GRASS AS A BREAK:
A Bibliography

Compiled by SUSAN M. FLETCHER

Published concurrently with
Economic Report No. 35

Agricultural Enterprise Studies in England & Wales

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This bibliography is published as a Supplement to the Department's report on 'Grass as a Break' (Agricultural Enterprise Studies in England and Wales, Economic Report No.35). It has been prepared as a guide to recent publications and articles on the subject for those who wish to read more widely. While in no way pretending to be exhaustive, an attempt has been made to include a wide cross section of references to various technical, economic and managerial aspects of the numerous ways in which grassland is commonly utilised.

Although the main report with which this bibliography is associated is concerned primarily with grass as a break on dominantly arable farms, it has not been possible to confine the references listed here to this narrow context and they tend, therefore, to relate to grassland utilisation in a much broader way.
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BREAK-CROPS : GENERAL

1. The 3 'W's of Alternative Crops
   J.A.L. Dench

In this paper, given at the 1974 Power Farming Conference at Bournemouth, J.A.L. Dench takes a broad look at the short term alternatives to cereals in a mainly cereals rotation, emphasising, however, that the crops under discussion should be considered profit makers in their own right.

2. Are Break Crops Necessary?
   W.A.R. Bilson, Esq., J.P.
   Oxford Farming Conference 1972

This paper deals with the general topic of break crops and looks at the whole question of soil husbandry and in addition the economic aspect of a break crop.

3. The Farm Business
   L. Norman and R.B. Coote
   Ch.7., p. 243
   Longman Group Ltd. 1971

A chapter included in the book 'The Farm Business' discussing break crops. Brief comments are made about various crops together with a guide to the average gross margins that may be expected from them.

4. Evaluation of Rotations
   E. Baker

In its first section this article discusses all arable systems and draws special attention to the difficulty of estimating the output from some break crops because of lack of evidence on yields. In the second section the article discusses the evaluation of grassland in rotations.

5. Break-crops and Intensive Cereal
   R.G. Hughes et al.
   Growing in the South Eastern Region 1969. p. 129

The article contains details of pest and disease problems in cereals and break crops plus grass weed and soil problems. In order to maintain profitable cereal production three sequences of cropping are described, these being continuous barley, intensive cereals with short-term break crops and rotational cropping.
6. Note on the Economics of Crop Rotations with Special Reference to Continuous Cereal Production  
S.R. Wragg  
A theoretical model for examining the likely effect in output terms of varying ratios of break crops to barley in a rotation. A profit maximising solution is suggested using estimated yields and gross margins for barley and leys.

BREAK-CROPS: GRASS

7. The Economic Implications of Introducing Grazing Livestock on an Arable Farm  
M.D. Brook  
The impact of grazing livestock on the arable farm is examined in its own right and further discussed in relation to rotational and other benefits.

8. Livestock on the Arable Farm  
Farmers Weekly 23/2/73  
Even considering the undoubted good technical reasons for the introduction of stock into arable systems it is still necessary to consider the capital costs, labour demand, the additional technical problems and most of all, the potential profit. In this article Bob Hughes, south-east region agronomist, outlines the technical problems and Richard Dancy, W. Midland farm management adviser, examines the methods of forecasting the financial viability of new livestock enterprises.

9. Expand while the going's good  
Farmers Weekly 27/4/73  
The establishment of a new livestock enterprise on an arable farm will result in the loss of profits from a certain acreage of arable crops and the capital requirement will be high. This article gives guidelines to setting up a new dairy, beef or sheep enterprise though it must be borne in mind that some of the costs mentioned are now out of date.

10. Forage on the Arable Farm  
Occasional Symposium No. 7., 1972. published by the British Grassland Society  
The proceedings contain the full text of the 11 papers presented, a summary of the discussion at the end of each of the following sections:- soil structure, forage productivity, forage utilisation, and economic implications. The papers provide a comprehensive and valuable account of the need for, and potential of, forage crops and how such crops can be utilised within arable farming systems.
This report from Bridget's Experimental Husbandry Farm in Hampshire describing the results of an experiment on the long term effects of rotations on the soil's fertility goes a long way towards quantifying the benefits of a grass break for chalkland farmers.

