

J.C.Sandford

THE DOMESTIC RABBIT

'The most comprehensive
book on rabbit keeping ever written ...
also far and away the best'

FUR & FEATHER



Third Edition

The Domestic Rabbit

THIRD EDITION

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FOREWORD

FOR a very long time, very many people have enjoyed an extremely pleasurable and interesting occupation in domestic rabbit keeping. Some have undertaken the work as a hobby, others as a commercial or semi-commercial venture. With the great reduction recently of the wild rabbit it is probable that the time is now ripe for a period of greatly increased activity in the domestic rabbit world.

Animal breeders in this country have always enjoyed a reputation for producing some of the finest show stock in the world. The domestic rabbit breeder is no exception to this rule. But there is more to domestic rabbit keeping than exhibiting, important though that may be. The penning of a rabbit at a show is the climax to much endeavour on the part of the breeder. The greater the knowledge associated with that endeavour, the greater are the chances of the breeder's success. Also there is the very wide field for using the domestic rabbit for the production of meat and fur, laboratory stock and live sales, for which it is very well suited.

For these reasons I welcome the most opportune publication of this book. Writing some years ago in "Fur and Feather", the official journal of the British Rabbit Council, I asked whether the Rabbit World was doing enough towards the future. My opinion then was "that we need persons who are versed in rabbit keeping in all its modern developments, who could impart that knowledge and those methods to all who are interested in the keeping of rabbits." Further "we are neglecting our duty in regard to education in rabbit matters. What we need are persons . . . to advise rabbit keepers how to treat their stock and how to manage it on modern scientific lines." At that time the discussions were mainly concerned with the establishment of a central Examination Board, and during 1951, this was in fact appointed. Since then examinations in rabbit husbandry have been held each year. But the need for knowledge is as great, or greater than ever.

There are unfortunately few books which attempt to bring together in simple form information of the latest developments in rabbit husbandry, although the need for such information becomes more and more apparent. The domestic rabbit has been used for vast numbers of experimental tasks, and a great amount of information of value to the breeder is therefore available, although it is widely scattered and not easily found. In addition to this scientific knowledge there is a great pool of practical experience gained by very many breeders. The author has brought these two together in a book which will fill a long felt need and which will be of assistance to all persons engaged in domestic rabbit keeping.

F. G. WOODGATE

Preface to Third Edition

SINCE the first publication of this book some twenty years ago there have been, in some ways, considerable changes, but for the most part the majority of aspects of rabbit keeping remain the same.

Changes have certainly occurred in the commercial field although the development of the commercial rabbit industry has not been so great as was at that time thought likely. There has undoubtedly been a much greater emphasis on the use of compounded feeding stuffs than was ever the case and some people think that a detailed knowledge of feeding of rabbits is therefore no longer necessary. Nothing could be further from the truth. The use of higher and higher levels of nutrition necessitates even more care in observation of feeding practice.

Great strides have been made in the selection of strains which have much better productive levels and it is today not unusual to find strains of which the does will produce 150 lbs or more per annum at slaughter weight. This is certainly an improvement of at least 50% in the past fifteen years. Not only has this improvement in total yield been achieved but improvements have been made in the conversion of feed stuffs to live weight gain.

Whilst some progress has been made in the knowledge, prevention and treatment of disease in the rabbit, the fundamentals remain the same, except perhaps for the recognition of the part played by environmental conditions (in the very widest sense) in the health of the animal. The term 'stress' is now freely used to indicate those factors or strains which arise from defects in housing, management, feeding, climate, change, over-crowding and so on, all of which have a harmful effect on the welfare of the animal. Several conditions, for example nephritis (kidney disease) and Tyzzer's disease, are more and more frequently diagnosed than hitherto.

The enteritis complex ranging from mucoid enteritis, various forms of bloat and so on, has now been recognised to be due to many more causes than was previously the case. The greater intensivity of stocking has perhaps resulted in the greater incidence of respiratory infections although the localised form of pasteurella infection causing 'snuffles', whilst still prevalent, is controllable.

The search for improved strains for meat production has led to the movement throughout the world of animals from one country to another. In the case of the British Isles, a dozen or so breeds have been introduced and have undoubtedly contributed to the overall improvement in commercial stock.

The earlier and more complex forms of housing for commercial purposes have been refined until fairly simple mesh cages of single tier construction, preferably with pits for the removal of manure every three months or so, have been developed.

Finally the author would like to thank all those who have made this book a success and who have been so kind as to write with information and criticism, which is always greatly appreciated.

J. C. Sandford

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Introduction

FOR many hundreds of years the rabbit has been domesticated and rabbit keeping is now practised in most parts of the world. The original wild rabbit has, through domestication, been changed in many ways. Different types of fur, different colours, different sizes and shapes have all been produced in an astonishing variety. The domestic rabbit is used for many purposes, not the least being the pleasure which small livestock keeping brings to the rabbit breeder.

