LIST OF ILLUSTRATIONS
FIGURES,
PHOTOMICROGRAPHS, GRAPH
(FROM NO. 1 to 45)
LIST OF ILLUSTRATIONS
(With explanation of Photographs and Graphs)

Fig. 1. Pathogenesis of *F. gigantica* infection in mice.

Fig. 2. A hemorrhagic fluke tract (arrows) in a liver of 12 day of *F. gigantica* infection in mice containing red blood cells, sloughed hepatocytes, and neutrophils. Haematoxylin and Eosin Stain. x 64.

Fig. 3. A section of liver with a 12 day *F. gigantica* infection. Note the sectioned parasite (arrows) located in the hemorrhagic tract. x 100.

Fig. 4. Macroscopic picture of liver showing white fluke tracts (arrows) 17 days after *F. gigantica* infection.

Fig. 5. A 17-day-old immature fluke (arrows) within a hemorrhagic tract in the liver paraenchyma. Note the increase in size when compared to that of Fig. 3. x 60.

Fig. 6. Accumulations of eosinophils (arrows) in a lobe of the liver from a 17 day *F. gigantica* infection.

Fig. 7. A cross-section of a fluke compressing surrounding hepatocytes taken from 17 day infection. Note the generating hepatocytes.

Fig. 8. Section containing a portal vein blocked by a thrombus (arrows) in an area of ischaemic necrosis from a 23 day infection. x 100.
Fig. 9. An area of advanced repair containing connective tissue, regenerating hepatocytes (arrows) and inflammatory cells from a 23-day-old *F. gigantica* infection x 100.

Fig. 10. Livers from 30 day fluke infections. The organs are necrotic, marbled in appearance, and covered with rough yellowish fibrous deposit.

Fig. 11. An area of suppurative inflammation (arrows) surrounded by amorphous eosinophilic material sparsely infiltrated by inflammatory cells. x 60.

Fig. 12. Disseminated foci of light pink, caseous necrosis (arrows) in a lobe of a liver in which no parasites were found 30 days after exposure. Note the inflammatory cells in the triads. x 60.

Fig. 13. A section of a spleen from a 30 day infection showing expansions and confluence of lymphoid follicles (arrows).

Fig. 14. A liver with two adult flukes in the common bile duct (arrows) 35 days after infection.

Fig. 15. An early stage of fibrosis (arrows) encroaching, the liver parenchyma with areas of bile duct hyperplasia (upper right). Taken from 35 day infection. x 60.

Fig. 16. Advanced stage of connective tissue proliferation. Note the compression of the liver parenchyma. Taken from a 35 day *F. gigantica* infection. x 60.
Liver section from chronic fluke infection demonstrating invasion of triads by inflammatory cells, primarily eosinophils (arrows), and a few multifocal areas of caseous necrosis (1 arrow). Taken 12 days after second exposure to *F. gigantica* (Group 1). x 100.

Extensive bile duct hyperplasia and infiltration by inflammatory cells. Taken 23 days after reinfection (Group 1). x 60.

Section demonstrating bile ductular hyperplasia without accompanying inflammatory exudate. Taken 12 days after reinfection (Group 2). x 85.

Heavy infiltrate of liver sinusoids by mononuclear cells. Taken 23 days after reinfection (Group 2). x 64.

A fluke egg (arrow) inducing pyogranulomatous reaction in the liver parenchyma. Taken 12 days after challenge infection (Group 3). x 100.

Design for experiment 2.

Design for experiment 3.

Design for experiment 4.

Fractionation of *Fasciola gigantica* somatic proteins on sephadex G-25 column equilibrated with 0.85% NaCl buffered with Tris - EDTA.

Separation of saline extracted *F. gigantica* antigen on DEAE - cellulose.
Fig. 27. Separation of lipid-free extract of *F. gigantica* on DEAE-Cellulose.

Fig. 28. Changes in percentage of packed cells volume in mice exposed to cattle strain of *F. gigantica* in Experiment 2.

Fig. 29. Changes in percentage of packed cells volume in mice treated with somatic extract of *F. gigantica* in Experiment 2.

Fig. 30. Changes in the percentage of eosinophils in mice exposed to cattle strain of *F. gigantica* in Experiment 2.

Fig. 31. Percentage of eosinophils in mice injected 1mg / i.p. of somatic extract of *F. gigantica* in Experiment 2.

Fig. 32. Fluctuations in the percentage of packed cell volume in mice exposed to sheep strain of *F. gigantica* in Experiment 3.

Fig. 33. The percentage of packed cell volume in mice given 1mg / i.p. of somatic extract of *F. gigantica* in Experiment 3.

Fig. 34. Osmotic fragility curves from mice killed on day 58 of experiment 3, 8 days after antigen injection of group A.

Fig. 35. Osmotic fragility curves from mice killed on day 58 of experiment 3, 8 days after antigen injection of Group A.

Fig. 36. Osmotic fragility curves from mice necropsied on day 72 of experiment 3, 22 days after antigen injection of mice in Group A.
Osmotic fragility curves from mice necropsied on day 79 of experiment 3, 29 days following fluke antigen injection of mice in Group A.

Comparison of PCV from mice vaccinated with lipid free fluke extract, and non-vaccinated male mice exposed to *Fasciola gigantica* infection in Experiment 4.

Comparison of PCV values from mice vaccinated with saline fluke extract and non-vaccinated male mice exposed to *F. gigantica* in Experiment 4.

Comparison of PCV values from mice vaccinated with lipid-free extract and non-vaccinated female mice exposed to *F. gigantica* infection in Experiment 4.

Percentage of male mice in Groups I - III, VII, and VIII positive on double immunodiffusion test in Experiment 4.

Percentage of male mice in Group III - VIII positive on double immunodiffusion test in Experiment 4.

Percentage of female mice positive on double immunodiffusion test in experiment 4.

Double immunodiffusion precipitation test.

Double immunodiffusion precipitation test showing two precipitin lines.