Trials at six experimental husbandry farms, started in 1953, to discover the value of alternate crop husbandry are discussed in this publication. The results are building up a guide to the yield responses that can be expected from different types of grass break, as compared with no break at all.

A five-page special feature on the place of grass in arable rotations, its effect on soil fertility, soil structure and how it can help reduce the frequency of foliar cereal disease attacks. The article also covers the costs of establishing leys and introducing livestock or simply drying the grass for sale.

Higher feeding stuff prices and competition from other ruminant livestock producers within the E.E.C. calls for greater production of grass and improved efficiency in its use by U.K. farmers.

When it costs between £40 and £50 an acre to reseed grassland, perhaps a farmer should think twice about reseeding and consider the rejuvenation of existing pasture, the advantages of reseeding often being 'lost in a year or two. This view was put forward by Dr. T.J. Forbes of the Grassland Research Institute, Hurley at the 9th Kirkby Hall Symposium.
16. Grass - Its Potentiality in the Farming System

Dr. P.D. Quayle, B.Sc. Ph.D.

This paper deals with grass in the context of husbandry since grass is an ingredient of good husbandry for most farmers, and though farmers must clearly maximise returns on capital, etc. for most people the limit must be set by good husbandry and the long term view be taken that this is the best farming can offer in terms of return.

17. Grass '75

Livestock International, 1975

At the present time there is a tremendous amount that can be done to increase the productivity of grassland with existing knowledge and techniques of grazing management and grass conservation. This Livestock International annual publication is a guide to grassland management and the feeding of fresh and conserved grass.

18. Grassland Dairy Farmer, March 1975

The future reseeding of grassland and a buyer's guide to recently introduced short-term mixtures are among the topics covered in this Dairy Farmer Grassland special.

19. The Choice of Sward

Farmers Weekly, 16/2/1973

A brief guide to grass seeds mixtures and suggestions for their uses.

20. The Things We Didn't Know About Legumes

Farmers Weekly, 4/5/1973

One of today's "conventional wisdoms" is that heavy applications of nitrogen are essential for high outputs of milk and meat from grass. It is true that in many cases lack of fertiliser limits grassland production although experiments have shown that legumes can contribute almost double the 93 units of nitrogen applied to the average acre of ley each year. Further advantages to growing legumes resulting from recent research work are given in this article.

21. Grass - In theory and practice

Farmers Weekly, 15/6/1973

The theoretical and practical extents to which grass can be utilised are not the same and this article aims to help the dairy farmer to understand the potential of his grass so that he can make the most profitable use of it and appreciate its limitations.
22. More Grass, More Weeds
Farmers Weekly, 26/10/1973

A pilot survey carried out by the Grassland Research Institute shows that intensive paddock grazing systems accepted as the best means of utilising grass for the dairy herd, almost inevitably lead to pasture damage and more weeds.

23. Delving to the roots of the sod-pulling mystery
Farmers Weekly, 27/9/1974

Cows grazing well-fertilised leys on some intensively-managed farms have been tearing up the grass-roots and all. As sod-pulling does most damage on shallow-rooted crops there are fields where more than one fifth of the sward has bare patches, production suffers and loose sods contaminate later silage cuts.

The Cumbrian Grassland Society, helped by I.C.I., A.D.A.S. and a seeds firm, have been looking for causes and cures through questionnaires to members and trial work on a light-soil farm.

24. Grass is still King
Farmers Weekly 15/11/1974

Robert Davies reports on three years' work at Trawscoed to find the best way of managing and using what is still the cheapest feed for meat production.

25. Grass
Farm and Stockbreeder 2/2/1974

A series of articles in the Farmer and Stockbreeder which cover new "S" varieties from the Welsh Plant Breeding Station, hopes of short-cuts to new swards and the mite which carries rye-grass virus diseases.

