93648	3.5 ±0.3 (12.5) 1.93648	3.6 ±0.11 (10) -7.8087

**Table No.9 Effect of Lycopodium on the Lipid content of *Lamelliderns marginalis*, during Monsoon Season. (Bracket Values represent percentage differences)**

**Table No.10 Effect of lycopodium on the Lipid content of *Lamelliderns marginalis*, during Monsoon Season. (Bracket Values represent percentage differences)**

				On 15 <sup>th</sup>			
Control	01.ppm	0.2ppm	0.5ppm	Control	0.1ppm	0.2ppm	0.5ppm
13.10 ±1.05	12.45 ±1.245 (-31.5934) 5.82322	13.9433 ±1.6460 (23.3884) -2.578	14.45 ±1.38 (20.6044) -0.74095	13.4 ±1.132	14.1776 ±0.8630 (-57955) 0.5827	13.786 ±0.5398 (-2.88059) -2.9763	14.706 ±1.0250 (-974826) 0.82627
14.22 ±0.6	12.30 ±0.4 (13.502) 4.61167	13.45 ±0.7 (5.4149) -2.7376	14.25 ±1.75 (-0.2109) -3.66621	13.85 ±1.6139	12.49 ±0.9727 (9.8794) 0.98445	15.4166 ±0.7015 (-11.3119) 39434	13.1066 ±0.8457 (5.3675) 31394
16.22 ±0.92	14.20 ±0.5 (12.45) 3.3413	15.20 ±0.47 (2.44560) 6.288	13.48 ±0.56 (-2.0430) 16.8917	16.21 ±1.01	15.32 ±0.5631 (4.2560) 1.0330	16.1860 ±1.0052 (0.14435) -0.90991	13.22 ±0.9951 (18.4454) -2.1322
2.22 ±0.42	3.00 ±0.2 (-35.135) 2.9041884	2.9 ±1.73 (-30.630) 2.148335	2.5 ±0.67 (-12.6/12) 0.227485	2.773 ±0.563	2.153 ±0.1418 (-85.719) -1.78922	2.93 ±0.8265 (-5.6617) 1.73204	1.9266 ±0.6621 (30.4002) 1.604832

**Conclusion :-**In the present investigation the biochemical analysis were made for lipid content in different soft body parts like from mantle, hepatopancreases, gonad and gill due to the effect of lycopodium is occur in lipid in winter increases in caused due to

decreased during summer than monsoon and winter. **Acknowledgement :-** Authors is thankful to UGC for providing financial assistance as Minor research project to the V.P. Mahavidyalaya, Vaijapur.

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