

### THE FARMER'S ANIMALS

How they are bred and reared

BY

#### FRANK H. GARNER

M.A., M.Sc., University Lecturer in Agriculture. Agricultural Organizer for East Suffolk



CAMBRIDGE

At the University Press

1943

#### CAMBRIDGE UNIVERSITY PRESS

University Printing House, Cambridge CB2 8BS, United Kingdom

Published in the United States of America by Cambridge University Press, New York

Cambridge University Press is part of the University of Cambridge.

It furthers the University's mission by disseminating knowledge in the pursuit of education, learning and research at the highest international levels of excellence.

www.cambridge.org Information on this title: www.cambridge.org/9781107629509

© Cambridge University Press 1943

This publication is in copyright. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of Cambridge University Press.

First published 1943 First paperback edition 2014

A catalogue record for this publication is available from the British Library

ISBN 978-1-107-62950-9 Paperback

Cambridge University Press has no responsibility for the persistence or accuracy of URLs for external or third-party internet websites referred to in this publication, and does not guarantee that any content on such websites is, or will remain, accurate or appropriate.

## THE FARMER'S ANIMALS

#### PREFACE

This book has been written to meet a definite and growing need. More and more young people, not only in rural areas but also in the towns and cities, are taking interest in aspects of agriculture, and this tendency has undoubtedly been increased by the war, with its inevitable emphasis upon the sources of the national food supply. It was found, however, that very few of the existing books on agriculture are really suitable for even the older of such readers; thus this book came to be designed for them. Members of Young Farmers' Clubs may also find it a handy introduction to the subject. Its main object is to awaken young people's interest in livestock and the art of managing them. Once interest has been aroused there is a wide range of more advanced books available for study.

As the book had to be short, information about the various breeds has been kept to a minimum so as to give as much space as possible to general principles applicable to many breeds. Feeding, too, could only be discussed here in elementary fashion; it is a subject so important that it has already many books entirely devoted to it. Reference has occasionally been made to certain ways in which the present war influences the keeping of livestock, but in general the book is written with an eye to permanent rather than to temporary conditions.

Special thanks are offered to the various teachers and residents in East Suffolk (far too many to mention by

name) for their constructive criticism, to my wife for assistance in reading the script and proofs, to the staff of *The Farmer and Stockbreeder* for help so willingly given in finding and lending suitable photographs, and finally to the publishers for their patience and invaluable assistance.

F. H. G.

May 1943

#### CONTENTS

PREFACE	ge ix
Pug	,0 222
CHAPTER I. The uses of Farm Animals	1
What animals produce: Meat; Milk; Wool and leather. Animals for work. How live stock make good use of farm crops. By-products used for animal food. Animals enrich the land. Summary of this chapter	
CHAPTER II. General management of Farm Animals	12
Feeding. Housing of stock. Breeding. Handling of live stock	
CHAPTER III. From Calf to Dairy Cow	25
The first year. The store period, one to two years old. Over two years: the heifer's first calf. The milking herd. Milk and its uses	
CHAPTER IV. Cattle for the Meat Market	38
Veal. Baby beef. Beeflings. Mature beef. Cow beef	
CHAPTER V. Sheep	47
Mountain sheep. Grassland sheep. Arable-land sheep. Flying flocks. Wool	
CHAPTER VI. Pigs	61
Indoor systems for sows and boars. Outdoor systems for sows. Piglings: birth and rearing. Weaning and afterwards. Breeding. Classes of pigs for the meat market. Fattening	
CHAPTER VII. From the Foal to the Working	
Horse	73
Horse breeding. Travelling stallions. The pregnancy period. Foaling-time. Management of mare and foal. Weaning. Management of growing foals. Breaking-in to work. Care of working horses	

