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SOME ASPECTS OF PROGENY TESTING SOUTHDOWN RAMS

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TABLE OF CONTENTS

Chapter		Page
1	INTRODUCTION	1
2	REVIEW OF LITERATURE	4
	2.1. Progeny Testing as an Aid to Selection	4
	2.1.1. Introduction	4
	2.1.2. Situations Favourable to the Application of Progeny Testing	7
	2.1.3. The Significance of Overdominance to Cross-breeding	9
	2.1.4. The Application of Progeny Testing	13
	2.2. Important Productive Characteristics in a Meat-Type Sheep	16
	2.2.1. Introduction	16
	2.2.2. Carcass Conformation	17
	2.2.3. Growth	20
	2.2.3.1. Introduction	20
	2.2.3.2. Measurement of body composition	20
	A. <u>In vitro</u> Methods	20
	(a) Direct chemical methods	21
	(b) Direct anatomical methods	22
	(c) Indirect methods	22
	B. <u>In vivo</u> Methods	23
	2.2.3.3. Theories of growth	26
	2.2.3.4. Factors affecting mammalian growth	28
	(a) The initial genotype	29
	(b) The environment	29
	(c) Age at selection	29

Chapter		Page
2	2.2.4. Tenderness	30
	2.2.4.1. Introduction	30
	2.2.4.2. Ante-mortem factors affecting tenderness	31
	(a) Genotype	31
	(b) Age	32
	(c) Sex	32
	(d) Nutrition	32
	(e) Physical exercise	33
	(f) Ante-mortem stress	33
	2.2.4.3. Post-mortem factors affecting tenderness	34
	2.2.4.4. Factors associated with tenderness	35
	(a) Muscle fibre diameter	35
	(b) Connective tissue to muscle ratio	35
	(c) Marbling	36
	(d) Water holding capacity	37
	2.2.4.5. Measurement of tenderness	38
	(a) Panel methods	39
	(b) Chemical and histological methods	39
	(c) Mechanical methods	39
3	MATERIALS and METHODS	42
	3.1. Design of Experiment	42
	3.2. Experimental Material	42
	3.3. Pre-Slaughter Experimental Procedure	43
	3.3.1. Mating Procedure	43
	3.3.2. Management from Mating to Lambing	45
	3.3.3. Management and Records taken at Lambing	45
	3.3.4. Management from Lambing to Selection for Slaughter	45

Chapter		Page
3	3.4. Experimental Procedure from Selection of Lambs for Slaughter to Freezing of their Carcasses	46
	3.4.1. Selection of Lambs for Slaughter	46
	3.4.2. Slaughter Procedure	49
	3.5. Post-Slaughter Experimental Procedure	51
	3.5.1. Meat Laboratory and Chemical Methods	51
	3.5.2. Tenderness Evaluation Techniques	54
	3.6. Statistical Methods	55
4	RESULTS	66
	4.1. Homogeneity of Regression Coefficients	66
	4.2. Live and Carcass Weights	69
	4.3. Growth Rates	73
	4.4. Carcass Chemical Components and Cuts	75
	4.5. Carcass Measurements and Weights of Non-Carcass Parts	79
	4.6. Tenderness	87
	4.7. Sire-Year Interactions	89
	4.8. Variance Components	91
	4.9. Prediction Equations	93
	4.10. Chemical Composition of the Leg Cut	99
5	DISCUSSION	102
	5.1. Significance of Sires as a Source of Variation in Carcass Quality	102
	5.1.1. Growth Rates, Live Weights, and Carcass Weight.	102
	5.1.2. Carcass Chemical Components and Cuts	110
	5.1.3. Carcass Measurements and the Weights of Non-Carcass Parts	113
	5.1.4. Weight of the Contents of the Stomach plus the Oesophagus (SOc)	117
	5.1.5. Tenderness	117

Chapter		Page
5	5.2. Repeatability of Sire Performance in Successive Seasons	118
	5.3. Repeatability of Sire Performance when Lambs are selected for Slaughter in different ways	118
	5.4. Sample Cuts and Prediction Equations	121
	5.5. General	126
6	SUMMARY and CONCLUSIONS	132
	REFERENCES	136