26. Grass
Farm and Stockbreeder 1/2/1975

This Farmer and Stockbreeder special includes articles on improving grassland using knowledge already available, frequency of cutting in relation to the quality of the grass, work being carried out at the Grassland Research Institute to improve grassland, breeding new varieties of grasses, and how the slag shortage will affect grassland.
27. **Sunshine Super Grass**

Nowhere in Britain are scientists more aware of the need for greater grassland productivity than at the Welsh Plant Breeding Station, Aberystwyth. Pat Dodd reports on their search for better varieties of grasses and clovers and on how researchers aim to develop grass varieties which make more efficient use of light.

28. **Grass and Forage Crops - Can we do Better?**

Farmers Weekly, 3/1/1975

The World is desperately short of cereals and concentrate feed costs are unlikely to come down. In this article Alastair Macgregor looks at the possibilities of farmers producing more from grass and forage crops.

29. **Your Guide to Varieties and Leys**

Farmer and Stockbreeder 17/2/1973

These recommendations by Bob Deakin, A.D.A.S. East Midlands regional agronomist, are designed to help farmers grow leys that are ‘tailor-made’ for use in dairy, beef and silage enterprises.

30. **Time to Switch to Two-Sward?**

J.H. Bailie, I.C.I. Jealotts Hill

Dairy Farmer, March 1973

This article, based on a paper given at the Winter Conference of The Fertiliser Manufacturers' Association Ltd. by Mr. Bailie of I.C.I. discusses the pros and cons and management aspects of the 2-sward system of grassland use.

31. **The Long and Short of Ley Establishment**


David Aldrich

In this article David Aldrich of the N.I.A.B. at Cambridge concentrates on that part of the Institute's work which is of direct concern to the livestock farmer - the choice of grass and clover varieties, highlighting the special problems of the 1 to 2 year ley, and the mixtures to be used.
32. Gr asses and Legumes in British Agriculture
Edited by C.R.W. Spedding and E.C. Diekmahns
Published by Commonwealth Agricultural Bureaux, Farnham Royal, Bucks. 1972.
(Dairy Farmer, July 1972)

This book, edited by C.R.W. Spedding and the late E.C. Diekmahns of the Grassland Research Institute, Hurley, is a handy compilation of the main research findings on grass and legumes, and is intended as a reference book for all concerned with the science and technology of temperate grasslands.

33. What we have learned about Leys
G.V. Dyke, Head of the Field Experiments Section - Rothampstead

Ley-arable experiments have been performed at Rothampstead Experimental Station for over 30 years. In two articles G.V. Dyke endeavours to clear up some of the misunderstandings about the nature and extent of the benefits attributed to the ley, including trying to separate fact from fancy as far as the yield boosting ability of leys is concerned. He also suggests that intensive arable systems, far from decreasing yields, can actually increase them where full use is made of the results of current research.

34. Grassland Research
Fisons Ltd.
Big Farm Management, March 1972.

This useful 32 page study on the use of fertilisers for grassland brings into one volume the results of Fisons research over the past 15 years at North Wyke in Devon, at Levington Research Station and on commercial farms in the U.K. Included in the study are reports on the nitrogen supply to grassland, time and rate of N applications, phosphate needs and potash requirements of intensive grassland.

35. Grassland Yearbook for 1972
Min Marsters
Big Farm Management, May 1972

This publication contains technical articles and descriptions of available mixtures and varieties. Articles include ones on the future of grassland, the choice of a good mixture and on ryegrass varieties.
36. Getting the best out of our grass  Big Farm Management, May 1972.

Anthony Collins

Grass is definitely our most neglected crop in a climate almost ideal for growing it. In this article Anthony Collins examines ways of increasing grassland productivity.


This article emphasises the importance of grass as a crop in this country and points out ways in which its potential can be developed to the maximum.


Anthony Collins

This controversial practice created a certain amount of interest in the 1950's but unfortunately the few pioneers in this field were confounded by many problems. Recently there has been a revival of interest in zero-grazing and in these articles Anthony Collins looks at the reasons for this and the pros and cons of the method of feeding fresh cut grass to stock and some of the management aspects.