Although the rabbit has been domesticated for so long, it is only during the last hundred years or so that breeders have devoted their time to breeding superior animals for exhibition. Nowhere in the world to-day is the quality of exhibition stock so high as in this country, and nowhere is the rabbit fancy so well developed. Many thousands of people strive continually to improve their animals, and in so doing achieve considerable satisfaction. But there is, quite apart from the enjoyment which domestic rabbit keeping on a small scale brings to the owner, a great amount of mental relaxation to be derived from the hobby. This, perhaps psychological value, is increased by the many social activities available to the rabbit fancier.

A similar sort of value is found in rabbit keeping in schools. At the present time many school rabbitries are used for educational purposes. In such cases the rabbit is used both for instruction and other training. There are few children who do not take a greater interest in their lessons when livestock are used as part of them.

Apart from such forms of rabbit keeping, there are countless millions of rabbits bred each year for their meat and fur. In some countries the economic utility of the domestic rabbit is clearly recognised by the Governments concerned and steps are taken to encourage it. In other countries the utility of the rabbit only becomes widely accepted during times of war, when invariably, rabbit keeping increases.

The domestic rabbit has always been what might be termed the 'Cinderella' of the livestock world, although from a utilitarian point of view it merits much greater consideration than it has received.

The reason why rabbit keeping so increases during war time is that it can be fed upon a very wide range of feeding stuffs. Thus cattle and sheep can utilise bulk foods which are freely available during war, but cannot of course be kept in gardens and on small acreages. Those animals which can be maintained on a very small scale, the pig and the hen, require concentrated feeding, which is not freely available during wartime. Thus, whenever concentrated foods are difficult to obtain, the only animal which can utilise bulk foods, and which is available to the small producer, is the domestic rabbit.

Another reason for the encouragement of domestic rabbit keeping during periods of stress is that stocks can be very rapidly built up. Furthermore housing difficulties are more easily overcome, and relatively unskilled persons can contribute to the meat supply, whereas they could not do so easily with other types of stock.

The ability to convert efficiently animal feeding stuffs to food for human consumption varies enormously between different breeds of livestock and between varieties of the same breed. There are some varieties of rabbit which are extremely wasteful in this respect, but others can produce meat for human consumption as efficiently as any other breed of animal. It is obviously absurd to compare varieties of rabbits which are inefficient, and which have not been selected for their good conversion ability, with other breeds of animals which have for many generations been selected for this particular characteristic. But this is often done. When, however, strains of domestic rabbits which have been bred for efficient conversion of food

are compared with other types of animals, it is found that the domestic rabbit can produce meat most economically in terms of feeding stuffs. In large scale experiments in America it has been established that, together with the food supply of the doe, one pound of liveweight at slaughter can be produced with approximately $2\frac{1}{2}$ lb. of concentrates and 1 lb. of hay.

Thus as a meat producer, on a national basis, the domestic rabbit can claim to produce meat of high quality on a range of foods greater than that for any other animal, and as efficiently as any.

During the past twenty years considerable efforts have been made to improve the performance of commercial animals in converting foodstuffs both in this country and indeed in others. As a result there are a number of strains of rabbits that will consistently produce 1 lb of liveweight gain for each 3 lbs or less of a complete pelleted ration, which in most cases includes all the roughage necessary. When comparisons are made with other forms of meat producing livestock it must be remembered that the food of the doe during pregnancy and suckling is included in this figure.

Recent research in this field has demonstrated the enormous theoretical potential value of the rabbit as a food producer for man in a world nearing a starvation problem. The Grassland Research Institute at Hurley (*Ecological Efficiency Studies*—I by J. M. Walsingham) has shown that the rabbit at present in its relatively undeveloped state can still produce considerably more flesh from a unit of land than can any other animal. Coupled with the fact that the protein content and value from rabbit meat is higher than most other meats, the potential value is even greater.

In this country the domestic rabbit has suffered somewhat by the lack of a clear distinction from its wild counterpart. The wild rabbit is thought of by the majority of people as being either 'a pretty little thing' or as vermin to be exterminated at all costs. That the wild rabbit differs very considerably from the domestic, particularly in respect of its value for meat and fur, and in its ability to produce meat efficiently, is rarely recognised. Thus many of the characteristics of the wild

rabbit are attributed to the domestic, much to the disadvantage of the latter. The domestic rabbit also tends to suffer from a further burden. It is perhaps the most common pet of the young boy, and a most excellent pet it is, but nevertheless the idea that domestic rabbits are 'only pets', with no other useful characteristics, is consequently very common.

In Australia and throughout Europe during the early 1950s, the very virulent virus disease *Myxomatosis*, took enormous toll amongst wild rabbits, but in this country at least, it has hardly affected any domestic rabbits. Thus the supply of wild rabbit meat and furs has dropped considerably, although the demand (apart from a slight initial fall) continues at much the same level. Thus there is an increasing field for the development of domestic rabbit keeping.