LIST OF TABLES

Table	Page	
2.1.	Some experiments involving progeny testing of sires of meat producing sheep breeds.	14
2.2.	References to some experiments investigating indirect methods of <u>in vitro</u> carcass composition estimation in sheep.	24
3.1.	Data concerning the selected rams.	42
3.2.	Data concerning mating and lambing.	44
3.3.	Lambing book layout and sample entries.	45
3.4.	Slaughter details.	47
3.5.	Average slaughter ages, and the range of ages within each sire group.	48
3.6.	Constants included in the least squares models used in the statistical analysis of data concerning different characteristics.	58
3.7.	Analysis of variance.	61
3.8.	Expected mean squares expressed as variance components.	64
4.1.	Regression equations within each sire group, standard errors, and measurements of the significance of the heterogeneity of regression coefficients between sire groups, for a selection of characteristics.	67
4.2.	Least squares means and least squares deviations of sire groups from the means, or least squares means of sire groups, least squares differences due to birthrank and sex, and partial regression coefficients, for the characteristics indicated.	70
4.3.	Mean squares, and levels of significance, from analyses of variance for the characteristics indicated.	71
4.4.	Correlations between different measurements of growth rates, and regressions of liveweight gain per day of age (WDA), and carcass weight gain per day of age (CDA), on average daily gain (ADG). (Trial 1 data only.)	74
4.5.	Least squares means of sire groups, least squares differences due to birthrank and sex, and partial regression coefficients, for the characteristics indicated.	76

Table	Page
4.6. Mean squares, and levels of significance, from analyses of variance for the characteristics indicated.	77
4.7. Ash to protein ratios for each cut, and for each sire, in each of the two years concerned.	78
4.8. Simple correlation coefficients between fat per cent, leg per cent, carcass weight, and other measurements.	81
4.9. Least squares means, least squares deviations of sire groups from the means, least squares differences due to birthrank and sex, and partial regression coefficients for the characteristics indicated.	82
4.10. Mean squares, and levels of significance, from analyses of variance for the characteristics indicated.	83
4.11. Least squares means, least squares deviations of sire groups from the means, least squares differences due to birthrank and sex, and partial regression coefficients for the characteristics indicated.	85
4.12. Mean squares, and levels of significance, from analyses of variance for the characteristics indicated.	86
4.13. Correlations between, and repeatabilities within, the two methods of evaluating the tenderness graphs, from lambs of Trial 2A.	88
4.14. Comparison of methods of converting tenderness graphs to numerical values.	88
4.15. Analysis of variance of side fat weight.	89
4.16. Some mean squares and significance levels from the analyses of variance which included a sire-year interaction.	90
4.17. Variance components estimated for the effects included in the least squares statistical models and expressed as percentages of the total variance.	92
4.18. Multiple regression equations enabling prediction of side fat weight from side weight and the weight of fat in a cut. (Trial 1 data.)	94
4.19. Multiple regression equations enabling prediction of side water weight from side weight and the weight of water in a cut. (Trial 1 data.)	95
4.20. Covariance analyses carried out to test for homogeneity of regression coefficients between trials, between sires, and between sexes. (Trials 2A and 2B only.)	97

Table		Page
4.21.	Prediction equations enabling estimation of side fat and water weights from side weight plus the weight of these components in any cut. (Trial 2A and 2B data.)	98
4.22.	Comparison of actual side fat and water weights of Trial 1 lambs with that estimated from leg fat and water weights using prediction equations based on Trial 2A plus 2B data.	99
4.23.	Simple correlation coefficients within trials between the weight of fat and water in the leg cut, and the 9-10-11 rib-cut, and in the right side.	100
4.24.	Sets of simple regression equations with standard errors, calculated within sire groups; for Trial 1 data only.	101
5.1.	Some reports of the effects of birthrank and sex on the birth weight and the weaning weight of lambs.	104
5.2.	Some estimates of the heritabilities of various measurements of growth in sheep.	108