39. Grass Farming  Farming Press

Professor M. Mc.G. Cooper and Dr. David Morris

This book is now in its 3rd edition, covering all aspects of grass farming for cows, beef and sheep, but having been revised to include such topics as direct drilling and with more emphasis placed upon the grazing animal and its management to ensure maximum production of milk or meat.

40. The Power of Grass  Big Farm Management, April 1974

Professor P.T. Thomas

Grass has probably the highest potential of all farm crops in this country, but it is a crop which demands the greatest attention to management for its effective utilisation. Professor Thomas, Director of the Welsh Plant Breeding Station assesses the part improved varieties can play in the well-managed grassland system.
Focus on grassland improvement
Big Farm Management April 1975.

The way a sward is managed usually dictates the species that are found in it since the sward contents are not permanent and alter with changes in management.

GRASSLAND : CONSERVATION

Grass Conservation and Dairy Farming
Bulletin 16
Agricultural Adjustment Unit,
Department of Agricultural Economics, Newcastle University
(Big Farm Management August 1972)

This report reviews trends in grassland production and utilisation in recent years. In addition the technical management of grassland for grazing and conservation and its use for livestock feed, with special emphasis on conservation systems for dairy farming, and the economic implications of intensifying grassland conservation for dairying are also discussed.

Forage Conservation and Feeding
Farming Press 1973
F. Raymond, G. Shepperson and R. Waltham

With concentrate prices increasing, better conservation will need to be achieved to keep costs as low as possible. This book will be of interest to anyone wishing to exploit the potential of grassland through conservation and the winter feeding of livestock.

Better Use of Grass
Power Farming, May 1973
R.T. Lindsay

With the increase of land and feeding stuff prices, the pressure to obtain maximum production per acre from grass by a higher stocking rate is very important and in this article R.T. Lindsay of the Farm Buildings Department, N.I.A.E., Silsoe, examines zero grazing and some of the conservation methods available as ways of achieving this.

Plan Now to Make Your Silage-
Making More Efficient

In this article guide lines are set out to enable farmers to make the most of their present silage making equipment or decide whether they should move to a bigger output system.
46. Grass Harvesting
Farmers Weekly Extra 15/2/1974

The answer to cutting feed costs without a drastic drop in production is often to make better use of the country's largest crop, grass. In this extra from the Farmers Weekly, size of the crop, fertilizer usage, harvesting methods and the main ways of conserving grass are looked at. In addition, there is a brief résumé of the latest research in grass juice extraction and reports on six farmers who are using barn dried hay to improve efficiency.

47. How to improve the feed and cut the cost
Farmers Weekly 30/3/1973

An assessment of the main methods of improving the quality of hay by field and barn drying techniques forms the main part of this Grass Conservation Special. New methods of making and handling hay are also investigated.

48. Making quality silage
Big Farm Management
April and May 1975

A 2 part article on making well-fermented uniform quality silage which can partly replace concentrates, the costs of which have risen dramatically by 80-90 per cent over the last two years.

49. Grass Machinery Systems
British Farmer and Stockbreeder
12/4/1975

The method of grass conservation chosen must depend on the individual farm, its situation and what equipment is already available. In addition capital investment and running costs of the system, both of which must be related to the size of the enterprise, must be considered. But timeliness must also be taken into account; cheaper tackle may prove costly in terms of precious hours lost, particularly where the aim is to produce forage of high quality. Quality related to timeliness in surveying the choice of mowers, the use of hay and silage additivatives and desiccants are also discussed.

50. Don't write off dried grass.
Dairy Farmer.
February 1975

Dried grass is a system with a lot of potential, although the capital cost has deterred many dairy farmers from investing in this type of set-up. A report from Boxworth Experimental Husbandry Farm, Cambridgeshire, where work with dried grass has been carried out since 1971.
This booklet published at the end of the 1974 silage-making season, tells how a two year study was carried out on farms where wilted swaths were picked up by either a double-chop or precision-chop forage harvester, and then silage was made in a horizontal clamp. Silage making at predictable rates between 1.0 and 2.7 acres per hour can be easy if the right equipment is chosen and organised in the right way.