In many countries there has been developed a highly specialised domestic rabbit industry, but this country has lagged behind to some extent. There are of course very many breeders for profit in this country, but the number of large scale breeders is relatively small. The reasons for this state of affairs are most complex, but it would be true to say that it is in those countries where the Government has fully appreciated the value of domestic rabbit farming as opposed to rabbit keeping on a domestic scale, that rabbit farming has been most widely developed.

The Ministry of Agriculture has long been aware of the value of the domestic rabbit for home consumption, and has encouraged small scale rabbit keeping in many ways. Not the least of these was the introduction of provisions in the Allotments Act of 1950, which prevented landlords from prohibiting their tenants from keeping rabbits, provided that they were kept in a reasonable manner. Unfortunately, the provisions of this Act do not apply entirely to Local Housing Authorities, but these bodies almost always have a reasonable attitude to rabbit keeping, and do not prevent their tenants from so doing.

The domestic rabbit, then, is an animal of wide value and uses. It brings profit to many, and pleasure and interest to all who breed it.

In this book an attempt is made to set out the general principles of rabbit breeding and keeping. It is quite impossible

to do more than briefly outline each aspect. The breeder himself will fill in many details by his own experience, the most valuable of all teachers. Nevertheless a list of books and papers is given at the end in which will be found much detail on the various subjects. Nor should the rabbit breeders' own magazine be overlooked. *Fur and Feather* is a weekly paper published at a modest price and devoted largely to rabbit keeping. In it news of the rabbit world is published, and no serious exhibitor can work without the information given in its columns.

Metric Conversion Tables

(to two decimal places)

WEIGHT		LENGTH	
Pounds	Kilogrammes	Inches	Millimetres
1	0.45	1	25.40
2	0.91	2	50.80
3	1.36	3	76.20
4	1.81	4	101.60
5	2.27	5	127.00
6	2.72	6	152.40
7	3.17	7	177.80
8	3.63	8	203.20
9	4.08	9	228.60
10	4.54	10	254.00
11	4.99	11	279.40
12	5.44		
13	5.90	Feet	Metres
14	6.35	1	0.30
15	6.80	2	0.61
		3	0.91
		4	1.22
		5	1.52
		6	1.83
		7	2.13
		8	2.44
		9	2.74
		10	3.05

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Cover illustration: The Silver Fox

Chapter One

Breeds and Varieties

Early History of the Rabbit

THE origin of the wild rabbit, from which the domestic variety has derived, is a subject of speculation. There is no doubt however that it was well-known in the Mediterranean area some two thousand years ago, for it was depicted on many of the coins of the Emperor Hadrian in the years A.D. 120-130. The rabbit was also domesticated at this time, and classical accounts of its culture in *leporaria* or special enclosures, have been left. The Angora rabbit is also thought to have been kept for its wool at this period. No records of the occurrence of the wild rabbit in Britain are available until after the Norman Conquest. During the 12th and 13th centuries the rabbit became known in this country and by the early 14th century was very highly esteemed. By the 17th century there were many warrens or enclosures of rabbits, wherein the stock were kept in a semi-captive state. Little is known of domestic rabbit keeping as it is to-day until the end of the 18th century, when a few breeds, the Lop, an English-spotted type and the Angora, were known and kept. It was not, however, until the middle of the 19th century, that exhibiting developed.

Apart from those breeds mentioned above, the origin of which is obscure, several breeds were produced during this latter period.

The Origin of Breeds

A new breed may be produced in one of three ways. A mutation may occur. That is to say the mechanism which controls the inherited characters producing a particular colour or type of fur etc., may be changed, thus producing an entirely new character. The second method is by the combination of characters existing in two or more breeds. The third system is by selection for particular characteristics carried to such a degree that a strain differing greatly from the original stock is produced. All these ways, and variations of them have been used or have occurred in the production of the present breeds and varieties of domestic rabbits.

Examples of mutations are the Rexes and the Satins. The first Rex were found by a French peasant, one M. Caillon, of the district of Sarthe, in a litter out of an ordinary grey-haired doe. Fortunately one animal was a buck and the other a doe, and shortly after first breeding these animals together, M. Caillon handed some stock to a Priest Abbé Gillet, who perpetuated the breed. This occurred in 1919, and the first Rex were exhibited at the Paris International Show in 1924. It was not, however until two years later that stock was distributed, and some imported into this country in 1927. These original Rex were Castors, but very soon, by amalgamating the Chinchilla colour with the Rex coat, the Chinchilla Rex was produced, and then many other colours were combined with the Rex coat and through the past twenty years more than 20 different varieties have been produced.

It should perhaps be added that the Gillet mutation was not the only one. Two further Rex mutations occurred, and that these are not the same as the original mutation is shown by the fact that when animals of the different mutations are bred together they do not produce Rex coated young until the second generation.

A second mutation of a coat character is the Satin. In this mutation, the scales of the hair are smoothed and the central hollow cells of the hair fibre eliminated thus producing a considerable sheen on the hair fibre. This mutation occurred in America, and Satins were imported into this