Сна	APTER VIII. Poultry page	85
	The old system. Breeding. Hatching. Rearing. Laying birds. Housing of pullets and laying hens. Big laying houses. Portable laying houses. Folding units. Battery laying houses. Breeding pens. Fattening	
Сна	APTER IX. Goats	95
	Housing in winter. Rearing kids. Rearing at pasture. Breeding. The milking nannies	
	NOTES ON THE PHOTOGRAPHS	
+	In the text page references to pictures are given in black type, thus (p. 81)	
1.	A foster cow suckling four calves facing p.	16
	A good cow will allow four calves to suckle at a time. Note all calves are about the same size.	
2.	A milking-shed	16
	Note (a) cleanliness of cows and shed, (b) milking machine, and men prepared to 'strip' the cow, (c) the overhead rail for conveyor for removal of dung, (d) this was an old barn and has been converted into a modern milking-shed.	
3.	Fattening cattle in an open yard	17
	Note (a) covered section for use in cold or wet weather, (b) straw given liberally for litter, (c) such yards also can be used, with appropriate troughs, racks, and mangers, for (i) dairy cows, (ii) store cattle of all ages, (iii) calves, (iv) a lambing yard for ewes, (v) breeding sows, (vi) store pigs, (vii) fattening pigs (see photograph 9), (viii) working horses, (ix) mares and foals, (x) weaned foals, yearlings, and two-year-olds.	
4.	Mountain sheep at home	17
	Sheep being driven by the shepherd and dog (though the dog is not seen in the picture). Observe the poor quality of grass in the foreground; and the mountains in the background.	
5.	Sheep dipping	32
	The sheep are dropped into the dipping tank from this side where they swim around, and are several times pushed completely under. They then pass under a special door on the far side and stand draining on a concrete or galvanized iron ramp, the drainings returning to the tank.	

# 6. Arable-land sheep in a lambing pen or yard facing p. 32 Note (a) the straw-covered hurdles round the outside to afford shelter, (b) cubicles against the outside hurdles into which ewes and lambs may be placed, (c) the yard is divided into various sections for ewes with singles or with twins, and for unlambed ewes, (d) troughs in the foreground, and hay racks in the background, (e) these lambs have been

#### 7. Shearing sheep by hand

tailed.

and rom the one.

The sheep is seated upon its haunches by the shearer and the wool shorn off by cutting first one half of the fleece from the belly to the backbone (as shown at the left) and then the other half, again by shearing from the belly to the backbone. Clipping is done as close as possible to the skin, the shears taking strips  $\frac{1}{2}$  in. to 1 in. wide with each cut.

#### 8. Portable pig huts for sows and their litters

33

Note (a) each hut and run is self-contained, (b) all meal and water must be provided on the site, (c) pigman is taking water from the galvanized tanks, (d) the huts and runs can be moved forward by the simple hoist (a pair of old car wheels) shown in the foreground, (e) these huts are moved to fresh sites at least twice a week, (f) with this system the pig manure is left on the field, and no cleaning of pens is required.

#### 9. Fattening pigs in a straw yard

64

Up to 100 pigs can be kept in one yard provided (a) there are sufficient troughs for all to feed at any one time, (b) the pigs are all about the same size, (c) there is room for all pigs to sleep under cover at night, (d) all pigs remain healthy, and any sick pig is removed as soon as it is ill. These same yards with slight modifications can be used for other stock. See note to photograph 3.

#### 10. Fattening pigs in a Danish piggery in England

64

Note (a) two rows of pens each for about ten pigs, (b) the central passage for feeding, (c) the dunging passages along the outside walls, (d) the many windows, (e) the absence of an upper storey, which is present in the piggeries in Denmark, (f) for the sake of cleanliness, concrete is extensively used, (g) this type of piggery can be modified for sows and their litters, but for the best results with litters there must be a run outside the piggery for each pen, so that the pigs can enter and leave at will.

11. Mares and foals at pasture	11.	Mares	and	foals	at	pasture
--------------------------------	-----	-------	-----	-------	----	---------

facing p. 65

So long as care is exercised when additional mares and foals are first put into a field it is quite safe to have a number of mares and their foals running together, or even with horses that are not breeding. Some of the mares in this picture are of the light breeds and others of the heavy breeds.

#### 12. Breaking in with reins

65

This horse is obviously well under control. Typical harness is being used, including the long reins one of which the groom is holding in each hand.

#### 13. Chickens in a battery brooder-house

80

There must be many passages between brooders to make it easy to fill troughs with meal or water. Water can be seen in the metal troughs at the left of the photograph, and meal is in the larger troughs at the right. To save the labour of carrying water the troughs are filled from the hose attached to the main water supply overhead.

#### 14. Sheep grazing amongst poultry folding units

80

The poultry units must be moved to fresh grass every few days; these units are for use when for any reason (possibly because of foxes) the birds are not to be allowed outside the runs. Water, grit, and meal are kept in troughs constantly before these birds. These same units can be used for laying birds, fattening birds, or chickens over two months of age. The white-faced sheep are Cheviot × Border Leicester, the black-faced sheep are Suffolks, and those with wool on their black faces are probably crossbred. Sheep are very useful for grazing around poultry pens and houses because they do not damage the equipment.