This article attempts to give some of the answers to the question "which is 'best': maize silage or grass silage" by comparing costs of production, silage yields and qualities of the two crops.

The U.K. dairying industry faces many changes now that the U.K. is part of the European Economic Community and this useful publication compares the situation in the U.K. and the Six, concluding with the changes and effects on the dairy farmer, dairy product manufacturer and the consumer.

This article considers the financial implications of changing a dairy herd from a hay winter feeding system to either forage-maize, roots, kale, straw or grass silage, the prices quoted reflecting the present situation.

This article takes a look at how the 1973/74 winter has affected the dairy farmer's margins and what action he took. It concludes that his continued profitability lies in increasing yields and better forage conservation and management.
56. The Intensive All Grass System

D.G. Stevens

This paper describes a system of grassland and dairy herd management which has avoided the worst pitfalls and is simple enough to be repeated on many farms across the lower rainfall areas of the south of England.

57. 1433 dairy herds; how they were managed in 1971-1972

I.C.I.

This useful and interesting document, formed from records provided by a group of nearly 1,500 participants in the I.C.I. Dairymaid costings scheme comprises a genuine storehouse of tabulated data, which all seem to be boiled down at one time to a single sentence "The top people were good managers of grass, cows and their farm business."

58. Milking in the 70's

Midland Bank

This 40 page guide to better milk production was written by Clive Scott of A.D.A.S. and sets out a practical and easy-to-follow system of feeding and milking. A synopsis of the latest work from the National Institute for Research in Dairying is included.

59. Milk Production in the East Midlands

P.T. Street and M.F. Seabrook

The larger herds are in a more favourable position in relation to changes in costs, not so much because of advantages of scale, but because of owners' attitudes to resource use and consideration of dairying as an integrated process. This report by P.T. Street and M.F. Seabrook of the University of Nottingham covered 37 farms in the East Midlands.

60. U.K. Farming & the Common Market - Beef

National Economic Development Office, June 1973

This publication discusses the effects on beef of U.K. membership of an enlarged European Economic Community, but as it was published in June 1973 the report is based on regulations covering live animals and beef and veal up to January 1973.
61. Profitable Beef Production

Professor M.McG. Cooper and
Dr. M.B. Willis

Published by Farming Press Ltd.
1972 (Arable Farmer Nov. 1972)

The authors of this book outline current thinking on basic factors such as breeding and selection, reproductive efficiency, growth and development, and nutritional requirements as a lead into a discussion of production systems and how to make them profitable under conditions where margins are never very large.


J.S. Kurta
Edited by F.G. Sturrock

Agricultural Economics Unit
University of Cambridge

Dairy Farmer, April 1972

This worthwhile booklet covers systems of beef production, returns on capital, fitting the system to the individual farm, selecting the beef herd to suit the farm, whilst in its second part it goes on to deal with prices and marketing, and food conversion rates and their significance.

63. The Outlook for Beef in the United Kingdom 1974 and 1975

Edited by G.R. Allen,

School of Agriculture, Aberdeen, August 1974

The second of an intended series of publications in which economists from Aberdeen will gradually extend and update studies relating to the outlook for beef and other red meats, in which area there has been a severe lack of up-to-date information which could be used for outlook work.

64. The Best of British Beef

Farmers Weekly 30/11/1973

The Meat and Livestock Commission’s beef bull testing programme, one of the world’s most comprehensive, and the latest aid to help the beef producer, is described in this article.

65. M.L.C. Beef Improvement Services - Beef Systems for Dairy-Bred Calves

October 1974

A short article giving results from units recorded by the M.L.C. which produce beef from dairy-bred calves, which when constructed into a graph shows a curve relating slaughter weight and slaughter age up to 24 months for the main breed types.
66. Bull Beef Production
M.L.C. Beef Improvements Services
October 1974

As there is now ample confirmation that bulls grow faster than steers, use their feed more efficiently and produce heavier, leaner carcases, M.L.C. considered this to be an appropriate time to review the performance of a handful of specialist producers who are developing management systems and husbandry methods by which bull beef is both safe and profitable.

