

**EFFECT OF VARYING LEVELS OF COTTON (*Gossypium sp.*)
SEED MEAL ON THE SPERMATOGENESIS
OF MICE (*Mus Musculus*)**

by

Luena A. Abonador

An Undergraduate Thesis
Presented to
The Division of Biological Sciences
University of the Philippines in the Visayas
Iloilo City

In Partial Fulfilment
of the Requirements of Biology 200
(Undergraduate Thesis)

April 1992

ABSTRACT

Cottonseeds procured from Western Cotton Corporation, Oton, Iloilo were dehulled, cleaned by hand and ground using mortar and pestle. Ground cottonseed meal (CSM) was incorporated in varying amounts into the basal diet so that diets contained varying levels (0, 10, 20, 30 g) of CSM per 100 g formulated diet. These were then pelletized at the Nutrition and Feed Division, Aquaculture Department (AQD), Southeast Asian Fisheries Development Center (SEAFDEC), Tigbauan, Iloilo.

A total of thirty two 20-day old male mice (16 white and 16 black) were randomly distributed to four dietary treatments each with four replicates. After a 5-day acclimatization period, during which the mice were fed with the basal diet (0% CSM), the four experimental diets were given to the randomly selected experimental animals for another 35 days. The mice were subsequently sacrificed and histological examination of the testes was conducted. Differential count of sperms was done to evaluate the effects of varying levels of CSM on the spermatogenesis of mice. The data obtained were analyzed statistically using analysis of variance followed by Duncan's Multiple Range Test.

There was no significant difference in the sperm counts of the two strains of mice. However, significant differences ($P < 0.01$) were noted in sperm counts of mice at various levels of CSM in the diet. Likewise, significant differences ($P < 0.01$) were observed between 0% and 20 or 30%; 10% and 20 or 30%; 20% and 30% CSM in the diet. No significant difference was noted between sperm counts of mice fed with 0% and 10% CSM levels.

Slight degeneration of the seminiferous tubules and predominance of immature stages (spermatogonia) were observed in the testes of mice fed with diet containing 30% CSM.