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CONTROL OF ABOMASAL SECRETION
IN THE SHEEP

A thesis presented in partial fulfilment of the requirements
for the degree of Master of Agricultural Science in Physiology
at Massey University
in the Department of Physiology and Anatomy.

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1967

T O M Y P A R E N T S

A C K N O W L E D G E M E N T S

I wish to express my gratitude to Professor D.A. Titchen for the preparation of animals, for assistance during the experimental work and in the preparation of this thesis, and for the enthusiasm he has shown during the entire undertaking. Many thanks are due to Mrs. A. Titchen for her patience, and time spent in the preparation of the illustrations. Help has been generously offered and gratefully accepted from Mrs. H. Simpson, Miss J. Harper, Miss H. Lewis and in particular Mrs. M. Vlieg. I would also like to thank Dr. C.S.W. Reid, the D.S.I.R. and the Biochemistry Department for their helpful assistance and co-operation. Finally I wish to thank Miss W. McNabb for the excellent way in which she has typed the drafts and final copy for this thesis.

PREFACE

This thesis is concerned with an experimental investigation of abomasal secretion in sheep.

The abomasum is the most caudal region of the ruminant stomach and is the only truly secretory part of it.

The experimental work considered includes the study of hydrochloric acid secretion, the electrolyte composition and the peptic activity of abomasal secretion.

Simultaneous observations have been made of abomasal acid secretion and motility of the reticulum and rumen recorded from partial exteriorisations of these structures. These observations have been made under a variety of conditions including periods when animals were feeding and fasted, and during rumination.

The effect of intraduodenal infusions of fatty acids and oil on abomasal acid secretion and reticulum and rumen motility and of intravenous infusions of the same fatty acids has been studied.

Observations have also been made of the intravenous infusion of various substances reported to influence gastric secretion. Extracts exhibiting 'enterogastrone' activity have been tested; the effects of insulin studied; and the action of a synthetic gastrin (ICI 50, 123) which exhibits gastrin-like properties has been investigated.

These observations were undertaken in the hope that it would be possible to elucidate further, factors which control or affect abomasal acid secretion. An attempt has been made to determine whether any clear cut relation could be established between abomasal secretory activity and reticulo-ruminal motility.

The observations presented below have been discussed in relation to the literature.

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