67. Costs of Beef Production
M.L.C. Beef Improvement Services
July 1974

Results from M.L.C. recorded units are now producing a clear picture of the costs being incurred in dairy-beef systems producing cattle for slaughter in the period autumn 1974 to spring 1975. Forecasting likely gross margins is, however, difficult because of the problems of forecasting cattle sale prices so an alternative approach is to calculate the returns necessary for the gross margins achieved in 1973 to be equalled.

68. Winter forage systems for fattening cattle
Big Farm Management
February 1975

R. Whilding

This article discusses the economic advantages of forage crops for fattening beef.

Meat and Livestock Commission

A booklet which provides a useful source of reference for producers and others concerned with improving the economic efficiency of cattle production.

70. Beef Production - Suckled Calves
Meat and Livestock Commission
(Big Farm Management
November 1972)

This publication written by representatives of the Grassland Research Institute, the North of Scotland College of Agriculture, I.C.I. Ltd. and M.L.C. gives details of systems and summarises technical and financial information.

71. Cut-and-carry profit
Farmers Weekly 23/2/1973

Latest results from I.C.I.'s development farm, Joalott's Hill in Berkshire where zero-grazing has been compared with conventional paddock grazing since 1957, using beef cattle, show up to 30 per cent gain over conventional use of paddocks.
72. Beef Production - An Intensive Grassland System Using Autumn-Born Calves  

Meat and Livestock Commission  
(Big Farm Management, July 1972)

A fully revised edition of a beef handbook on intensive grassland systems using autumn-born calves, published by the Meat and Livestock Commission. Designed to provide the commercial producer with information from which he can build an enterprise most suited to his particular conditions, with, in addition, information on grazing systems and the performance characteristics of different breeds and crosses.

73. A Four Point Programme for beef  

Farmers Weekly 8/3/1974

A controlled grazing system, the tactical use of supplementary feed, the integration of conservation and grazing to provide clean aftermattches and a strategic worming programme are keys to the better grassland management essential for controlling the cost of feeding cattle, given by Brian Kilkenny of the Meat and Livestock Commission in this article outlining guidelines for beef grazing management.

74. Why Not Try Zero-Grazed Beef?  

High Mowthorpe E.H.F.  
(Dairy Farmer, June 1973)

P.J. Turner

Zero-grazing has been used with dairy stock for some years but has not been taken up by many beef producers. This article describes work at High Mowthorpe, the Ministry Experimental Husbandry Farm on the Yorkshire Wolds, which over the last four years has investigated the feeding of cut grass to young beef animals. Both autumn born and spring-born calves have been investigated on the system.

75. The Importance of Grass in Profitable Beef Production  

Nickersons, Field House, Grimsby  
(Big Farm Management, March 1972.)

This booklet analyses the case for the running of an intensive beef unit from grass as a break on the arable farm. It concentrates on the economics and practical considerations of the 18 month beef system using autumn-born calves.

76. Beef Production from Grassland  

J.M. Wilkinson and J.C. Tayler  

Dairy Farmer, July 1973  

Published by the Butterworth Group, 88 Kingsway, London W.C.2.

J.M. Wilkinson and J.C. Taylor, both of the Grassland Research Institute, bring grass and beef together in this book in a comprehensive discussion on grass production and the means by which it can be knitted in to suit a variety of grass-beef production methods. On the beef side, the book goes further than looking at feeding of cattle from wet-food weaning to finishing and in fact examines the animal from birth to slaughter and beyond to facets of butchery and the appeal of meat to the consumer.
77. Some Considerations in Choosing a Beef System

I.B. Howie

This article examines some beef production systems and the factors which influence profitability. Emphasis is laid on the need to make maximum use of grass and grass products, especially where the beef unit exists to utilise the grass break in a cereals situation.

78. Beef - Low Cost

Shell Chemicals, Lower Farm, Ilmer Bucks.