LIST OF FIGURES

Figure		Page
3.1.	Two aspects of the tenderometer.	54a
4.1.	Mean corrected carcass weights within trials and within sire groups.	73a
4.2.	Mean corrected side water weights within trials and within sire groups.	75a
4.3.	Mean corrected side fat weights within trials and within sire groups.	75b
4.4.	Mean corrected leg cut weights within trials and within sire groups.	78a
4.5.	Mean corrected rib-cut weights within trials and within sire groups.	78b
4.6.	Graphs as produced by the tenderometer for two samples from lambs 71 and 70.	87a
4.7.	Mean corrected tenderness values within trials and within sire groups.	89a
4.8.	The proportion of total variance that is attributable to sire effects, other known effects included in the least squares models, and unknown effects. Shown for carcass weight, leg weight, side fat weight, and tenderness for Trial 1 only.	92a
4.9.	A graph of the simple linear regressions of side fat weight on side weight for the four sire groups, shown as the change in side fat weight with side weight (straight lines), and as the change in side fat per cent with side weight (curves).	101a
4.10.	A graph of the simple linear regressions of predicted side fat weight on side weight for the four sire groups, shown as the change in predicted side fat weight with side weight (straight lines), and as the change in predicted side fat per cent with side weight (curves).	101b
4.11.	A graph of the simple linear regressions of leg fat weight on leg weight for the four sire groups, shown as the change in leg fat weight with leg weight (straight lines), and the change in leg fat per cent with leg weight (curves).	101c

Chapter 1

INTRODUCTION

Recent changes that have taken place in the preparation and presentation of New Zealand lamb for marketing have been discussed by Barton (1964). Probably the most important of these changes is the increasing amount of lamb that is being displayed and sold as cuts. This is to some extent, the result of, and has definitely contributed to, the growing interest shown by the consumer in meat quality over the last decade. Such interest has been further amplified by increases in the general standard of living of people in many countries, and by the growing consumer aversion to animal fats. Indications of consumer preferences in any particular area may be obtained by surveys, and although these have been carried out extensively for beef, not many have been made concerning lamb. An example however, is that conducted by Marsh (1960), who, by sending questionnaires to members of the middle and working classes of Leeds, showed that the leg was the most popular cut, and that the most favoured quality characteristics in order of popularity were: economy in price and use, leanness, and absence of bone. Results such as these give an indication of the consumers' concept of meat quality, and it is the function of a grading system to integrate this concept with the aims of the lamb producer (Kiehl, 1957; Brayshaw and DeLoach, 1963). These aims will basically be to maximize his profit per unit time, and in order to do this he must produce the greatest possible weight of top grade carcasses in the shortest possible time. Grading of lamb in New Zealand which is carried out subjectively on the whole carcass, is based mainly on conformation and fat cover (Smith-Pilling, 1959), and it has been shown that the carcasses of the top grade contain more fat and less meat

or bone, than those of the lowest grade (Barton, 1960).

If, as it seems, present grading standards are not a true reflection of consumer preferences, then they can offer no real guidance or incentive to farmers who are interested in planning their management and breeding policies, so as to produce the type of lamb that the consumer wants, and for which he is prepared to pay the highest price. For the same reason there would be no real incentive to improve carcass quality through progeny testing. However, considerable interest has been shown in the grading of meat in recent years, both overseas (e.g., Brayshaw and DeLoach, 1963) and in New Zealand, where the Meat Export Grades Investigation Committee of the New Zealand Meat Producers Board is currently investigating the situation. It is assumed (in order to justify the conducting of the experiment reported herein) that the findings of the above Committee will eventually result in consumer preferences being represented more effectively in lamb grading criteria; thereby providing the producer to some extent with the required guidance and incentives.

It has been shown (Morley, 1952) that greater genetic gains can be made through the selection of rams than ewes, and in the case of carcass quality characteristics, where killing of the animal is often necessary for measurement, progeny testing of rams is the obvious selection aid to use.

The preceding comments give an indication of the background for this experiment, which consists basically of a study of some aspects of the progeny testing of sires of export lambs. Southdown rams were crossed with Romney Marsh ewes to produce Southdown-Romney cross lambs which, numerically, are the most important of New Zealand's export lambs. Stevens (1963) gives a general account of the history and development of the New Zealand export lamb industry, with particular emphasis on the

Southdown breed.

Objectives of this study may be summarized as follows:-

- (1) Measurement of certain carcass quality characteristics of Southdown-Romney cross lambs, and analysis of the data obtained in order to detect sire differences. Characteristics measured can be classified as:-
 - (a) Growth rates.
 - (b) Carcass chemical composition.
 - (c) Carcass measurements and weights of non-carcass components.
 - (d) Tenderness of the cooked meat.
- (2) Investigation of the repeatability of sire performance between seasons, with regard to the above characteristics.
- (3) Investigation of the repeatability of sire performance when its progeny are selected for slaughter in different ways.
- (4) Investigation of the use of sample cuts, and multiple regression prediction equations, to estimate carcass composition.