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SOME ASPECTS OF WINTER GRAZING
SYSTEMS ON WOOL PRODUCTION

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ABSTRACT

A trial was conducted to investigate the effects that 5 different winter grazing systems had on some wool characteristics of pregnant N.Z. Romney ewes. The grazing systems were: (T1) swedes on a daily break; (T2) three weeks hay, three weeks swedes on a weekly break; (T3) swedes on a daily break providing 75% of the ration, hay daily providing 25% of the ration; (T4) pasture on a daily rotational break; (T5) pasture under set-stocking. The treatments were applied for 6 weeks between mean days 74 and 116 of gestation.

Feed intakes were higher on pasture than on swede crop treatments. Mean period intakes were: 0.68, 0.59, 0.84, 0.9, 1.68kg DM/ewe/day respectively for the 5 treatments, T1 to T5.

Pasture as a winter diet proved to be superior to any of the three forage crop (swede) variations of winter grazing for characteristics associated with wool growth rate. Differences were found between rotational grazing and set-stocking but neither was better over all characters assessed.

Mean fibre diameter changes over the 6 week treatment period were: T1, 32 to 27.3 μ m; T2, 31.2 to 24 μ m; T3, 31.8 to 27.4 μ m; T4, 33 to 31.6 μ m; T5, 31.7 to 33.2 μ m. Corresponding with these fibre diameter changes, tensile strength tests indicated that staples from forage crop treatments were weaker than those from pasture (5.79 v 9.22 kg/g/cm; $\rho < 0.001$). Subjective soundness grades followed a similar pattern. Break usually coincided with the change from the crop back to pasture at the end of the treatment period. Hay with swedes tended to increase the tensile strength (6.25 v 4.75 kg/g/cm) by comparison to swedes alone.

Clean weight of wool per unit area was at least 300mg/cm² greater on pasture than on forage crops over the six weeks ($\rho < 0.001$).

Wool production from older ewes (≥ 5 years) was more strongly influenced by winter grazing than that of young ewes.

Ewes bearing single lambs produced more wool per unit area ($p < 0.05$), had greater fibre diameter ($p < 0.05$), soundness grade ($p < 0.05$), tip grade ($p < 0.05$) and character grade ($p < 0.10$) than those bearing twin lambs.

Other characteristics measured were: fibre length, quality number, staple length, crimp frequency, handle, lustre, colour and coting.

Insufficient numbers of animals involved in the lamb production data meant little significance could be attached to the results obtained.

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TABLE OF CONTENTS

	page
ABSTRACT	ii
ACKNOWLEDGEMENTS	iv
TABLE OF CONTENTS	v
LIST OF TABLES	viii
LIST OF FIGURES	ix
LIST OF PLATES	x
LIST OF SCHEDULES	x
LIST OF APPENDICES	x
<u>CHAPTER I - INTRODUCTION</u>	1
<u>CHAPTER II - REVIEW OF LITERATURE</u>	3
A. THE ESTIMATION AND CONTROL OF INTAKE OF GRAZING SHEEP ..	3
(1) The Estimation of Intake in the Grazing Ruminant ..	3
(i) Pasture Sampling	3
(ii) Animal Weighing	5
(iii) Faecal Output Technique	7
(iv) Feed Digestibility Analysis	7
(2) Winter Feeding and Intake	9
B. WOOL PRODUCTION	15
(1) The Control of Wool Growth During Winter	15
(a) The Inherent Rhythm	17
(b) Nutrition	21
(c) Pregnancy and Lactation	23
(d) Hormonal Mediation of Wool Growth	25
(2) Effects of Winter Grazing Systems on Wool Growth and Characteristics	26
(a) Winter Nutrition	27
(b) Winter Grazing Systems	30

	page
C. LAMB PRODUCTION	33
(1) Nutrition	33
(a) Nutrition During Pregnancy	33
(b) Age of Ewe	35
(2) Winter Grazing Systems	36
(a) Pasture Grazing	36
(b) Forage Crop Grazing	37
<u>CHAPTER III - EXPERIMENTAL PROCEDURES</u>	39
A. MATERIALS	39
(1) Experimental Site	39
(2) Layout of Experiment	39
(3) Experimental Animals	42
B. METHODS	42
(1) Swede Crop Management	42
(2) Pasture Management	43
(3) Animal Management	43
C. EVALUATION METHODS	43
(1) Crop Samples	44
(2) Hay Samples	45
(3) Pasture Samples	46
(4) Animal Liveweights	48
(5) Feed Allowance and Feed Budgeting	49
(6) Wool Production	49
(7) Scouring	52
(a) Crutchings	52
(b) Mid-side Samples	52
(8) Pre-scouring Fleece Characteristic Grading	53
(9) Tensile Strength	54
(10) Fibre Length Estimation	54
(11) Fibre Diameter Estimation	55