#### 15. Hens in a laying battery

81

Each pen has its own water, grit, and meal (note the three troughs in front of each pen). When eggs are laid they roll forward so that the hens cannot eat them.

#### 16. Goats and kids grazing the grass verge

81

While the goats are grazing the boys are collecting grass for the goats' evening meals. Goats will eat much food that would otherwise be wasted.

#### CHAPTER I. THE USES OF FARM ANIMALS

Nobody taking a country walk among the lanes and fields and farms of England will be surprised to come across cows or horses, sheep or pigs, cocks and hens, or goats. Such stock are in fact so commonplace and expected that most people rather too easily take them for granted.

It may at first seem almost too simple a question to ask why animals are kept on farms. Nevertheless the whole of this first chapter will be needed to give the proper answer, which is by no means simple, or perhaps so obvious as it seems.

To begin with, we should remember that farm animals are not native creatures of the countryside at all; and a simple thought about the reason for gates and fences, and yards and fields, would prove as much. They are kept by the farmer at much cost and trouble to himself. He and his men care for these beasts with hard work in all weathers; yet if anyone should ask the farmer why he takes so much trouble he might very well reply with a laugh: 'I don't keep the animals; I expect the animals to keep me.' A farmer has to live and to pay his men, and certainly he makes part of his living by breeding and rearing and selling his stock, which is the general name for farm animals: he keeps them for the rest of us; we see them again, in fact, as food on our tables. But though the first part of this chapter will be about what animals produce, this is by no means the whole of the story, as we shall see.

#### WHAT ANIMALS PRODUCE

Meat. All farm animals in Britain except horses provide us with meat. In ordinary times about half of the meat eaten in Britain is produced here; the rest comes from

overseas: beef principally from the Argentine; mutton and lamb from Australia, New Zealand, South Africa, and the Argentine; bacon and pork from Denmark, Holland, Canada, and some countries of Central Europe; and poultry mainly from Europe also.

English meat comes from stock kept in many parts of the country. Sheep, for instance, are to be found in all districts, though they cannot be fattened for meat where soil is poor, because sheep are generally fed on natural foods, and poor soil will not produce crops good enough.

Cattle are fattened for beef either on the good grassland in the Midlands and on the marshes found up and down the country, or in yards in arable districts, where they can be fed on crops grown near at hand, such as roots,

hay, straw, and different grains.

Pigs are not so widely kept as sheep and cattle. They are often fed upon 'waste foods'—skimmed milk (left over from cream and butter making), whey (left over from cheese making), potatoes not good enough for human food, and poor grain. Poultry and pigs are found in much the same places, because for the most part they are fed on the same kinds of foods.

Milk. In the British Isles when we speak of milk we generally mean cow's milk, though there are other countries where sheep or goats are the chief sources of milk. In peace time two-thirds of all milk produced in England is sold and used as milk; the rest is used for cheese making, for fresh cream, for condensed and dried milk, for ice-cream and other milk foods, and for butter making. Milk is a good food; it is easily digested because it is naturally produced to nourish growing young animals; it contains almost everything that is needed in a food, and is particularly suitable for children. This is why children are now encouraged to drink milk at school.

In recent years, for the sake of better milk, British farmers have been urged to pay great attention not only to the health of their cows but to the cleanliness of cowsheds, churns, and buckets, and the hands and clothes of the milkers. This improvement on dairy farms has produced better milk and has been followed by great efforts to persuade British people to drink more milk; and, in fact, more milk has been drunk as a result, but there is still much room for improvement. In England,1 on an average, each person drinks about one-third of a pint daily; in America the average quantity is 1 pint; but in Switzerland, which holds the record, it is 15 pints per person. Large quantities of butter and cheese were once made in the British Isles; but because prices were bad, less and less has lately been made; just before the war only one-tenth of the butter eaten in this country was made here, and not quite one-half of the cheese.

It is a strange thing, hard to explain, that in some parts of the British Isles very little fresh milk at all is bought, condensed milk in tins being used instead. Possibly some people like condensed milk better because it is sweetened, and is easier to buy and store. In warm weather fresh milk will not keep for more than a few hours, but milk from a tin does not go sour for several days.

Wool and leather. As everyone knows, sheep are kept for their wool as well as for their mutton, though not all wool from British sheep is suitable for making into clothes. Sheep that live in cold and exposed places grow a wool that is too coarse for clothes, and this is used for carpet making. The wool of all other sheep is suitable for clothes, the poorest or coarsest being used for suits, and the best or softest for underclothes. The finest kind of wool however does not come from British sheep at all,

 $<sup>^1</sup>$  These three figures are for 1932, by 1939 the figure for England and Wales was  $0.42~\rm pint.$ 

but from a breed of sheep called Merinos, which live in Austràlia and South Africa. Merinos are not as good for mutton as the sheep of British breeds.