Five different low-cost beef systems designed to exploit grass, both grazing and conserved, to its full potential, are described in this booklet. Methods of grass establishment, seed mixtures and fertiliser treatments have all been investigated on a farm scale and, although the methods that have been adopted may not all be applicable everywhere else in the country, many of them could have a sound practical application on other farms in the U.K.

79. Giving the grass a change

Farmers Weekly 20/4/1973

Grass is not made to do enough; it could provide the whole forage requirement for cattle and cut out concentrates. This is the view of Leslie Wallings, deputy director of Drayton Experimental Husbandry Farm, near Stratford-on-Avon, Warwickshire, whose trials are in progress with cattle fattening entirely from grass.

80. Two Systems of Beef Production on Arable Farms

Department of Agricultural Economics, University of Leeds 1972.

This report, published by the Department of Agricultural Economics, Leeds University, covers a study of two beef systems, single suckling and 18 month beef, on lowland farms in the East of England from 1968 to 1970.

81. Tailor-Made Suckler Herds

Power Farming, March 1974.

Stephen D. Howe

Beef production from single-suckled cows is one of the main enterprises at I.C.I.'s Wilton Farm, Redcar, Tees-side, Yorkshire. In this article, Stephen D. Howe describes how the three different systems of suckler cow herds are operated to investigate particular aspects of suckler cow management and also underlines the value of quality grass as a feed cost cutter.
GRASSLAND : UTILISATION BY LIVESTOCK : SHEEP


Another in the series concerning U.K. agriculture and the E.E.C. The effect of E.E.C. entry on sheep and wool is considered.


The first section - Sheep Production, includes physical targets for the different systems of production together with specimen costings which are based on these physical targets. The second section includes background information and items which are useful in planning a sheep enterprise. The final section provides price information and includes details of the guarantee arrangements for sheep.


A report of results from commercial flocks for 1972 and some of the major factors contributing to the variation in the results are examined.

85. Sheep Housing and Handling Farmers Weekly 11/8/1972

An increasing interest in break crops among other things has meant that sheep are now a big and intensive business. As a result more and more farmers are looking to winter housing to save valuable grassland from poaching and reduce lamb mortality. This Extra details the essentials of good housing and handling and shows how successful flock masters are tackling the job.

86. Are your sheep fit to be mothers? Farmers Weekly 4/8/1972

Many flock owners pay lip service to the value of flushing ewes before tupping. They accept that a ewe's condition at this time affects the lambing percentage, which, in turn, has a crucial influence on the gross margin. But acceptance of the facts does not necessarily mean that farmers act on them.


This article examines the links between sexual activity, hormone output and prolificacy, which are being studied by researchers who are trying to breed prolific native sheep without cross-breeding and thus increase output from the national sheep flock.
Sheep are no longer a low-cost low-return enterprise, capital investment in a lowland fat lamb flock being high and the most profitable flocks giving substantial returns. This publication puts the essential precision in breeding, feeding and general management into sheep husbandry.

A report from the University College of Wales, Aberystwyth, where all aspects of sheep production are being investigated under the direction of senior lecturer Mr. Jim Lees. Some discoveries are immediately applicable while others have a long-term application that could significantly change management techniques.

Loss of condition in lambs is frequently seen on mixed farms where the overall ewe stocking rate is not high—clearly the management of stock and grass is at fault.

At the East of Scotland College of Agriculture, Edinburgh, three small all-grass 'farms' which have been set up to study intensive lamb production as part of a beef and sheep system are described in this report.

In this article R. Fitzherbert-Brockholes, a partner in the firm of Strutt and Parker, writes about the sheep's place in an arable rotation and its advantages over other types of livestock.

The financial and physical results of lamb production in 1970-71 in 147 flocks in the four main lowland sheep areas of England are analysed in a report prepared by the Lowland Sheep Study Group. This report shows the range of profitability in lamb production under different systems on different types of farms and between regions.
Lamb production, because of the low capital costs involved, is an attractive proposition for the arable man looking for a low-cost profitable method of cashing his grass break. In these articles, a blueprint for would-be flocks or a yardstick for those who have already taken the plunge, is provided from a mass of facts and figures issued by the Meat and Livestock Commission.

