CHAPTER-2

Food consumption, Body weight and Weight of ovary and uterus in rats fed with different ratios of fish meal during F1 and F2 generation

2.1: Food consumption

The quantity of food consumption by the rats was recorded in F1 and F2 generations and are summarised in (Table: 5 & Fig.V - VI).

Rats of F1 generation showed decreased food intake in 1:1 ratio of fish meal (66.0±2.09 mg/g/ bodyweight) when compared with control (69.8±0.40 mg/g/body weight). The rats fed with 1:2 ratios showed further decrease (56.5± 2.25 mg/g/body weight) food consumption when compared to control. Decreasing trend of food consumption was observed by the rats of 1:3 ratios (49.5±1.04 mg/g/ bodyweight) when compared with above ratios. However, further decrease was noticed in rats fed with only fish meal (48.0±0.63 mg/g/ bodyweight) compared to control rats. No significant difference was seen in amount of food consumption between 1:3 and only fish meal fed rats (p=0.430) (Table: 5 & Fig.V).

During F2 generation food consumption by the control rat was ( 71.0±0.89 mg/g/ bodyweight). When the rats when fed with fish meal at 1:1 ratio showed decrease in food consumption (61.6±3.20 mg/g/ bodyweight) compared to that of control (71.0± 0.89 mg/g/ bodyweight). A drastic decrease of food consumption was observed in the ratios of 1:2 (49.3±1.75 mg/g/
bodyweight) and 1:3 ratios (47.3±0.81 mg/g/bodyweight) Further, decrease of food consumption was noticed in rats fed with only fish meal (45.1±1.32 mg/g bodyweight) compared to that of control. No significant difference was seen in the amount of food consumption between 1:2 and 1:3 (p=0.342), 1:3 and only fish meal fed rats (p= 0.268) (Table: 5 & Fig.VI).

2.2: Body weight

During F1 generation the mean body weight of control rats showed the value of 236.0±5.72 (g/bodyweight) whereas, the rats fed fish meal of 1:1 ratio showed lesser body weight (226.1±1.16/g/bodyweight). Further decrease in the body weight was noticed in 1:2 ratios (217.1±1.32/g/bodyweight). However, body weight decreased considerably in rats fed with 1:3 ratios (200.3±2.58/g/bodyweight) and a significant decrease in the body weight (185.1±3.18/g/bodyweight) was observed in rats fed with only fish meal when compared to that of control rats. Values are significant at p<0.05 (Table: 5 & Fig.V).

The mean body weight was found to have decreased in all the ratios of fish meal fed rats during F2 generation. A gradual decrease in body weight was observed in rats fed with different at 1:1, 1:2 and 1:3 ratios (217.8±3.92/g/bodyweight, 209.8±1.16 g/bodyweight, 192.0±3.03/g/bodyweight). A significant decrease in body weight was noticed in rats fed with only fish meal (181.0±3.32/g bodyweight) when compared to control (249.0±5.54/g bodyweight). Values are significant at p<0.05. Values are significant at p<0.05 (Table: 5 & Fig.VI).

2.3: Weight of ovary and uterus

2.3.1 Ovary

The ovarian weight of control rats during F1 generation showed 38.1±1.08 mg/g/body weight. Rats fed with
1:1 ratio of fish meal the ovarian weight was found to be decreased (35.6± 0.5 mg/g/ body weight). Further, drastic decrease in weight of ovary was observed in 1:2 and 1:3 ratios of fish meal (33.4± 0.4 mg/g/body weight, 30.1±0.4 mg/g/body weight). Significant reduction in ovarian weight was observed when rats were fed with only fish meal (27.9±0.4 mg/g/body weight) compared with that of control. The values are significant at p<0.05 level. (Table: 6 & Fig. VII).

During F2 generation the ovarian weight was found to be decreased in ratios of 1:1, 1:2 and 1:3 fish meal (33.8± 0.2 mg/g, 31.4± 0.4 mg/g and 28.4 ±1.1 mg/g). Further, a significant decrease of ovarian weight (24.1± 1.1 mg/g) was observed in rats fed with only fish meal in comparison with control (38.3± 0.4 mg/g). The values are significant at p<0.05 (Table: 6 & Fig. VIII).

2.3.2 Uterus

In F1 generation the uterine weight of control rats was found to be 109.9±0.4 mg/g/body weight. Decrease in the uterine weight was observed in rats fed with 1:1 ratio (108.03± 0.70 mg/g/body weight). Further, there was a drastic decrease in weight of the uterus in the ratios of 1:2 (103.2±0.7 mg/g/bodyweight) and in 1:3 ratios (94.7±0.8mg/g/ body weight). A significant decrease was noticed in the uterus of rats fed with only fish meal (91.4± 0.7 mg/g/body weight) when compared to that of control. The values are significant at p<0.05 level (Table: 6 & Fig. VII).

Uterine weight of control rats in F2 generation was found to be 110.9±0.5 mg/g/ body weight. Decrease in weight of the uterus was noticed in 1:1 ratio (105.9±0.5 mg/g/ body weight). Further, drastic decrease of uterine weight was noticed in 1:2 and 1:3 (99.5± 0.8 mg/g/ body weight and 92.7±0.8 mg/g/
body weight) ratios of fish meal. However, only fish meal fed rats showed further decrease in uterine weight (87.6± 2.6 mg/g) when compared with that of control. The values are significant at p<0.05 (Table: 6 & Fig. VIII).