	page
D. STATISTICAL ANALYSIS	56
<u>CHAPTER IV - RESULTS</u>	58
A. FEED 'INTAKE' AND EWE LIVE WEIGHT	58
B. WOOL PRODUCTION	68
(1) Wool Growth Rate	68
(2) Fibre Diameter.	68
(3) Fibre Length	75
(4) Wool Characteristics	75
C. LAMB PRODUCTION	83
(1) Number of Lambs Born	83
(2) Weight of Lambs Born	83
(3) Number of Lambs Weaned	88
(4) Weight of Lambs Weaned.	88
<u>CHAPTER V - DISCUSSION</u>	93
Pasture and Crop Analysis Methods	93
Intake and Ewe Live Weight	94
Wool Production Measures	97
Wool Production	97
Lamb Production	106
<u>CHAPTER VI - GENERAL CONCLUSIONS</u>	110
SCHEDULES	112
APPENDICES	114
BIBLIOGRAPHY	125

Table	<u>LIST OF TABLES</u>	page
1.	Average Daily Intake for Ewes on Each Treatment	58
2.	Analysis of Covariance of Ewe Live Weights Two-Way Analysis	59
3.	Adjusted Mean Live Weights of Ewes on Each Treatment ..	60
4.	Botanical Composition Changes of Pasture	66
5.	Intake Estimates For Pasture Grazing Treatments	63
6. (a)	Analysis of Covariance for Weight of Wool Per Unit Area Adjusted for Weight at Pre-Trial Sampling	69
6. (b)	Analysis of Covariance for Fibre Diameter Adjusted for Pre-Trial Diameter	69
7.	Adjusted Means of Weight of Wool Produced Per Unit Area	72
8.	Adjusted Means of Fibre Diameter	73
9. (a)	Analysis of Covariance of Fibre Length Adjusted for Fibre Length on Initial Sampling	76
9. (b)	Adjusted Fibre Length Treatment Means	76
10.	Analysis of Variance of Wool Characteristics Using the Two Factor Analysis	78
11.	Analyses of Variance of Wool Characteristics Using the Three Main Effects Model Regressing on Birth Date	80
12.	Least Squares Means for Wool Characteristics	81
13.	Least Squares Means for Wool Characteristics Involving the Three Factor Main Effects Model	82
14. (a)	Analysis of Variance of Lamb Production	86
14. (b)	Main Effects Only Analysis of Variance For Lamb Production	87
15.	Means of Lamb Production Data	89
16.	Least Squares Means of Weight of Lambs Born From the Three Factor Analysis	90
17.	Least Squares Means of Weight of Lambs Weaned From the Three Factor Analysis	91

LIST OF FIGURES

	page
1. Seasonal Growth Rates of Romney Breeding Ewes	15
2. General Experimental Area Layout	41
3. Ewe Live Weight Change for Each Treatment	61
4. Pasture 'Intake' and Associated Ewe Live Weights	67
5. Unadjusted Weight/Unit Area Means of Treatment Groups	70
6. Unadjusted Wool Weight Per Unit Area for Age of Ewe	71
7. Unadjusted Treatment Mean Fibre Diameters	74
8. Unadjusted Fibre Length Treatment Means	77
9. Proportion of Staples at Each Tensile Strength Grade	84
10. Percentage of Non-Sound Staples Breaking at Each Position .. .	85

LIST OF PLATES

	page
1. Pasture Sampling Technique	47
2. Yield Sampled Area Post-Grazing	47
3. Ewe Placement for Wool Sampling	51
4. Patch Wool Harvesting	51
5. 'Daily Break' and Swede Utilisation in T1	62
6. Hay Feeding and Swede Utilisation in T3 (in last week of treatments)	62
7. Hay Feeding in 1st 3 weeks of T2	64
8. Swede Utilisation After 1½ Weeks in T2	64
9. Rotational Grazing (T4) Indicating Pre- and Post- Grazing Yields	66
10. T4 Post-Grazing on a Dry (right) and Wet (left) Day	66

LIST OF SCHEDULES

1. Schedule of Crop, Pasture, and Hay Analysis Work	112
2. Sequence of Animal Sampling	113

LIST OF APPENDICES

I (a) Climatological Data	114
(b) Climatological Data	115
(c) Daily Meteorological Data	116
II Mineral Content of Water After Deionisation	117
III Descriptions of the Fleece Characteristic Grading System	118
IV Wool Copper Analysis	122