Lowland sheep flocks present the best opportunity among livestock enterprises to more than double their levels of production having been demonstrated to be technically feasible and economically attractive. Also, in this article, new standards are put forward in an effort to meet escalating interest rates and rampant inflation.

This book, published by Nickersons of Rothwell is devoted to the value of grass for lamb production and as a cereal break. The grass land director, Fred Craven, has condensed much of the basic management data required to run sheep as a cereal break into this publication with much attention devoted to grass management and varieties.

Expert grassland management is the key to a profitable flock. But it is generally a major area of weakness. Stocking rates are often only 3 to 4½ ewes per acre and only 30 or 40 units of fertiliser N are used. M.L.C.'s Brian Kilkenny gives guidelines for profitable grassland flocks.

This booklet describes work done at the Grassland Research Institute from 1971-73 in which eight British sheep production systems were classified and from which one - lamb production from temporary grassland - was selected, studied and examined in practice.
98. Eight ewes an acre system jolts critics - Farmers Weekly 4/8/1972

Latest results from a lamb production system at Trawscoed Experimental Husbandry Farm where each acre is expected to carry eight ewes and their progeny for the grazing season and provide enough conserved material for a 3½ month in-wintering period, have confounded critics who said the system would not work when it was started.


Improved profitability of sheep has prompted many lowland farmers to take a new look at fat lamb production using high stocking rates on heavily fertilised grass. Results from a trial by Trawscoed Experimental Husbandry Farm, Cardiganshire, show that the system can offer reasonable returns for a lower capital investment than is necessary with other stock.

100. Stores make the most of grass - Farmers Weekly 1/2/1974

Two options to farmers with intensively-managed lowland ewe flocks are 1) to produce the maximum number of lambs which can be fattened, off the ewe during the grazing season 2) to raise as many lambs per ewe and per acre as possible and sell the lambs later as stores or fat. Both options are being closely investigated and costed on Leeds University's Headley Hall Farm field station and are described in the article.

101. More Meat from Mixed Stocking - Farmers Weekly 20/7/1973

At the Ministry of Agriculture's Rosemaund Experimental Husbandry Farm, Hertfordshire, long-term trials to study separately intensive management of grass for an 18 month beef system and also for fat lamb production have been carried out, whilst current trials are combining the two and looking at systems of mixed stocking to produce extra meat.


Included in this Farmers Weekly Extra are four Basic Beef Systems - describing sward and stock husbandry methods of four beef units, and Sheep Improvement - how two south-west organisations are boosting flock potential.
103. First bite for the babies, Farmers Weekly 10/8/1973

A forward grazing system for dairy heifers, which gives yearlings first choice of grass in a paddock, and leaves in-calf heifers to clear up the remainder, under commercial trial on Somerset farms and devised by Somerset Agricultural Development and Advisory Service, is the subject of this article.

104. The Economic Use of Fertilisers at Present-Day Prices

H.E.G. Morgan

Increasing fertiliser prices mean that insurance dressings of fertiliser have to be looked at critically with the help of soil analysis and taking the nutrient value of slurry into account. Nitrogen use on grassland will depend on the responsiveness of the site, the conservation system and stocking rate. Early season nitrogen can produce five times the response of late season nitrogen; utilisation in late season is never as good as early in the season. Timeliness of application of nitrogen can therefore avoid waste.

105. Economics of Nitrogen Fertiliser on Grassland for Milk and Meat Production

J. Craven (M.M.B.) and J.B. Kilkenny (M.L.C.)


Nitrogen application itself does not have any relationship with grassland profitability; the economics of it depending upon the utilisation of the additional grass grown. This paper examines the results achieved in practice, using data from the Low Cost Production scheme of the Milk Marketing Board and the commercial beef and sheep recording schemes of the Meat and Livestock Commission.

GRASS AS A BREAK (continued)

106. Grass on the Arable Farm

H.W.T. Kerr

University of Nottingham
January 1976

This report and descriptive study of the role of grass on 69 arable farms in the East Midlands, comes at an appropriate time when the better use of grassland is being encouraged by the Government.