Wool makes very good clothes; it wears well, and it keeps the wearer warm because it is a poor conductor of heat.

Sheep are usually shorn here between May and August, when the coldest weather has gone; they are not generally shorn until they are at least one year old (p. 33). Of the wool used for the making of clothes in Britain nearly one-half is produced at home.

Leather for the making of shoes and gloves and clothes also comes from animals. The skin from cattle and horses is used for making stout leather for the soles, and the skins from sheep and from young cattle and horses, which make soft pliable leathers, are used for the softer 'uppers' of boots and shoes. These thinner leathers are also used for gloves, and for coats to keep out the cold winds. Not much leather comes from pigs, because when pigs are killed for bacon or pork the skin is generally left on the meat. Bacon rind is the skin of the pig.

Animals for work. Although tractors and lorries are now widely used on British farms many of our farmers still depend on horses for working their land. On a few British farms oxen are still used, as they were long ago, but they are not as good as horses for ordinary farm work. People particularly interested in engines may sometimes be heard to prophesy that working horses will disappear from all British farms in the near future; but that is a mistake. It is true that an ordinary tractor will do as much work as four or six horses—bigger tractors will even do the work of more than this—but many farms in this country are so small that all the work can be done by a few horses; certain kinds of work can best be done by horses anyhow, so the small farmer will therefore con-

tinue to keep horses rather than a tractor. On grassland farms there is little work that can be suitably done with a tractor, and much that can be done with horses; and on farms that grow fruit and vegetables, horses are still found to be more useful than tractors. For these reasons the working horse is not likely to go out of use on British farms.

The commonsense of it is, of course, that horses and tractors each have their special advantages. For hard work such as ploughing the tractor is very good, but the land must be dry and firm so that the tractor wheels can hold the ground and neither 'spin' nor sink too deeply.

The tractor does not get tired as horses do. If a farmer has been delayed with his ploughing he can catch up with a tractor, because he can work it for many hours each day. Sometimes tractors are worked all daylight and, if there is a moon, at night as well. Of course the tractor-driver gets tired nevertheless, and at such times the farmer will arrange for two men to drive the tractor in turn.

On big fields, and where the soil is light, the tractor is better than the horse for such work as drilling, rolling, and harrowing. Some farmers fix 'trains' behind the tractors; that is to say, one tractor will draw a drill, followed by several implements such as rolls and harrows. But such 'trains' can only be used where the field is large, because turning on the headlands is slow and difficult, and would be far too frequent in small fields.

Finally, whenever much produce or manure has to be taken long distances over roads between fields and farm buildings the tractor fitted with rubber tyres is better than horses, because it can take big loads quickly.

Horses are better than tractors for working small or odd-shaped fields; they can be used for hoeing roots and other light cultivations; when a farmer keeps live stock, and must feed them throughout the winter, horses can take hay, roots, and straw to the stock in buildings or on grassland, and can conveniently haul away the manure from yards and boxes; in short, on all the occasions when farm carts are needed, horses are likely to be preferred to tractors.

How live stock make good use of farm crops. Grass is the largest single crop grown in the British Isles, yet grass as a crop is of no use at all to human beings. Cattle, sheep, horses, and goats make the best use of grass (and of foods made from it), but both pigs and poultry can also eat a little. The only way to make grassland useful to human beings is to keep on it animals that can be used for food and work.

In 1939 in England and Wales there were 23,388,947 acres of grassland, and in Scotland 13,543,146 acres. This includes not only the good fields with rich grasses and clover, but also the poor mountain grass that will only support sheep or goats. Of course, animals will eat grass as it grows in the fields; but in the winter there is not enough growing to satisfy them.

Grass may be preserved for feeding to stock in the winter in three different ways: as hay, as silage, and as dried grass.

Hay is made by cutting grass in the field, and letting it dry in the sun for several days. The time it takes to make hay depends upon the kind of grass, and upon the warmth and dryness of the weather.

Silage is made by cutting the grass and putting it while it is still green and full of sap into a special structure called a silo. There are many kinds of silos, made of wood, or concrete, or asbestos, or wire and paper. All are cylinders, and they may be anything from nine to twenty feet across and from eight to forty feet high. Silage as a food for stock has been more and more used of late years.